MINUTES

29th Meeting of the Academic Council

Dated: 14/01/2020 at 11:00 A.M.

Venue: Committee Room, New Administrative Block, Central University of Haryana, Mahendergarh

The 29th meeting of the Academic Council of Central University of Haryana was held on January 14, 2020 at 11:00 A.M. in the Committee Room, New Administrative Block, Central University of Haryana, Mahendergarh.

The following members were present:

1. Prof. R.C. Kuhad, Vice Chancellor - Chairperson
2. Prof. R.P. Tandon
3. Prof. S.V.S. Choudhary
4. Prof. M.C. Garg
5. Prof. Om Prakash Arora
6. Prof. R.S. Yadav
7. Dr. P.K. Khurana
8. Prof. Sanjiv Kumar
9. Prof. Rajesh Kumar Malik
10. Prof. Deepak Pant
11. Prof. Satish Kumar
12. Prof. Neelam Sangwan
13. Dr. Parmod Kumar
14. Dr. Suneel Kumar
15. Dr. Ajay Kumar Bansal
16. Dr. Chanchal Kumar Sharma
17. Dr. Sushil
18. Dr. Phuldeep
19. Dr. Anand Sharma
20. Dr. Gunjan Goel
21. Dr. Vikas Garg

22. Dr. Rajesh Kumar Gupta
23. Dr. Ankush Ambardar
24. Dr. Vinay Kumar Rao
25. Dr. Bijender Singh
26. Dr. Vinod Kumar
27. Dr. Ajai Pal Sharma
28. Dr. Anju Beniwal
29. Prof. Ranvir Singh (Special Invitee)
30. Dr. Vipul Yadav (Special Invitee)
31. Sh. Ram Dutt, Registrar - Secretary

The following members could not attend the meeting: -

1. Dr. M.P. Poonia
2. Prof. K.P.S. Mahalwar
3. Prof. R.K. Anayath
4. Dr. (Mrs.) Shimla
5. Prof. P.C. Pattnaik
6. Dr. Avanijesh Awasthi
7. Prof. Vijay Kumar Kayat
8. Prof. Sarika Sharma

At the outset, the Vice-Chancellor extended a warm welcome to all the members of the Academic Council and conveyed best wishes for the New Year and Makar Sankranti. Brief details about the various academic, research and other activities were presented before the Council which included clearing NET/JRF/GATE by 184, 17 and 25 students, respectively; conduct of three GIAN Courses and receipt of 26 Awards by the University teachers including the Vice-Chancellor.

Item No.	DESCRIPTION
1.	Minutes of the 28th meeting of the Academic Council held on 26.06.2019, were confirmed.
2.	The actions taken on the resolutions of the 28th meeting of the Academic Council held on 26.06.2019, were reported and recorded. **(Annexure-I, Page No- 15 to 19)**
	ITEMS FOR CONSIDERATION
3.	Resolved that the following amendments to Ordinance-II (A) Degree of Doctor of Philosophy Ph.D. of the University, as recommended by the Committee constituted to examine the possibility of introducing part-time Ph.D. in Central University of Haryana, in the light of Clause-11.2 of UGC (Minimum Standards and Procedure for Award of M.Phil./Ph.D. Degrees) Regulations, 2016 and Ordinance-II(A) [Degree of Doctor of Philosophy (Ph.D.)], be approved and recommended to the Executive Council for consideration: **(Annexure-II, Page No- 20 to 23)**

Existing Clause	Proposed Amendments
Clause-2.4: The candidates who have qualified the UGC/CSIR-JRF/NET/SLET, or are Teacher Fellowship-holders or have passed M. Phil. programme with course work recognised by the U.G.C., as per the UGC Regulations (Minimum Standards and Procedure for award of M.Phil./Ph.D. Degree, 2009), shall be exempted from appearing at the written test.	Clause 2.4: The candidates who have qualified the UGC/CSIR-JRF/NET/SLET/**GATE**, or are Teacher Fellowship-holders or have passed M. Phil. programme with course work recognised by the U.G.C., as per the UGC Regulations (Minimum Standards and Procedure for award of M.Phil./Ph.D. Degree, 2009), shall be exempted from appearing at the written test.
Clause-2.5: Doesn't exist.	**Addition of Clause-2.5 after Clause-2.4:** **Clause-2.5:** A candidate shall be eligible for admission to the part-time Ph.D. programme, if he/she fulfils the following conditions: • The candidate should be working in an organization on regular basis. • He/she meets the requisite minimum qualification for admission to Ph. D programme of the University. • The candidate should have at least five years of continuous service. • The candidate should furnish a "No Objection Certificate" from his/her organization in the prescribed format.
Clause-3.1.3: The candidates who have qualified UGC/CSIR-JRF/NET/SLET/GATE, or are Teacher Fellowship holders, or have passed the M. Phil. programme with course work recognised by the U.G.C., as per the UGC Regulations (Minimum Standards and Procedure for award of M.Phil./Ph.D. Degree, 2009), shall be exempted from the written test	**Clause-3.1.3: To be deleted.**
Clause-5.3: In case of exceptional circumstances like, but not limited to, illness/hospitalisation, etc. the Vice-Chancellor may grant extension initially for a period of six months, but not exceeding a total of one year, in addition to the maximum duration of the programme	**Clause-5.3: to be deleted.**
Clause-6.1: The School Board/BOS, on the recommendation of the DRC, may appoint any regular Professor of the University with at least five research publications in refereed journals, and any regular Associate/Assistant Professor of the University with a Ph.D. degree and at least	Clause-6.1: The School Board/BOS, on the recommendation of the DRC, may appoint any regular Professor of the University with at least five research publications in **UGC approved/** refereed journals, and any regular Associate/Assistant Professor of the University

two research publications in refereed journals, as a Research Supervisor	with a Ph.D. degree and at least two research publications in **UGC approved/** refereed journals, as a Research Supervisor
Clause-6.7: ~~**However**~~, in **such** cases where a teacher is retiring or leaving and where redistribution/reallocation of the Ph.D. students is required for the abovementioned or any other reason, the Ph. D. students shall be adjusted among the eligible existing teachers of the department by relaxing the norms by the Departmental Research Committee (DRC)/Board of Studies (BOS). ~~**However**~~, in ~~**such**~~ cases where the teacher is retiring (two years or less of service is remaining) appointment of a Co-Supervisor on the recommendations of the DRC at the time of registration **may** be done by the BOS/School Board concerned.	Clause-6.7: In cases where a teacher is retiring or leaving and where redistribution/reallocation of the Ph.D. students is required for the abovementioned or any other reason, the Ph. D. students shall be adjusted among the eligible existing teachers of the department by relaxing the norms by the Departmental Research Committee (DRC)/Board of Studies (BOS). In cases where the teacher is retiring (two years or less of service is remaining) appointment of a Co-Supervisor on the recommendations of the DRC at the time of registration **shall** be done by the BOS/School Board concerned.
Clause-7.1: There shall be a compulsory Course Work of minimum one-semester duration as a pre-requisite for the confirmation of registration of students admitted provisionally. The course work shall consist of one Course on research methodology and the remaining Course(s) shall be as prescribed by the School Board/Board of Studies/Departmental Research Committee. **Every such pre-requisite course shall carry 12 credits.**	Clause-7.1: There shall be a compulsory Course Work of minimum one-semester duration as a pre-requisite for the confirmation of registration of students admitted provisionally. The course work shall consist of one Course on research methodology and the remaining Course(s) shall be as prescribed by the School Board/Board of Studies/Departmental Research Committee. **The course work shall be a minimum of 8 credits and a maximum of 16 credits.**
Clause-7.7: A student for whom pre-requisite courses are prescribed shall be required to clear the Course Work within the first semester. The registration of such students shall be confirmed only if he/she has qualified **minimum 12 credits** with a minimum CGPA of the Course Work may be designed by the Department as under: XXX XXX XXX XXX XXX	Clause-7.7: A student for whom pre-requisite courses are prescribed shall be required to clear the Course Work within the first semester **and in case of part-time Ph.D. within one year**. The registration of such students shall be confirmed only if he/she has qualified **minimum credits** with a minimum CGPA of the Course Work may be designed by the Department as under: XXX XXX XXX XXX XXX
Clause-7.10: The candidates are required to complete a minimum residency period of two years from the date of registration	Clause-7.10: **To be deleted**.
Clause-8(a): Consequent upon confirmation of his/her admission in the Board of Studies and/or School Board ~~**shall**~~, the topic of dissertation shall be approved by the School Board/BOS on	Clause-8(a): Consequent upon confirmation of his/her admission in the Board of Studies and/or School Board, the topic of dissertation shall be approved by the School Board/BOS on the

	the recommendations of the Department/Centre concerned and the DRC on a proposal submitted by the student	recommendations of the Department/Centre concerned and the DRC on a proposal submitted by the student
	Clause-8(b): After approval of the topic of research, the candidate shall deposit the prescribed registration fees and his/her date of registration shall be determined on the basis of the date on which he/she deposited the registration fees	Clause-8(b): **To be deleted**.
4.	Resolved that the recommendations of the Board of Studies of the Department of Biochemistry dated 28.02.2019 and School Board of School of Life Sciences dated 27.04.2019, for the scheme and syllabi of course work for Ph.D. programme in the Department of Biochemistry, w.e.f. the Academic Session-2019-20, as recommended by the Standing Committee on Academic matters of the Academic Council in its meeting held on 26.11.2019, be approved. **(Annexure-III, Page No- 24 to 33)**	
5.	Resolved that the recommendations of the Board of Studies of the Department of Physics dated 28.03.2019 and School Board of School of Physical and Mathematical Sciences dated 28.03.2019, for the scheme and syllabi of course work for Ph.D. programme in Physics, w.e.f. the Academic Session-2019-20, as recommended by the Standing Committee on Academic matters of the Academic Council in its meeting held on 26.11.2019, be approved. **(Annexure-IV, Page No- 34 to 54)**	
6.	Resolved that the recommendations of the Board of Studies of the Department of Physics dated 28.03.2019 and School Board of School of Physical and Mathematical Sciences dated 28.03.2019, for revision of the scheme and syllabi of M.Sc. Physics (Semesters I to IV), w.e.f. the Academic Session-2019-20, as recommended by the Standing Committee on Academic matters of the Academic Council in its meeting held on 26.11.2019, be approved. **(Annexure-V, Page No- 55 to 127)**	
7.	Resolved that the proposal for starting of B.Voc. (Animal Husbandry and Management) programme under DDU KAUSHAL KENDRA, as recommended by the Standing Committee on Academic matters of the Academic Council in its meeting held on 26.11.2019, be approved. **(Annexure-VI, Page No- 128 to 129)**	
8.	Resolved that the recommendations of the Board of Studies of the Department of Yoga dated 01.10.2019, for revision of the scheme and syllabi of M.Sc. Yoga, w.e.f. the Academic Session-2019-20, be referred to the Standing Committee on Academic matters of the Academic Council for examination and review. Resolve further that the Vice-Chancellor be authorised to approve the recommendations of the Standing Committee on Academic matters of the Academic Council.	
9.	Resolved that a Master of Social Work programme, be introduced in the Department of Social Work, Central University of Haryana, from the Academic Session 2020-21. **Concept Note** From an educational perspective, there is growing evidence that Indian universities are switching to more and more career-oriented unconventional courses so that a better fit can be brought	

between the job seekers and the emerging job fields. Central University of Haryana (CUH) is not an exception to this. CUH has in the offing various courses that would bridge the gap between the emerging jobs and the expectations of the potential job seekers. As CUH, inter alia, aims to improve the social and economic conditions and welfare of the people, their intellectual, academic and cultural development, it mandates to cater to the daily life needs of the people in its pursuit to be a global name in the field of education research and extension. CUH is very conscious towards promoting the values of a global citizen among students through civic engagement and social work. Over the years, its community engagement through social outreach initiatives has been widespread and diverse.

Towards realization of its vision and mission and the directive of the UGC ,Central University of Haryana plans to initiate courses, which not only generate employment but also focus on rural development, women empowerment, community welfare, individual well being and that addresses the daily life problems of the general populace, the peasants and the farmers.

In the light of the above, **Master of Social Work (MSW)** is one such course which substantially helps meet the aforementioned goal of CUH. MSW is globally a highly acclaimed course which not only imparts knowledge for employment skills but also the life skills to the students. MSW strives to enable an individual not merely for a job but towards his overall wellbeing.

Purpose of the MSW Program and the Mission of CUH:

The proposal for MSW is in consistent with the vision of CUH to develop enlightened citizenship for peace and prosperity of individuals, nation and the world, through promotion of innovation, creative endeavours, and scholarly inquiry. The MSW supports University's strategic directions, core values and mission through social work education, leadership and by supporting the community welfare initiatives. The MSW program also affirms the University's public responsibility through civic and public engagement.

Through field work placements, the MSW students will make active contribution to community welfare and community based learning. The MSW program will open up new opportunities to University-community linkages which a mandate is given to the state-funded universities (such as CUH) by the UGC as also the Government. The MSW students will serve the most vulnerable sections of the society in areas such as health, education, child and women welfare, mental health, drug abuse, hospital and palliative care and so on. As the students of MSW are placed in human service agencies, the program will be highly responsive to the needs of the local people in the region.

The Rationale

There was a time when social work was not considered a serious career as it was viewed as an unremunerated selfless social service. But of late, it has broken free from these shackles and is undisputedly regarded as an exclusively scientific and educationally planned professional work. With the large-scale participation of NGOs in development programmes in India, social work has taken off in a big way. The Post-nineties structural adjustment programmes and with the technology onslaught in the last two decades, while the jobs in the government sector have reduced to a great extent, the jobs in the voluntary and private sector have increased manifold. The improvisation of economic policies to be in tune with the current global economy and the technological advancements has entirely reshaped the job industry in India as well as across the globe.

Amid these concerns, the employment generation is the priority concern of the Government of India. The Government is making all efforts to encourage private as well the voluntary sector to fast track various initiatives to generate jobs for the its youth.

In this light, the University Grants Commission has also been asked to boost up higher education institutes in the country to start more and more job oriented courses. UGC has further directed the universities and other higher education bodies to ensure that the students are trained in such a way that at least 50% of those graduating must get access to one or the other job or self-employment. The Universities are expected to design their curricula in a way so that the students are engaged in 'socially productive activities' while they pursue their respective courses. Eventually the UGC has mandated all higher education institutes in India to start courses that are focussed on students' employability, enhancement of essential skills and increasing engagement with the society and the industry. Every institution has even been asked to adopt at least five villages for exchange of knowledge and for the overall social and economic betterment of the local communities.

Employability of MSW students:

Social work through its skill base equip potential job seekers not just with knowledge but skills, attitudes, values, beliefs, feelings and convictions so that they can meet the emerging social needs and handle challenges of daily life by being individual as well as social changers.

Social work curricula is designed in such a way that the student get appropriate helping skills for the welfare of the vulnerable groups of the society in the capacity as social entrepreneurs and trained social work practitioners.

The social workers that specialize in the area of Human Resources Management are equipped to handle responsibilities in Industrial settings in the areas of Personnel Administration, Human Resource Development, Labour Welfare, Social Security, Industrial Relations and Human Relations etc.

The social workers specializing in criminology and correctional administration work in institutions like the prisons, reformatories, observation homes, juvenile homes and the remand homes.

In the field of Family and Child Welfare the social workers work for improving the quality of life of women, children, old aged, handicapped and the infirm. These workers are employed in institutions working for the welfare of these venerable groups. A huge number of social workers also associate with the government programmes launched for their welfare.

In the field of Medical and Psychiatric Social Work, they are generally employed in hospitals, sanatoriums, family planning clinics, drug and alcohol de-addiction centres. While a medical social worker looks into the psychosocial dimensions of a disease, a psychiatric social worker deals with the emotional and social aspects of a mental illness.

Community work forms an important area of social work where they work for rural development and community welfare. With the involvement and cooperation of community people, they deal with issues like sanitation, health, education, unemployment and protection of environment etc. These workers work in liaison with the representatives of the Panchayat Raj Bodies, the Non-Government Organizations, municipal corporations and educational institutions. Social Work students are a highly preferred group to be associated with the various welfare initiatives/projects/schemes of the government.

	The Social workers also get jobs in international organizations like UNDP, WHO, UNICEF, UNESCO, ILO and UN Volunteers etc. Besides this, the social workers get jobs in social research institutions apart from the teaching institutions like the universities. **Summary:** **Master of Social Work (MSW) program at Central University of Haryana is expected to** provide students with an educational experience that would make them realize their full potential besides providing them the requisite skills to have gainful employment in the human services agencies in the areas such as health, education, sanitation, community and women welfare, drug de-addiction, correctional institutions, and for all the vulnerable sections of the community. The con-current field work component would support the University's strategic plan of civic engagement and community partnerships. It is expected that the opportunities for partnerships between the community and the University will further expand as the MSW program evolves.
10.	Resolved that the credit courses for awareness about publication ethics and publication misconducts entitled "Research and Publication Ethics (RPE)" for all Ph.D. students for pre-registration course work as per the details attached in University Grants Commission letter D.O.No.F.1-1/2018(journal/CARE) dated December, 2019, be adopted. **(Annexure-VII, Page No- 130 to 133)**
11.	Resolved that the following amendments to Ordinance-XVII (Assignment of Departments to The Schools) consequent upon the Assent of the Visitor of the University in approving the amendments to the Statute-15(i) of the Statutes of the University vide MHRD letter No.F.No.58-6/2018-CU-III dated 04.12.2019, be approved and recommended to the Executive Council for consideration:

ORDINANCE – XVII
ASSIGNMENT OF DEPARTMENTS TO THE SCHOOLS
(Ref. Statute 15(5) of the Statutes)

S.No.	School	Department
1.	**School of Humanities and Social Sciences**	(i) Department of Anthropology (ii) Department of Buddhist Studies (iii) Department of Comparative Literature & Translation Studies (iv) Department of English and Foreign Languages (v) Department of Hindi (vi) Department of History and Archaeology (vii) Department of Journalism and Mass Communication (viii) Department of Philosophy (ix) Department of Political Science (x) Department of Psychology (xi) Department of Public Administration (xii) Department of Sanskrit (xiii) Department of Social Work (xiv) Department of Sociology (xv) Department of Women's Studies and Development (xvi) Department of Urdu

2.	**School of Interdisciplinary and Applied Sciences**	(i) Department of Biochemistry (ii) Department of Bio-informatics (iii) Department of Biotechnology (iv) Department of Environmental Studies (v) Department of Food Science and Technology (vi) Department of Genetics (vii) Department of Library and Information Science (viii) Department of Microbiology (ix) Department of Nano Science and Nano Technology (x) Department of Nutrition Biology (xi) Department of Pharmaceutical Sciences (xii) Department of Virology (xiii) Department of Yoga
3.	**School of Basic Sciences**	(i) Department of Botany (ii) Department of Chemistry (iii) Department of Computer Sciences and Information Technology (iv) Department of Earth Sciences (v) Department of Geography (vi) Department of Mathematics (vii) Department of Operations Research (viii) Department of Physics and Astrophysics (ix) Department of Remote Sensing and Geo Informatics (x) Department of Statistics (xi) Department of Zoology
4.	**School of Law**	i) Department of Law
5.	**School of Engineering and Technology**	i) Department of Civil Engineering ii) Department of Computer Science & Engineering iii) Department of Electrical Engineering iv) Department of Electronics and Communication Engineering v) Department of Geotechnical Engineering vi) Department of Printing and Packaging Technology
6.	**School of Business and Management Studies**	i) Department of Commerce ii) Department of Economics iii) Department of Management Studies iv) Department of Policy Studies v) Department of Tourism & Hotel Management
7.	**School of Education**	i) Department of Physical Education and Sports

8.	**School of Agricultural Sciences**	i) Department of Agri-business ii) Department of Agricultural Economics iii) Department of Horticulture iv) Department of Mycology and Plant Pathology v) Department of Post-harvest Technology
9.	**School of Life-long Learning**	

12. Resolved that the following amendments to the Statute-15(i) of the Statutes of the University relating to the creation of the Departments of Studies, be approved and recommended to the Executive Council for consideration:

(b)Departments of Studies

Existing	Proposed
1. Department of Agri-business	1. Department of Agri-business
2. Department of Agricultural Economics	2. Department of Agricultural Economics
3. Department of Anthropology	3. Department of Anthropology
4. Department of Biochemistry	4. Department of Biochemistry
5. Department of Bio-informatics	5. Department of Bio-informatics
6. Department of Biotechnology	6. Department of Biotechnology
7. Department of Botany	7. Department of Botany
8. Department of Buddhist Studies	8. Department of Buddhist Studies
9. Department of Chemistry	9. Department of Chemistry
10. Department of Commerce	10. Department of Commerce
11. Department of Comparative Literature & Translation Studies	11. Department of Comparative Literature & Translation Studies
12. Department of Computer Sciences and Information Technology	12. Department of Computer Sciences and Information Technology
13. Department of Earth Sciences	13. Department of Earth Sciences
14. Department of Economics	14. Department of Economics
15. Department of Electronics and Communication Engineering	15. Department of Electronics and Communication Engineering
16. Department of English and Foreign Languages	16. Department of English and Foreign Languages
17. Department of Environmental Studies	17. Department of Environmental Studies
18. Department of Food Science and Technology	18. Department of Food Science and Technology
19. Department of Genetics	19. Department of Genetics
20. Department of Geography	20. Department of Geography
21. Department of Geotechnical Engineering	21. Department of Geotechnical Engineering
22. Department of Hindi	22. Department of Hindi

23. Department of History and Archaeology	23. Department of History and Archaeology
24. Department of Horticulture	24. Department of Horticulture
25. Department of Journalism and Mass Communication	25. Department of Journalism and Mass Communication
26. Department of Law	26. Department of Law
27. Department of Library and Information Science	27. Department of Library and Information Science
28. Department of Management Studies	28. Department of Management Studies
29. Department of Mathematics	29. Department of Mathematics
30. Department of Microbiology	30. Department of Microbiology
31. Department of Mycology and Plant Pathology	31. Department of Mycology and Plant Pathology
32. Department of Nano Science and Nano Technology	32. Department of Nano Science and Nano Technology
33. Department of Nutrition Biology	33. Department of Nutrition Biology
34. Department of Operations Research	34. Department of Operations Research
35. Department of Philosophy	35. Department of Philosophy
36. Department of Physical Education and Sports	36. Department of Physical Education and Sports
37. Department of Physics and Astrophysics	37. Department of Physics and Astrophysics
38. Department of Policy Studies	38. Department of Policy Studies
39. Department of Political Science	39. Department of Political Science
40. Department of Post-harvest Technology	40. Department of Post-harvest Technology
41. Department of Psychology	41. Department of Psychology
42. Department of Public Administration	42. Department of Public Administration
43. Department of Remote Sensing and Geo Informatics	43. Department of Remote Sensing and Geo Informatics
44. Department of Sociology	44. Department of Sociology
45. Department of Statistics	45. Department of Statistics
46. Department of Tourism and Hotel Management	46. Department of Tourism and Hotel Management
47. Department of Urdu	47. Department of Urdu
48. Department of Virology	48. Department of Virology
49. Department of Women's Studies and Development	49. Department of Women's Studies and Development
50. Department of Zoology	50. Department of Zoology
51. Department of Civil Engineering	51. Department of Civil Engineering
52. Department of Computer Science and Engineering	52. Department of Computer Science and Engineering

53. Department of Electrical Engineering	53. Department of Electrical Engineering
54. Department of Printing and Packaging Technology	54. Department of Printing and Packaging Technology
55. Department of Social Work	55. Department of Social Work
56. Department of Sanskrit	56. Department of Sanskrit
57. Department of Yoga	57. Department of Yoga
58. Department of Pharmaceutical Sciences	58. Department of Pharmaceutical Sciences
	59. Department of Open and Distance Learning
	60. Department of Online Education
	61. Department of Creation and Preservation of learning material
	62. Department of Vocational Studies and Skill Development
	63. Department of Teacher Education

REPORTING ITEMS

13.	The action taken by the Vice-Chancellor on 03.04.2019, in approving the revised Academic Calendar for the Academic Session 2019-20, was reported, recorded and confirmed. **(Annexure-VIII, Page No-134 to134)**
14.	The action taken by the Vice-Chancellor on 27.11.2019, in approving the adoption of the new scheme and syllabi for the students who are required to re-join in order to complete their programme due to shortage of attendance and non-promotion cases etc., as recommended by the Standing Committee on Academic matters of the Academic Council in its meeting held on 26.11.2019, was reported, recorded and confirmed. **(Annexure-IX, Page No-135 to136)**
15.	The action taken by the Vice-Chancellor on 17.11.2019, in approving the recommendation of the Board of Studies of the Department of Tourism and Hotel Management dated 01.10.2019 and School Board of School of Language, Linguistics, Culture and Heritage dated 11.10.2019, for revision of the scheme and syllabi of Master of Tourism and Travel Management (Semesters I to IV), w.e.f. the Academic Session-2019-20, was reported, recorded and confirmed. **(Annexure-X, Page No-137 to201)**
16.	The action taken by the Vice-Chancellor on 17.11.2019, in approving the recommendation of the Board of Studies of the Department of Civil Engineering dated 11.06.2019 and School Board of School of Engineering and Technology dated 03.07.2019, for the addition of "Project Cost Analysis" as a Discipline Centric Elective Course in 7th Semester for the batches of 2016-20 and 2017-21, was reported, recorded and confirmed. **(Annexure-XI, Page No-202 to205)**
17.	The action taken by the Vice-Chancellor on 17.11.2019, in approving the recommendation of the Board of Studies of the Department of Civil Engineering dated 11.06.2019 and School Board of School of Engineering and Technology dated 03.07.2019, for revision of the syllabi for "Building Construction (BTCE-409)" for the 4th semester, w.e.f. the Academic Session 2019-20, was reported, recorded and confirmed. **(Annexure-XII, Page No-206 to 206)**

18.	The receipt of MHRD letter No.F.No.3-4/2017-NER dated 15.10.2019 regarding concession for the wards of Kashmiri Migrants and Kashmiri Pandit/ Kashmiri Hindu Families (Non-Migrants) living in Kashmir valley for admission in Higher Educational Institutions, was reported and recorded. **(Annexure-XIII, Page No-207 to 208)**
19.	The action taken by the Vice-Chancellor on 19.03.2019 in starting of the following new programmes from the Academic Session 2019-20, consequent upon the receipt of approval received from UGC, was reported and recorded: a. Master in Tourism and Travel Management b. M.A. (Sanskrit) c. M.Sc. (Yoga) **(Annexure-XIV, Page No-209 to 210)**
20.	The action taken by the Vice-Chancellor on 02.04.2019 in initiating the process for starting the following new programmes from the Academic Session 2020-21, was reported, recorded and confirmed: a. LL.B. Three Year Professional Course b. M.Pharm. c. M.P.Ed.
21.	The receipt of the MHRD letter No.F.No.58-6/2018-CU-III dated 04.12.2019 conveying the Assent of the Visitor of the University in approving the amendments to Statutes/Ordinances of the Central University of Haryana, was reported. **(Annexure-XV, Page No-211 to 211)**
	UNDER ANY OTHER ITEM
22.	Resolved that a Master of Science programme in Quantitative Genetics and Genomics, be introduced in the Department of Genetics, Central University of Haryana, from the Academic Session 2020-21.
23.	Resolved that a Diploma Course in Climate Change, be introduced in the Department of Environmental Studies, Central University of Haryana, from the Academic Session 2020-21.
24.	Resolved that the recommendations of the Board of Studies of the Department of Political Science dated 14.01.2020 to allow a mercy chance to Mr. Sudhakar Choubey s/o Sh. Vinod Kumar Chaubey, a Research Scholar (Ph.D.) in the Department of Political Science, for completing the Pre-Ph.D. Course work, in pursuance of following provisions provided under Ordinance-II (A); be approved: *"Notwithstanding what is contained in the Ordinance, the Academic Council or the Vice Chancellor may, in exceptional circumstances and on the recommendations of the Board of Studies/School Board, as well as on the merits of each individual case, consider, at its discretion and for the reasons to be recorded in writing, relaxation of any of the provisions except those related to CGPA requirements for qualifying the course work."* **(Annexure-XVI, Page No-212 to 215)**
25.	The receipt of UGC letter No. मि. सं. 16–1/2018 (राजभाषा) dated 20.12.2019 regarding "विश्वविद्यालयों में शोध प्रबंध (विशेषतः वैज्ञानिक और तकनीकी विषयों से संबंधित) हिंदी में लिखे जाने के प्रोत्साहन हेतु विशेष योजना आरम्भ करना।", was reported and recorded. **(Annexure-XVII, Page No-216 to 216)**

26.	Resolved that the recommendations of the Board of Studies of the B.Ed. & M.Ed. programmes dated 23.10.2019 and School Board of School of Education dated 13.01.2020, for the revised scheme and syllabi of the B.Ed. programme (2nd and 4th Semester) and M.Ed. programme (2nd & 4th Semester) in the School of Education, for the Academic Session-2019-20, be approved. **(Annexure-XVIII, Page No-217 to 430)**
27.	**Arising out of the Action Taken Report:** **Resolution No-27 of the 28th meeting of the Academic Council:** The Council considered and accepted in principle the proposal for introduction of a new course titled, "Continuous Evaluation" in the course work for the Ph.D. programmes in all the departments of studies of the University and resolved that a revised proposal may be submitted in next meeting after wider consultations. **Resolved that the Dean (Academic) may convene a meeting of all Deans and HoDs for wider consultation and submit its recommendations through Standing Committee on Academic matters of the Academic Council for consideration of the Council.**
	The meeting ended with a vote of thanks to the Chair.

VICE-CHANCELLOR
(Chairperson)

REGISTRAR
(Secretary)

ACTION TAKEN REPORT

28th meeting of the Academic Council held on 26.06.2019

R. No.	Resolution Passes	Action Taken
1	The Minutes of the 27th meeting of the Academic Council held on 19.02.2019, were confirmed.	No Action was needed.
2	The actions taken on the resolutions of the 27th meeting of the Academic Council held on 19.02.2019, were reported, recorded and confirmed.	No Action was needed.
	ITEMS FOR CONSIDERATION	
3	Resolved that, in pursuance of the comments of the UGC received vide MHRD letter No.F.58-6/2018-CU.III dated 12.06.2019, the following amendments to Statute-15(1) of the Statutes of the University relating to the Schools and Departments of Studies, be approved and recommended to the Executive Council for consideration: **XXX XXX XXX XXX**	Approved by the Executive Council vide Resolution No. 5(a) in its 43rd meeting held on 02.07.2019 and forwarded to MHRD for submission to the Visitor of the University, vide letter No.CUH/2019/A&C/223 dated 19/08/2019
4	Resolved that, in pursuance of the comments of the UGC received vide MHRD letter No.F.58-6/2018-CU.III dated 20.05.2019, the following amendments to Ordinance-IV(A) (Qualifications for appointment to the teaching and other posts) of the University, be approved and recommended to the Executive Council for consideration: **XXX XXX XXX XXX**	Approved by the Executive Council vide Resolution No. 5(a) in its 43rd meeting held on 02.07.2019 and forwarded to MHRD for submission to the Visitor of the University, vide letter No.CUH/2019/A&C/222 dated 19/08/2019
5	Resolved that, in pursuance of the comments of the UGC received vide MHRD letter No.F.58-6/2018-CU.III dated 20.05.2019, the following amendments to Ordinance-IV(B)- Career Advancement Scheme (CAS), of the University, be approved and recommended to the Executive Council for consideration: **XXX XXX XXX XXX**	Approved by the Executive Council vide Resolution No. 5(a) in its 43rd meeting held on 02.07.2019 and forwarded to MHRD for submission to the Visitor of the University, vide letter No.CUH/2019/A&C/222 dated 19/08/2019
6	The agenda item for treating the 2nd semester(2018-19) as zero semester on medical grounds, in respect of Mr. Ansuman Bera, a student of the Department of Chemistry, was withdrawn.	Noted.

7	Resolved that the University Grants Commission (Redressal of Grievances of Students) Regulations 2019, be adopted for implementation.	Adopted.
8	Resolved that the recommendation of the Board of Studies of the Department of Physics dated 28.03.2019 and School Board of School of Physical and Mathematical Sciences dated 28.03.2019, for the scheme and syllabi of course work for Ph.D. programme in Physics, w.e.f. the Academic Session-2019-20, be referred to the Standing Committee on Academic matters of the Academic Council for examination and review.	Agenda Item as recommended by the Standing Committee is included in the Agenda of the meeting.
9	Resolved that the recommendation of the Board of Studies of the Department of Physics dated 28.03.2019 and School Board of School of Physical and Mathematical Sciences dated 28.03.2019, for revision of the scheme and syllabi of M.Sc. Physics (Semesters I to IV), w.e.f. the Academic Session-2019-20, be referred to the Standing Committee on Academic matters of the Academic Council for examination and review.	Agenda Item as recommended by the Standing Committee is included in the Agenda of the meeting.
10	Resolved that the recommendation of the Board of Studies of the Department of Environmental Studies dated 12.03.2019 and School Board of School of Earth, Environment and Space Studies dated 09.05.2019, for revision of the scheme and credit points for course curriculum of M.Sc. (Environmental Science), w.e.f. the Academic Session-2019-20, be referred to the Standing Committee on Academic matters of the Academic Council for examination and review.	Agenda Item was referred back to the Department for corrections by the Standing Committee.
11	Resolved that the recommendation of the Board of Studies of the Department of Environmental Studies dated 12.03.2019 and School Board of School of Earth, Environment and Space Studies dated 09.05.2019, for the syllabi of newly introduced subjects (Semester-I: 'Elementary Mathematics for Environmental Sciences'/ 'Elementary Biology for Environmental Sciences' & 'Statistical approaches in Environmental Sciences'; Semester-II: 'Solid and Hazardous Waste Management' & 'Agriculture and Environment'), w.e.f. the Academic Session-2019-20, be referred to the Standing Committee on Academic matters of the Academic Council for examination and review.	Agenda Item was referred back to the Department for corrections by the Standing Committee.
12	Resolved that the recommendation of the Board of Studies of the Department of Environmental Studies dated 12.03.2019 and School Board of School of Earth, Environment and Space Studies dated 09.05.2019, for revision of the syllabus of M.Sc. (Environmental Sciences) for Semesters-I to IV, w.e.f. the Academic Session-2019-20, be referred to the Standing Committee on Academic matters of the Academic Council for examination and review.	Agenda Item was referred back to the Department for corrections by the Standing Committee.

13	Resolved that the recommendation of the Board of Studies of the Department of Geography dated 11.03.2019 and School Board of School of Earth, Environment and Space Studies dated 09.05.2019, for revision of the syllabus of M.Sc. (Geography) for Semesters-I to IV, w.e.f. the Academic Session 2019-20, be referred to the Standing Committee on Academic matters of the Academic Council for examination and review.	Agenda Item was referred back to the Department for corrections by the Standing Committee.
14	Resolved that the recommendation of the Board of Studies of the Department of Geography dated 11.03.2019 and School Board of School of Earth, Environment and Space Studies dated 09.05.2019, for addition of "Geography of Rural Development" as a Discipline Centric Elective Course in 4th Semester for the batches of 2018-20 and 2019-21 onwards, be referred to the Standing Committee on Academic matters of the Academic Council for examination and review.	Agenda Item was referred back to the Department for corrections by the Standing Committee.
15	Resolved that the recommendation of the Board of Studies of the Department of Nutrition Biology dated 14.02.2019 and School Board of School of Life Sciences dated 27.04.2019, for revision of the scheme and syllabi of M.Sc. (Nutrition Biology) for Semesters I to IV, w.e.f. the Academic Session-2019-20, be approved, subject to revision of subject codes logically.	Implemented
16	Resolved that the recommendation of the Board of Studies of the Department of Microbiology dated 06.03.2019 and School Board of the School of Life Sciences dated 27.04.2019, for revision of the scheme and syllabi of M.Sc. (Microbiology) for Semesters I to IV, w.e.f. the Academic Session-2019-20, be approved.	Implemented
17	Resolved that the recommendation of the Board of Studies of the Department of Biotechnology dated 19.02.2019 and School Board of the School of Life Sciences dated 27.04.2019, for revision of the scheme and syllabi of M.Sc. (Biotechnology) for Semesters I to IV, w.e.f. the Academic Session-2019-20, be approved.	Implemented
18	Resolved that the recommendation of the Board of Studies of the Department of Biochemistry dated 28.02.2019 and School Board of the School of Life Sciences dated 27.04.2019, for revision of the scheme and syllabi of M.Sc. (Biochemistry) for Semesters I to IV, w.e.f. the Academic Session-2019-20, be approved.	Implemented
19	Resolved that the recommendation of the School Board of School of Life Sciences dated 27.04.2019, for revision of the scheme and syllabi of course work for Ph.D. programme in the Department of Biotechnology, w.e.f. the Academic Session-2019-20, be referred back for approval of the Board of Studies of the Department.	Agenda Item has been withdrawn for the time being.
20	Resolved that the recommendation of the School Board of School of Life Sciences dated 27.04.2019, for revision of the scheme and syllabi of course work for Ph.D. programme in the Department of	Agenda Item has been withdrawn for the time being.

	Microbiology, w.e.f. the Academic Session-2019-20, be referred back for approval of the Board of Studies of the Department.	
21	Resolved that the recommendation of the School Board of School of Life Sciences dated 27.04.2019, for revision of the scheme and syllabi of course work for Ph.D. programme in the Department of Nutrition Biology, w.e.f. the Academic Session-2019-20, be referred back for approval of the Board of Studies of the Department.	Agenda Item has been withdrawn for the time being.
22	Resolved that the recommendation of the School Board of School of Life Sciences dated 27.04.2019, for revision of the scheme and syllabi of course work for Ph.D. programme in the Department of Biochemistry, w.e.f. the Academic Session-2019-20, be referred back for approval of the Board of Studies of the Department.	Agenda Item as recommended by the Bos & School Board is listed in the Agenda of the meeting
23	Resolved that the syllabi of M.A. (Sanskrit) for Semesters I to II, as recommended by the Board of Studies of the Department of Sanskrit on 20.06.2019, to be implemented w.e.f. the Academic Session-2019-20, be approved.	Implemented
24	Resolved that the syllabi of M.Sc. (Yoga) for Semesters I to II, as recommended by the Board of Studies of the Department of Yoga on 06.06.2019, to be implemented w.e.f. the Academic Session-2019-20, be approved. **Note:** M.A. (Yoga) mentioned in syllabus be read as M.Sc. (Yoga).	Implemented
25	The agenda item regarding option of Apprenticeship for M.Sc. Semester-IV students, was withdrawn.	Noted
26	Resolved that the following proposal for appointment of adjunct faculty to various departments in Central University of Haryana from amongst the regular faculty in the University, be approved. **XXX XXX XXX XXX**	Noted.
27	The Council considered and accepted in principle the proposal for introduction of a new course titled, “Continuous Evaluation” in the course work for the Ph.D. programmes in all the departments of studies of the University and resolved that a revised proposal may be submitted in next meeting after wider consultations.	Noted
28	Resolved that the recommendation of the Board of Studies of the Department of Civil Engineering dated 11.06.2019, for the addition of “Project Cost Analysis” as a Discipline Centric Elective Course in 7th Semester for the batches of 2016-20 and 2017-21, be referred back for approval of the School Board of the School of Engineering and Technology.	Agenda Items is include in the Agenda of the meeting of the Academic Council.
29	Resolved that the recommendation of the Board of Studies of the Department of Civil Engineering dated 11.06.2019, for the revision of syllabi for “Building Construction (BTCE-409)” for the 4th semester,	Agenda Items is include in the Agenda of the meeting of the Academic Council.

	w.e.f the Academic Session 2019-20, be referred back for approval of the School Board of the School of Engineering and Technology.	
30	Resolved that the recommendation of the Board of Studies dated 21.02.2019 of the Department of Sociology, for revision of the syllabi of M.Phil. /Ph.D. course work, w.e.f. the Academic Session-2019-20, be referred back for approval of the School Board of the School of Arts, Humanities and Social Sciences.	Agenda Item was referred back to the Department for corrections by the Standing Committee.
31	Resolved that the proposal for introduction of the following three year Undergraduate programmes from the next Academic Session (2020-21), be approved, in principle: 1. B.A (Hons)-English 2. B.Sc. (Hons) Physics 3. B.A (Hons)-Economics 4. B.Sc. (Hons) Chemistry 5. B.Com (Hons) 6. B.Sc. (Hons) Mathematics 7. B.Sc. (Hons) Applied Psychology	Noted
32	Resolved that the proposal for introduction of 5-year integrated BS-MS programme in the following Departments of the University, having an exit option after 3 years with a BS degree and a 5 year dual degree (BS-MS) after final year (5th Year) dedicated to research in respective field, from the next academic session (2020-21), be approved, in principle: **XXX XXX XXX XXX**	Noted
33	Resolved that the proposal for adoption of the existing scheme and syllabi of course work for Ph.D. programme of the Department of Education for the newly introduced Ph.D. programme in the School of Education, w.e.f. the Academic Session-2019-20, be approved.	Implemented.
REPORTING ITEMS		
34-37	Reporting Items	No action was needed.
UNDER ANY OTHER ITEM		
38	Resolved that the Vice Chancellor be authorised to adopt new Regulations and Instructions issued by the University Grants Commission, and Government of India, Ministry of Human Resource Development, from time to time and the same may be reported to Academic Council in its subsequent meetings.	Noted
39	Resolved that the Vice-Chancellor be authorised to constitute a Standing Committee on Academic matters of the Academic Council to examine and review the course structure, syllabi, scheme of examination and suggested readings etc. proposed to be put up for consideration of the Academic Council.	Standing Committee on Academic matters of the Academic Council was constituted and Notified vide notification No. CUH/2019/A&C/214 dated 10.07.2019
	The meeting ended with a vote of thanks to the Chair.	

हरियाणा केंद्रीय विश्वविद्यालय
संसद के अधिनियम संख्या-25 (2009) के तहत स्थापित)
जांट-पाली, महेंद्रगढ़- 123031 (हरियाणा)
CENTRAL UNIVERSITY OF HARYANA
(Established vide Act No. 25 (2009) of Parliament)
Jant-Pali, Mahendergarh-123031 (Haryana)

Date:05.11.19

Minutes of Meeting

A meeting of the Committee constituted to examine the possibility of introducing Part-Time Ph.D., in Central University of Haryana, in the light of the Clause-11.2 of UGC (Minimum Standards and Procedure for Award of M.Phil./Ph.D. Degrees) Regulations, 2016 and Ordinance-II(A) [Degree of Doctor of Philosophy (Ph.D.)] was held on 05.11.2019 in the Board Room, All India Council for Technical Education, Nelson Mandela Marg, Vasant Kunj, New Delhi 110 070. The following were present:

1. **Dr. M.P. Poonia** - **Chairperson**
   Vice Chairman, All India Council for Technical Education (AICTE) &
   Member, Academic Council, CUH
2. **Prof. K.P.S. Mahalwar** - **Member**
   Member, Academic Council, CUH
3. **Prof. Satish C. Bhatla** - **Member**
   Professor, Department of Botany University of Delhi, Delhi
4. **Dr. (Mrs.) Shimla** - **Member**
   Member, Academic Council, CUH
5. **Prof. Rajesh Kumar Malik** - **Member**
   Member, Academic Council, CUH

In continuation of the recommendations made in the previous meeting held on 26.09.2019 and fresh detailed discussion over the issue in light of the provisions contained in the UGC Regulations, 2016 and the Ordinance-II(A)) [Degree of Doctor of Philosophy (Ph.D.)] of the University, the committee recommended that :

1. The amendment proposed in the previous meeting may be incorporated at appropriate places in the existing clauses of the above ordinance of the University.

2. In consequence of the amendments made in the existing Ph.D Ordinance, if it is required to amend any relevant/concerned/connected provision of ordinance/rule/regulation/ bye-laws, the same may be amended by the University.

The meeting ended with vote of thanks to the Chair.

(M.P. Poonia) 5/11/19

(K.P.S. Mahalwar) 5-11-19

(Satish C. Bhatla)

(Shimla) 5-11-19

(Rajesh Kumar Malik)

हरियाणा केंद्रीय विश्वविद्यालय
(-25 (2009))
जांट-पाली, महेंद्रगढ़- 123031 (हरियाणा)
CENTRAL UNIVERSITY OF HARYANA
(Established vide Act No. 25 (2009) of Parliament)
Jant-Pali, Mahendergarh-123031 (Haryana)

Date:26.09.2019

Minutes of Meeting

A meeting of the Committee constituted to examine the possibility of introducing Part-Time Ph.D., in Central University of Haryana, in the light of the Clause-11.2 of UGC (Minimum Standards and Procedure for Award of M.Phil./Ph.D. Degrees) Regulations, 2016 and Ordinance-II(A) [Degree of Doctor of Philosophy (Ph.D.)] was held on 26.09.2019 at 11:30 AM in the Conference Room, Gurugram Office, Central University of Haryana, Gurugram. The following were present:

1. **Dr. M.P. Poonia** - **Chairperson**
   Vice Chairman, All India Council for Technical Education (AICTE) &
   Member, Academic Council, CUH
2. **Prof. K.P.S. Mahalwar** - **Member**
   Member, Academic Council, CUH
3. **Prof. Satish C. Bhatla** - **Member**
   Professor, Department of Botany University of Delhi, Delhi
4. **Dr. (Mrs.) Shimla** - **Member**
   Member, Academic Council, CUH
5. **Prof. Rajesh Kumar Malik** - **Member**
   Member, Academic Council, CUH

After detailed discussion over the issue in light of the provisions contained in the UGC Regulations, 2016 and the Ordinance-II(A) of the University, the committee recommended as under :

1. Part time Ph.D. should be started by the University to promote research in the various fields in the country and encourage the officials/ officers who are working in the Institutions/Organisations/Departments on regular basis. Ordinance-II(A) may be amended accordingly. Proposed amendments are annexed at **Annexure-A**.
2. Conversion from Regular mode to part-time mode may be considered on case to case basis by the Academic Council on the recommendations of the BoS of the concerned Department.
3. Certain repetitions/ discrepancies were noticed while referring the Ordinance-II(A), same may be removed by amendments in existing Ordinance (**Annexure-B**).
4. The procedure for change of supervisor may be introduced in Ordinance-II(A)

(M.P. Poonia) 26/09/19

(K.P.S. Mahalwar) 05.11.19

(Satish C. Bhatla)

(Shimla) 5.11.19

(Rajesh Kumar Malik)

Annexure-A

Provisions for Part-Time Ph.D. programme

i) **Eligibility Criteria**

- The candidate should be working in an organization on regular basis.
- He/she meets the requisite minimum qualification for admission to Ph. D programme of the University.
- The candidate should have a minimum of five year of continuous service.
- The candidate should furnish a "No objection certificate" from his/her parent organization in the prescribed format.

ii) **Duration of Ph.D. programme**

The part-time Ph.D. programme shall be for a minimum duration of four years including course work and a maximum of six years. The registration of such students shall be confirmed only if he/she has qualified minimum 12 credits with a minimum CGPA of the Course Work as designed by the Department within one year.

5-11-19

Annexure-B

Suggested amendments in Ordinance-II(A)

DEGREE OF DOCTOR OF PHILOSOPHY (Ph.D.)

i) **Clause-2.4**: The GATE may be added as under:
The candidates who have qualified the UGC/CSIR-JRF/NET/SLET/**GATE**, or are Teacher Fellowship-holders or have passed M. Phil. programme with course work recognised by the U.G.C., as per the UGC Regulations (Minimum Standards and Procedure for award of M.Phil./Ph.D. Degree, 2009), shall be exempted from appearing at the written test

ii) Clause-3.1.3 may be deleted as it is repetition of Clause-2.4.

iii) Clause-5.3 may be deleted as it becomes infructuous in light of UGC (Minimum Standards and Procedure for award of M.Phil./Ph.D. Degrees) Regulations, 2016.

iv) Clause-6.1 may be amended as under:

The School Board/BOS, on the recommendation of the DRC, may appoint any regular Professor of the University with at least five research publications in **UGC approved/** refereed journals, and any regular Associate/Assistant Professor of the University with a Ph.D. degree and at least two research publications in **UGC approved/**refereed journals, as a Research Supervisor.

v) Clause-6.7 may be amended as under:

~~**However**~~, in ~~**such**~~ cases where a teacher is retiring or leaving and where redistribution/reallocation of the Ph.D. students is required for the abovementioned or any other reason, the Ph. D. students shall be adjusted among the eligible existing teachers of the department by relaxing the norms by the Departmental Research Committee (DRC)/Board of Studies (BOS).

~~**However**~~, in ~~**such**~~ cases where the teacher is retiring (two years or less of service is remaining) appointment of a Co-Supervisor on the recommendations of the DRC at the time of registration **shall** be done by the BOS/School Board concerned

vi) Clause-7.10 may be deleted as it is repetition of Clause-9(e).

vii) Clause-8 (a) may be amended as under:

Consequent upon confirmation of his/her admission in the Board of Studies and/or School Board ~~**shall**~~, the topic of dissertation shall be approved by the School Board/BOS on the recommendations of the Department/Centre concerned and the DRC on a proposal submitted by the student

viii) Clause-8(b) may be deleted.

5.11.19

Annexure-III

Minutes of the I[st] Meeting of School Board of School of Interdisciplinary and Applied Lifesciences

A meeting of School Board of SIAL held on 27/4/19 at Room No. 300 of new Academic Block-1 from 10:45 to 4:50 pm. The following members were present:

Prof. Satish Kumar, Dean, SIAL, Chairman
Prof, Neelam Sangwan, Member
Dr. Gunjan Goel, Member
Dr. Pawan Maurya, Member
Dr. Kashyap Kumar Dubey, Member
Dr. Meenu Goyal, Member
Dr. Avijit Pramanik, Member
Dr. Sanjay Kumar, Member
Dr. Savita, Member
Prof. J.S. Virdi, External Expert
Prof. Namita Singh, External Expert
Dr. Surender Singh, Special Invitee
Dr. Ashwani Kumar, Special Invitee
Dr. Piyush Kumar, Special Invitee

All the agenda items were discussed and resolved as follows:

1. School Board noted the recommendations of respective meetings of Board of Studies of Department of Microbiology, Nutrition Biology, Biochemistry and Biotechnology held during the present semester.

2. Syllabi (MSc and PhD) earlier recommended and forwarded by Board of Studies of Department of Microbiology, Nutrition Biology, Biochemistry and Biotechnology were reviewed and recommended to be forwarded to the Academic Council after incorporation of suggestions by the School Board.

3. BOS of Department of Biotechnology had recommended in meeting held on 19/2/2019:
   i. Constitution of Board of Examiners for conduct of dissertation viva-voce with one or two external examiners and a panel of faculty of the School.
   ii. End-term practical examination may be conducted by a panel of internal examiners from the School keeping in view of the operational difficulties of conducting examination by external examiner.

   School Board recommends that the above provisions may be implemented in all Departments of the School.

4. School Board recommends to start Summer Training Programme for Ist Year MSc students in all the Departments.

Prof. Neelam Sangwan, Member

Dr. Gunjan Goel, Member

Dr. Pawan Maurya, Member

Dr. Kashyap Kumar Dubey, Member

Dr. Meenu Goyal, Member

Dr. Avijit Pramanik, Member

Dr. Sanjay Kumar, Member

Dr. Savita, Member

Prof. J.S. Virdi, External Expert

Prof. Namita Singh, External Expert

Dr. Surender Singh, Special Invitee

Dr. Ashwani Kumar, Special Invitee

Dr. Piyush Kumar, Special Invitee

Prof. Satish Kumar, Dean, SIAL, Chairman

BoS Meeting

Date: 28/02/19

Dept of Biochemistry

Proceedings of meeting of Board of Studies

held on 28/02/19 at PM

Venue: Dept of Biochemistry, COH

Members

External: Prof S_S Chauhan
AIIMS, DELHI
28/2/19

Internal: Prof Neelam Sanyal
Dr Pawan Marya (Associate prof)
Dr Sanjay Kumar (Assistant prof)
Dr Piyush Kalra (invitee)

Moreover, we will seek consent from one more BoS member

Dr V S Chauhry
DUSC
(Delhi university south campus)

Agenda

1. Panel of paper setters for upcoming TEE June 2019 for semester ~~1st~~ 2nd

2. Panel of Examiners (external) for 4th sem Dissertation VIVA VOCE

3. To start phd program in Dept of Biochemistry from upcoming session August 2019

4. If in case External Examiner is not able to come, internal faculties of Biochemistry can conduct practical/viva voce

5. Revised syllabus for upcoming session ie July 2019 wherein 1st semester will be common for 4 Life Science departments

28/2/19

(Prof S.S. Chauhan)
AIIMS Dehli

13/6/19

Pawan K Maurya
Associate Professor

Sanjay Kumar
Assistant Professor

Piyush Kumar
Assistant Professor

Recommendations:

1. Names of Papers Setters was discussed and modified as per the suggestions of BoS members.

2. Panel of external examiners for 4th Sem. viva was discussed and incorporated as per the suggestion

3. PhD Program curriculum was discussed with syllabus during BoS meeting.

4. M.Sc. Syllabus was discussed in much detail and all suggestion is incorporated

5. With agenda # 4, It was recommended that it is always better to keep 1-2 external members to enhance quality of thesis and to receive constructive suggestions.

Meeting ends with thanks to chair.

25/2/19

(Prof. S.S. Chauhan)
AIIMS Delhi

13/6/19

Pawan K. Maurya
Associate Professor

Sanjay Kumar
Assistant Professor

Piyush Kumar
Assistant Profes

Central University of Haryana
School of Life Sciences
Department of Biochemistry

PhD Biochemistry
SCHEME AND CURRICULUM

Semester	Core/Elective	Course code	Title of the paper	Credit
I	CC	SIAL 02 01 01 C 4004	Research Methodology	4
	CC	SIAL 02 01 02 C 4004	Advanced Analytical Techniques	4
	GEC	SIAL BC 02 01 01 GEC 4004	Advanced Biochemistry	4
	Total			**12**

List of GEC offered in School of Interdisciplinary and Applied Life Sciences:

1. Advanced Immunology (Department of Microbiology)
2. Microbial Metabolism (Department of Microbiology)
3. Bioprocess Engineering (Department of Biotechnology)
4. Advances in Genetic Engineering (Department of Biotechnology)
5. Advances in Nutritional Genomics and Metabolomics (Department of Nutrition Biology)
6. Food and Nutrition Toxicology (Department of Nutrition Biology)
7. Advanced Biochemistry (Department of Biochemistry)

Course title: Research Methodology

Course code: SIAL 02 01 01 C 4004 **Credit: 4**

Unit 1. Identification and defining of the Research Problem:
Familiarization of research areas; Review of literature using appropriate resources – reviews, research papers, books and patents; Use of tools for searching literature through electronic databases; Defining a research problem.

Unit 2. Experimental Approaches and Methodology
Experimental designs to address the research problem; Pros and cons of different experimental strategies; Finalization of experimental design; Tools and techniques to execute experiments; Means to validate and analyze data; Use of statistical tools for analyzing the significance and interpretation of the data; Methods of recording observations and documentation

Unit 3. Ethics and Safety in Biological Research
Guidelines for Biosafety and Bioethics; Institutional Biosafety Committee – Handling of Genetically modified organisms, Institutional Human and Animal Ethics Committee - compliance, concerns and approval; Safety practices and disposal of Bio-waste in the laboratory; Radioactivity and safety precautions; Handling and disposal of flammable and hazardous chemicals.

Unit 4. Presentation, Publication and Protection of Research Data.
Skills for scientific writing and research presentation – Term paper, Research project, Research report, Thesis, Research article and Review; Organization of the research document in to different sections (Introduction, Methodology, Results, Discussion, and Summary and Conclusions, Bibliography); Use of electronic tools for bibliographic formatting and checking Plagiarism; Oral presentation skills; Patents and Intellectual property rights

Students are expected to undertake the following assignments, exercises for evaluation.
1. Identification and selection of the broad area of research
2. Review of literature, formulation of research plan and submission of term paper along with references
3. Oral presentation of research plan and experimental design
Evaluation will be based on term paper and oral presentation

SUGGESTED READINGS:

1. Rumsey DJ. Statistics Essentials For Dummies. For Dummies; 1 edition. 2019.
2. Blokdyk G. Biosafety level A Complete Guide. 5STARCooks. 2019.
3. Nambisan P. An Introduction to Ethical, Safety and Intellectual Property Rights Issues in Biotechnology. Academic Press; 1 edition. 2017.
4. Gastel, Barbara, and Robert A. Day. How to write and publish a scientific paper. ABC-CLIO, 2016.
5. Ruxton DG, Colegrave N. Experimental Design for the Life Sciences. Oxford University Press; 4 edition. 2017.

Course title: Advanced Analytical Techniques

Course code: SIAL 02 01 02 C 4004 **Credit: 4**

Unit 1. Recombinant DNA techniques and Genomics

Use of Restriction and modification enzymes in cloning; Plasmid vector; Transformation and Plasmid isolation; PCR; DNA sequencing methods (Sanger's chain termination method, and automated DNA sequencing); Next generation sequencing (NGS); Global expression profiling; Whole genome analysis of mRNA and protein expression; Real time PCR and Microarrays and their applications.

Unit 2. Proteomics

UV and fluorescence spectroscopy; Circular Dichroism; Mass spectrometry - Principles and their applications; Protein separation techniques and instrumentation (Gel filtration, Ion exchange and Affinity chromatography, 1D and 2D Polyacrylamide gel electrophoresis); Immunochemical detection of proteins.

Unit 3. Microbial and Cellular Techniques

Microscopic techniques; Microbial growth and kinetics (synchronous culture, continuous and batch and fed-batch cultures, chemostat and turbidostat); Methods for identifying microbes (polyphasic approach); Cell disruption and fractionation of organelles; Isolation and purification of membrane proteins; Various methods to study cell-cell and cell-virus fusion; Flow cytometry techniques; Confocal and Atomic Force Microscopy; Types of Biosafety cabinets.

Unit 4. Animal Models in Biology

Handling and maintenance of animals, Ventilated cages, Different routes of injections and collection of various biological components, Formulation of feed and design of experiment.

Recap Unit

Preparation of solutions; Concepts of solution strength (concentration); Sterilization of solutions; Preparation of Buffers - Concept of pKa and Henderson-Hasselbach equation; Concept of conjugate acid and base

SUGGESTED READINGS

1. Blokdyk G. Analytics Techniques: A Complete Guide. 5STARCooks. 2019
2. Rune M. Mass Spectrometry Data Analysis in Proteomics. Humana; 3rd ed. 2020.
3. Hofmann A, Clokie S. Wilson and Walker's Principles and Techniques of Biochemistry and Molecular Biology. Cambridge University Press; 8 edition. 2018.
4. Freshney, R.I. *Culture of Animal cells: A Manual of Basic Technique and specialized applications*. 7th edition. Wiley-Blackwell. 2016.
5. Brown TA. Gene Cloning and DNA Analysis: An Introduction. Wiley-Blackwell; 7th edition. 2016

Course title: Advanced Biochemistry

Course code: SIAL BC 02 01 02 GEC 4004 **Credit: 4**

Unit-I

Secondary metabolites, Plant tissue culture, Representatives alkaloid group and their amino acid precursors, function of alkaloids, Examples of major phenolic groups; simple phenylpropanoids, Coumarins, Benzoic acid derivatives, flavonoids, tannins and lignin, biological role of plant phenolics, Classification of terpenoids and representative examples from each class, biological functions of terpenoids. Cell and tissue culture techniques, types of cultures: organ and explants culture, callus culture, cell suspension culture and protoplast culture. Plant regeneration pathways: organogenesis and somatic embryogenesis. Applications of cell and tissue culture and somoclonal variation.

Unit-II

Fundamental of cell signaling, Conserved components and principles in signal transduction pathways, Second massagers, Studying cell surface receptors and nuclear receptors, Methods to study signal transduction, Identification of unknown interacting partners, GPCR signaling, Interferon signaling, EGF singling, Wnt signaling, Notch signaling, Cell adhesion molecules in cell signaling, mTOR and nutrient signaling. Insulin signaling in liver and muscle, Cell signaling in non-communicable diseases and cancer. Aging, Theories of aging,Reactive Oxygen Species, Antioxidants, Enzymatic and non-enzymatic antioxidants, Age-associated diseases, Neurodegereative diseases (Alzheimer's and Parkinson's diseases) Neuropsychiatric diseases (Schizophrenia, Bipolar disorder, Depression).

Unit-III

The Science of Nanoscience & technology, Introduction to Nanostructures: Carbon Nanotubes (CNT), Graphenes and Metal-based Nanostructures (silver and gold Nanoparticles). Bottom up and Top Down approach, Properties of Nanomaterials, Chemical, physical and biological methods of synthesis of nanomaterials, Nanomedicine today and its applications in control of antimicrobial resistance, use of 3D printer technology in biomedical implants.Molecular recognition: How molecular recognition underlies cellular communication, Fundamentals of biosensors, types of biosensors, Nanobiosensors in Point of Care Diagnostics-cardiovascular diseases, DNA based strategies for detection of small molecules like toxins.

Unit-IV

This unit will cover a broad range of topics relevant to stem cell biology. This fast-moving field brings together many aspects ofbasic and applied biology and medicine including development, generation/repair, and cancer. The course will cover the following concepts and themes: pluripotency and reprogramming, pluripotent cell types, organ systems, stem cells and cancer, therapeutics andethics. The lecture/discussion format will give students both a broad background and the opportunity to apply critical thinking skills torecent data in the field. **S**tem cells, Properties, existence, adult and embryonic stem cells, subtypes of Stem Cells, Markers, Stem cell Therapies, applications and current standings of the stem cell technology. Culture and

Differentiation of Human Pluripotent Stem Cells, Induced pluripotent stem cells (hPSCs) and related cell types.

Suggested readings:

1. Watters D, Lavin M. Signalling Pathways in Apoptosis. Harwood Academic Publisher. 2019.
2. Sinclair DA. Lifespan : Why We Age – and Why We Don't Have To. Thorsons. 2019.
3. Ramawat KG, Ekiert HM, Goyal S. Plant Cell and Tissue Differentiation and Secondary Metabolites. Springer Cham. 2019.
4. Maurya PK, Singh S. Nanotechnology in Modern Animal Biotechnology:Concepts and Applications. Elsevier USA. 2019.
5. Haynes G. Fundamentals of Nanotechnology. Cyber Press. 2019.

Annexure-IV

Department of Physics

Central University of Haryana

A meeting of the School Board of the School of Physical and Mathematical Sciences was held in Room No 143 of the Department of Physics at 12:30 PM on March 28, 2019. Prof. N. Kishore welcomed all the members of the board.

The following members attended the meeting:

1. Prof. D. Kanjilal, IUAC, New Delhi
2. Prof. Shyam Kumar, Department of Physics, Kurukshetra University, Kurukshetra
3. Prof. Jagdish Saran, Department of Statistics, Delhi University, Delhi
4. Prof. Ram Karan, Department of Mathematics, Maharishi Dayanand University, Rohtak
5. Prof. N.Kishore, Department of Physics, CUH
6. Dr. Rajesh Gupta, Department of Mathematics, CUH
7. Dr. Suneel Kumar, Department of Physics, CUH
8. Dr. Pawan Tyagi, Department of Physics, CUH
9. Dr. D. Mohan, , Department of Statistics
10. Dr. Kapil Kumar, Department of Statistics
11. Dr. S. Dhawan, , Department of Mathematics
12. Dr. Jaswant Kumar, Department of Physics, CUH

Prof. V. Gupta could not attend the meeting due to some urgent work.

The scheme and syllabi for Ph.D. in Physics and the revised scheme and syllabi of M.Sc. Physics as approved by BOS of Physics department was put to the School board and was approved after extensive discussions. All the suggestions of the school board were incorporated in the syllabus.

The meeting ended with a vote of thanks by Prof. Nawal Kishore.

Prof. D. Kanjilal Prof. Shyam Kumar Prof. Jagdish Saran Prof. Ram Karan

Prof. N.Kishore, Dr. Rajesh Gupta, Dr. Suneel Kumar Dr. Pawan Tyagi

Dr. D. Mohan Dr. Kapil Kumar Dr. S. Dhawan Dr. Jaswant Kumar

Department of Physics

Central University of Haryana

A meeting of Board of Studies of Department of Physics and School board of the School of Physical and Mathematical Sciences was held in Room No 143 of the Department of Physics at 11:30 AM on March 28, 2019. Prof. N. Kishore welcomed all the members of the board.

The following members attended the meeting:

1. Prof. N. Kishore, Department of Physics, CUH (Chairman)
2. Prof. S. Murugavel, Department of Physics and Astrophysics, Delhi University (External Expert)
3. Dr. Suneel Kumar, Department of Physics, CUH
4. Dr. Pawan Tyagi, Department of Physics, CUH
5. Dr. Jaswant Kumar, Department of Physics, CUH (In place of Dr. Maheswary who is on leave)

Prof. Kulvir . Singh Could not attend the meeting due to some urgent work at his place.
The scheme and syllabi of Ph.D. in physics and the revised scheme and syllabi of M.Sc.(Physics) was put, and extensively discussed in the meeting. The board made important observations regarding the syllabus and all the suggestions were incorporated.

Suggestions given by Board of studies members :

1. In all the references mentioned various courses in M.Sc. as well as Ph.D. , the year of publication and name of the publisher be mentioned.
2. In the paper on Computational Physics and numerical methods it was stressed that Fortran 95 and Python be given importance over earlier versions of Fortran.
3. Laboratory Course be of 6 credits each in semesters 1,2 and 3.
4. Course title of Semiconductor Physics was suggested to be changed to Semiconductor Devices.
5. It was suggested to write the pre requisite for GEC courses.
6. It was also suggested to include the aim and outcome of different courses in the syllabus.
7. The credits for the 4th semester are reduced to 20 from present 24. It will include 2 DCEC courses of 4 credits each and a project of 12 credits.
8. The panel of examiners and Paper setters for M.Sc. Physics semester 2nd and 4th were finalized and approved.

The incorporated version of scheme and syllabi of M.Sc. Physics(Revised) and Ph.D. course (Physics) will be sent by email to the members for their approval.

The meeting ended with a vote of thanks by Prof. Nawal Kishore.

Prof. N. Kishore

28/3/19
Prof. S. Murugavel

Dr. Suneel Kumar,

Dr. Pawan Tyagi,

Dr. Jaswant Kumar

Dr. Suneel Kumar <suneelkumar@cuh.ac.in>

M.Sc. Physics and Ph.D. syllabus (CU Haryana) attached for approval

jagdish saran <jagdish_saran52@yahoo.co.in> Sat, Apr 13, 2019 at 2:12 PM
Reply-To: jagdish saran <jagdish_saran52@outlook.com>
To: HOD Physics <hodphysics@cuh.ac.in>
Cc: Devendrastats <devendrastats@cuh.ac.in>, "Dr. Kapil Kumar" <kapilstats@cuh.ac.in>, Dinakar Kanjilal <dk@iuac.res.in>, "Dr. Rajesh Kumar Gupta" <rajeshgupta@cuh.ac.in>, Suneelkumar <suneelkumar@cuh.ac.in>

Dear Prof. Nawal Kishore,

With reference to your e-mail dated 09.04.2019, I hereby approve the revised version of the syllabus of M.Sc.(Physics) and Ph.D.(Physics). However, there are minor queries as follows.

M.Sc. (Physics) Syllabus:-

On Page No. 56, you are writing SUBJECT CODE as: SPMS PHY 01 401 PROJ 00012 and COURSE CODE as: SPMS PHY 01 402 PROJ 00012.

Will they be different, i.e., 401 and 402 ? While in the Table on Page No. 2 you are writing COURSE CODE as: SPMS PHY 01 402 PROJ 00012.
Please check. I am not sure. I may be wrong. Make the necessary correction, if need be. In the earlier version of the syllabus, in the Table, Course name was written as "Minor Project" , while in the revised syllabus, in the Table, it is written as "Project". I hope it should be correct.

Ph.D. (Physics) Syllabus:-

On Page No. 2, in Reference No. 2, year of publication is not mentioned.
On Page No. 5, References should be written properly. Authors' names should come first, then title of the book, Edition if any, publisher, year of publication, etc.
On Page No. 6 and 7, UNIT I, UNIT II, UNIT III, UNIT IV are not mentioned. Write them at proper places, if possible. Also, all the references on Page No. 6 and 7 should be written properly, i.e., Authors' names should come first, etc. etc.

With best regards,
Yours sincerely,

(JAGDISH SARAN)
Department of Statistics,
University of Delhi,
Delhi-110007
INDIA

[Quoted text hidden]

Dr. Suneel Kumar <suneelkumar@cuh.ac.in>

M.Sc. Physics and Ph.D. syllabus (CU Haryana) attached for approval

Dr. Kapil Kumar <kapilstats@cuh.ac.in> Wed, Apr 10, 2019 at 9:09 AM
To: HOD Physics <hodphysics@cuh.ac.in>
Cc: Dinakar Kanjilal <dk@iuac.res.in>, Vinay Gupta <drguptavinay@gmail.com>, Jagdish_saran52@yahoo.co.in, Ram Karan <Ramkaran_math@rediffmail.com>, profshyam Kumar <profshyam@gmail.com>, murug@physics.du.ac.in, kusingh@thapar.edu, rajeshgupta@cuh.ac.in, sd d <dhawan311@gmail.com>, "Dr. Kapil Kumar" <kapilstats@cuh.ac.in>, Dr Devendra Kumar CUH <devendrastats@cuh.ac.in>, suneelkumar@cuh.ac.in, Pawan Tyagi <pawankumartyagi@gmail.com>, "Prof. Naval Kishore" <nks54@rediffmail.com>, Jaswant Yadav <jaswantkyadav@gmail.com>

Dear Sir I approved the syllabus of M.Sc. (physics) and Ph.D. (Physics).
[Quoted text hidden]
--
with warm regards

Dr. Kapil Kumar
Assistant Professor
Department of Statistics,
New Academic Block I
Central University of Haryana,
Mahendergarh-123031
Ph. +91-9990461525

Dr. Suneel Kumar <suneelkumar@cuh.ac.in>

M.Sc. Physics and Ph.D. syllabus (CU Haryana) attached for approval

6 messages

HOD Physics <hodphysics@cuh.ac.in> Tue, Apr 9, 2019 at 6:29 AM
To: Dinakar Kanjilal <dk@iuac.res.in>, Vinay Gupta <drguptavinay@gmail.com>, Jagdish_saran52@yahoo.co.in, Ram Karan <Ramkaran_math@rediffmail.com>, profshyam Kumar <profshyam@gmail.com>, murug@physics.du.ac.in, kusingh@thapar.edu
Cc: rajeshgupta@cuh.ac.in, sd d <dhawan311@gmail.com>, "Dr. Kapil Kumar" <kapilstats@cuh.ac.in>, devendrastats@cuh.ac.in, suneelkumar@cuh.ac.in, Pawan Tyagi <pawankumartyagi@gmail.com>, "Prof. Naval Kishore" <nks54@rediffmail.com>, Jaswant Yadav <jaswantkyadav@gmail.com>

Dear Sir/Madam,
Thank you all for your visit to Physics Department, CUH, on 28th March for the Board of studies and School board meeting and your valuable suggestions for improvement of the scheme and syllabi of M.Sc. physics and Ph.D physics during the same meeting. We have now incorporated all the suggested changes and improvements to the syllabus.

PFA the syllabus of M.Sc and Ph.D along with the signed minutes of the meeting for your reference and further suggestions,if any.

A line of approval via email by members of the board will be very much appreciated.

Thanks and regards,
Nawal Kishore

3 attachments

Physics-syllabus session 2019-21.docx
252K

phd_syll-Physics.docx
526K

New Doc 2019-04-04 17.58.20
466K

Dr. Rajesh Kumar Gupta <rajeshgupta@cuh.ac.in> Tue, Apr 9, 2019 at 9:06 AM
To: HOD Physics <hodphysics@cuh.ac.in>
Cc: Dinakar Kanjilal <dk@iuac.res.in>, Vinay Gupta <drguptavinay@gmail.com>, Jagdish_saran52@yahoo.co.in, Ram Karan <Ramkaran_math@rediffmail.com>, profshyam Kumar <profshyam@gmail.com>, murug@physics.du.ac.in, kusingh@thapar.edu, sd d <dhawan311@gmail.com>, "Dr. Kapil Kumar" <kapilstats@cuh.ac.in>, devendrastats@cuh.ac.in, suneelkumar@cuh.ac.in, Pawan Tyagi <pawankumartyagi@gmail.com>, "Prof. Naval Kishore" <nks54@rediffmail.com>, Jaswant Yadav <jaswantkyadav@gmail.com>

Approved.
[Quoted text hidden]
--
Thanks and Regards

डॉ. राजेश कुमार गुप्ता / Dr. Rajesh Kumar Gupta
सह प्रोफेसर / Associate Professor
गणित विभाग / Department of Mathematics
हरियाणा केन्द्रीय विश्वविद्यालय / Central University of Haryana
जंत-पाली / Jant-Pali, महेंद्रगढ़ / Mahendergarh -123031

हरियाणा / Haryana, भारत INDIA

Dr. Devendra Kumar <devendrastats@cuh.ac.in> Tue, Apr 9, 2019 at 11:22 AM
To: "Dr. Rajesh Kumar Gupta" <rajeshgupta@cuh.ac.in>
Cc: HOD Physics <hodphysics@cuh.ac.in>, Dinakar Kanjilal <dk@iuac.res.in>, Vinay Gupta <drguptavinay@gmail.com>, Jagdish_saran52@yahoo.co.in, Ram Karan <Ramkaran_math@rediffmail.com>, profshyam Kumar <profshyam@gmail.com>, murug@physics.du.ac.in, kusingh@thapar.edu, sd d <dhawan311@gmail.com>, "Dr. Kapil Kumar" <kapilstats@cuh.ac.in>, suneelkumar@cuh.ac.in, Pawan Tyagi <pawankumartyagi@gmail.com>, "Prof. Naval Kishore" <nks54@rediffmail.com>, Jaswant Yadav <jaswantkyadav@gmail.com>

Dear Sir,
I am glad to approve the M. Sc Physics and Ph.D. Syllabus.
[Quoted text hidden]

Dinakar Kanjilal <dk@iuac.res.in> Tue, Apr 9, 2019 at 6:29 PM
To: HOD Physics <hodphysics@cuh.ac.in>
Cc: Vinay Gupta <drguptavinay@gmail.com>, Jagdish saran52 <Jagdish_saran52@yahoo.co.in>, Ram Karan <Ramkaran_math@rediffmail.com>, Prof Shyam Kumar <profshyam@gmail.com>, murug <murug@physics.du.ac.in>, kusingh <kusingh@thapar.edu>, rajeshgupta <rajeshgupta@cuh.ac.in>, sd <dhawan311@gmail.com>, "Dr. Kapil Kumar" <kapilstats@cuh.ac.in>, devendrastats <devendrastats@cuh.ac.in>, suneelkumar <suneelkumar@cuh.ac.in>, Pawan Tyagi <pawankumartyagi@gmail.com>, Nawal Kishore <nks54@rediffmail.com>, Jaswant Yadav <jaswantkyadav@gmail.com>

Approved the syllabus of M.Sc. and Ph.D.

D. Kanjilal

Dr. Dinakar Kanjilal, FNA, FNASc
DAE Raja Ramanna Fellow & Ex-Director,
Inter-University Accelerator Centre (IUAC)
Aruna Asaf Ali Marg
New Delhi 110067
E-mail: dkiuac@gmail.com, dk@iuac.res.in
Phone: +91-11-24126018, -26126022
FAX: -24126041

From: "HOD Physics" <hodphysics@cuh.ac.in>
To: "Dinakar Kanjilal" <dk@iuac.res.in>, "Vinay Gupta" <drguptavinay@gmail.com>, "Jagdish saran52" <Jagdish_saran52@yahoo.co.in>, "Ram Karan" <Ramkaran_math@rediffmail.com>, "Prof Shyam Kumar" <profshyam@gmail.com>, "murug" <murug@physics.du.ac.in>, "kusingh" <kusingh@thapar.edu>
Cc: "rajeshgupta" <rajeshgupta@cuh.ac.in>, "sd" <dhawan311@gmail.com>, "Dr. Kapil Kumar" <kapilstats@cuh.ac.in>, "devendrastats" <devendrastats@cuh.ac.in>, "suneelkumar" <suneelkumar@cuh.ac.in>, "Pawan Tyagi" <pawankumartyagi@gmail.com>, "Nawal Kishore" <nks54@rediffmail.com>, "Jaswant Yadav" <jaswantkyadav@gmail.com>
Sent: Tuesday, April 9, 2019 6:29:42 AM
Subject: M.Sc. Physics and Ph.D. syllabus (CU Haryana) attached for approval
[Quoted text hidden]

Dr. Kapil Kumar <kapilstats@cuh.ac.in> Wed, Apr 10, 2019 at 9:09 AM
To: HOD Physics <hodphysics@cuh.ac.in>
Cc: Dinakar Kanjilal <dk@iuac.res.in>, Vinay Gupta <drguptavinay@gmail.com>, Jagdish_saran52@yahoo.co.in, Ram Karan <Ramkaran_math@rediffmail.com>, profshyam Kumar <profshyam@gmail.com>, murug@physics.du.ac.in, kusingh@thapar.edu, rajeshgupta@cuh.ac.in, sd d <dhawan311@gmail.com>, "Dr. Kapil Kumar" <kapilstats@cuh.ac.in>, Dr Devendra Kumar CUH <devendrastats@cuh.ac.in>, suneelkumar@cuh.ac.in, Pawan Tyagi <pawankumartyagi@gmail.com>, "Prof. Naval Kishore" <nks54@rediffmail.com>, Jaswant Yadav <jaswantkyadav@gmail.com>

Dear Sir I approved the syllabus of M.Sc. (physics) and Ph.D. (Physics).
[Quoted text hidden]

--

with warm regards

Dr. Kapil Kumar
Assistant Professor
Department of Statistics,
New Academic Block I
Central University of Haryana,
Mahendergarh-123031
Ph. +91-9990461525

Nawal Kishore <nks54@rediffmail.com> Wed, Apr 10, 2019 at 11:43 AM
To: suneelkumar <suneelkumar@cuh.ac.in>

Prof. NAWAL KISHORE
Department of Physics
Central University of Haryana
Mahendergarh-123029, Haryana

MOBILE NO. 91-9416051041

Sent from RediffmailNG on Android

From: Dinakar Kanjilal <dk@iuac.res.in>
Sent: Tue, 9 Apr 2019 18:29:48 GMT+0530
To: HOD Physics <hodphysics@cuh.ac.in>
Subject: Re: M.Sc. Physics and Ph.D. syllabus (CU Haryana) attached for approval

Approved the syllabus of M.Sc. and Ph.D.

D. Kanjilal

Dr. Dinakar Kanjilal, FNA, FNASc
DAE Raja Ramanna Fellow & Ex-Director,
Inter-University Accelerator Centre (IUAC)
Aruna Asaf Ali Marg
New Delhi 110067
E-mail: dkiuac@gmail.com, dk@iuac.res.in
Phone: +91-11-24126018, -26126022
FAX: -24126041

From: "HOD Physics" <hodphysics@cuh.ac.in>
To: "Dinakar Kanjilal" <dk@iuac.res.in>, "Vinay Gupta" <drguptavinay@gmail.com>, "Jagdish saran52" <Jagdish_saran52@yahoo.co.in>, "Ram Karan" <Ramkaran_math@rediffmail.com>, "Prof Shyam Kumar" <profshyam@gmail.com>, "murug" <murug@physics.du.ac.in>, "kusingh" <kusingh@thapar.edu>
Cc: "rajeshgupta" <rajeshgupta@cuh.ac.in>, "sd" <dhawan311@gmail.com>, "Dr. Kapil Kumar" <kapilstats@cuh.ac.in>, "devendrastats" <devendrastats@cuh.ac.in>, "suneelkumar" <suneelkumar@cuh.ac.in>, "Pawan Tyagi" <pawankumartyagi@gmail.com>, "Nawal Kishore" <nks54@rediffmail.com>, "Jaswant Yadav" <jaswantkyadav@gmail.com>
Sent: Tuesday, April 9, 2019 6:29:42 AM
Subject: M.Sc. Physics and Ph.D. syllabus (CU Haryana) attached for approval

[Quoted text hidden]

Dr. Suneel Kumar <suneelkumar@cuh.ac.in>

Fw: M.Sc. Physics and Ph.D. syllabus (CU Haryana) attached for approval

Nawal Kishore <nks54@rediffmail.com> Wed, May 8, 2019 at 4:47 PM
To: suneelkumar <suneelkumar@cuh.ac.in>

Prof. NAWAL KISHORE
Department of Physics
Central University of Haryana
Mahendergarh-123029, Haryana

MOBILE NO. 91-9416051041

Sent from RediffmailNG on Android

From: Sevi Murugavel <murug@physics.du.ac.in>
Sent: Tue, 9 Apr 2019 12:31:35 GMT+0530
To: HOD Physics <hodphysics@cuh.ac.in>
Subject: Re: M.Sc. Physics and Ph.D. syllabus (CU Haryana) attached for approval

Dear Prof. Nawal Kishore,

I looked to the revised version of the Syllabus for the MSc. Physics Program and happy to note the significant improvements which has been made.
At this stage, I approve the revised version of the Syllabus for the MSc. Physics Program.

With regards,
Murugavel

From: "HOD Physics" <hodphysics@cuh.ac.in>
To: "Dinakar Kanjilal" <dk@iuac.res.in>, "Vinay Gupta" <drguptavinay@gmail.com>, "Jagdish saran52" <Jagdish_saran52@yahoo.co.in>, "Ram Karan" <Ramkaran_math@rediffmail.com>, "profshyam Kumar" <profshyam@gmail.com>, "Sevi Murugavel" <murug@physics.du.ac.in>, kusingh@thapar.edu
Cc: rajeshgupta@cuh.ac.in, "sd d" <dhawan311@gmail.com>, "Dr. Kapil Kumar" <kapilstats@cuh.ac.in>, devendrastats@cuh.ac.in, suneelkumar@cuh.ac.in, "Pawan Tyagi" <pawankumartyagi@gmail.com>, "nks54" <nks54@rediffmail.com>, "Jaswant Yadav" <jaswantkyadav@gmail.com>
Sent: Tuesday, April 9, 2019 6:29:42 AM
Subject: M.Sc. Physics and Ph.D. syllabus (CU Haryana) attached for approval

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PFA the syllabus of M.Sc and Ph.D along with the signed minutes of the meeting for your reference and further suggestions,if any.

A line of approval via email by members of the board will be very much appreciated.

Thanks and regards,
Nawal Kishore



Department of Physics, CUH

Syllabus for Ph.D. (Physics)

According to Choice Based Credit System (CBCS)

Effective from 2019 onwards

Course Type

- Core Course (CC)
- Discipline Centric Elective Course (DCEC)

Total Credits: 12 [2 courses with 6 credits each]

Each student has to take the core course and one of discipline centric elective courses according to the need of the researcher whether with theoretical or experimental fields

Semester I

Course	Course Code	Course Type	Credits
Research Methodology	SPMS PHY 02 101 CC 6006	CC	6
Any one of the following courses (DCEC)*			
Computational Techniques	SPMS PHY 02 101 DCEC 5016	DCEC	6
Experimental Methods	SPMS PHY 02 102 DCEC 5106	DCEC	6
Advanced Nuclear Physics	SPMS PHY 02 103 DCEC 5106	DCEC	6
Nanotechnology and Ion beam	SPMS PHY 02 104 DCEC 5106	DCEC	6
Total Credits			12

*The courses (DCEC) will be offered by the department depending on the requirements of the research scholars/available expertise of the faculty members.

10/1/2020

10/01/2020

Research Methodology

Scheme Version: 2019	Name of the subject: Research Methodology	L	T	P	C
	Applicable to Programs: Ph.D. Physics	6	0	0	6
Subject Code: SPMS PHY 02 101 CC 6006	Prerequisite: None	Total hours = 90			
	Semester I				

Course Objective: To familiarize the students with general techniques of performing analysis of data and modelling using various simulation techniques. This course will enable students to design experiments and methods to extract data.

Learning Outcomes:

- To motivate students for research in different fields of Physics, Mathematics and Statistics.
- To teach students different techniques of research modelling, data collection , designing and planning of experiments.
- To enable to analyze data and write report based on data analyzed.

UNIT I

Research Problems: Meaning, Motivation, Objectives and types of research, Significance of research, Research proposals and aspects, Criteria of good research, Research formulation and hypotheses, Selection and necessity of defining the problem, Literature review, Reviews, Treatise, Monographs, Patents.

UNIT II

Research Design: Need, Problem Definition, Variables, Research design concepts, Research design process, Research Modeling: Types of models, Model building and stages, Data collection, processing and analysis, Simulation techniques using computer software(s).

UNIT III

Design and Planning of Experiments: Aims and objectives, expected outcome, methodology to be adopted, importance of reproducibility of research work, Interpolation, Extrapolation, Types of errors (rounding, truncation, machine and random), Error analysis and least square curve fitting. Analysis of Variance components (ANOVA) for fixed effect model, Objectives and basic principles of designs of experiments. Complete randomized design (CRD), Randomized block design (RBD) and Latin square design (LSD).

UNIT IV

Data mining and Report Writing: Library resources, Internet, Scientific search engines, Introduction to Latex/Google docs, Structure and component of research paper, Presenting the research paper/thesis, Journal impact factor, Citation index, References and bibliography, Copyright, Plagiarism and ethics in research, Communication and presentation.

Suggested Readings:

1. **Y. K. Singh,**. Fundamental of Research Methodology and Statistics. New Age International Publishers. New Delhi. 1st Edition. 2008.
2. **R. Pannerselvan,** Research Methodology. Prentice Hall of India. New Delhi. 2nd Edition. 2009.
3. **D. C. Montgomery,** Design and Analysis of Experiments, Wiley. New York. 8th Edition, 2013.
4. **K. Prathapan**, Research Methodology for Scientific Research, IK International, New Delhi, 1st Edition. 2014.
5. **C.R. Kothari, G. Garg,** Research Methodology: Methods and Techniques, New Age International Publishers, New Delhi. 3rd Edition, 2014.
6. **Michal Alley,** The Craft of Scientific Writing, Springer, Germany, 4th Edition, 2018.

Computational Techniques

Scheme Version: 2019	Name of the subject: Computational Techniques	L	T	P	C
	Applicable to Programs: Ph.D. Physics	5	0	1	6
Subject Code: SPMS PHY 02 101 DCEC 5016	Prerequisite: None	Total hours = 90			
	Semester I				

Course Objective: The aim of course is to provide knowledge about the general features of computer and various scientific languages to students, so that they are able to apply various numerical techniques, simulation models and computational techniques to solve scientific problems.

Learning Outcomes: Students will be able to

- understand the basic structure of computer
- know the scientific languages for solving the scientific problems
- understand various numerical and simulation techniques to study theoretical aspects of problems.

UNIT I

Introduction

Overview of computer organization, Operating Systems, interfacing hardware, workstation, servers and software used in programming, scientific programming in FORTRAN and C, C++ languages, subroutines, arrays , matrices, functions and usage of library files.

UNIT II

Numerical Techniques

Sorting interpolation, extrapolation, regression, numerical integration, quadrature, random number generation, linear algebra and matrix manipulations, inversion, diagonalization, eigenvectors and eigenvalues, integration of initial-value problems, Euler, Runge-Kutta, and Verlet schemes, root searching, optimization, fast Fourier transform.

UNIT III

Simulation Techniques

Monte Carlo methods, molecular dynamics, simulation methods for the Ising model and atomic fluids, simulation methods for quantum-mechanical problem, time-dependent Schrödinger equation, discussion of selected problems in percolation, cellular automata, nonlinear dynamics, traffic problems, diffusion-limited aggregation, celestial mechanics, etc.

UNIT IV

Parallel Computation

Introduction to parallel computation, shared and distributed memories, automatic versus manual parallelization, partitioning, communication and synchronization of parallel program, Examples of parallel program

1. **D. W. Heermann,** Computer Simulation Methods in Theoretical Physics, Springer, Germany, 2nd Edition, 1995.
2. **V. Rajaraman,** Computer Programming in Fortran 90, Prentice Hall of India, New Delhi, 1st Edition, 1997.
3. **J.M. Thijssen,** Computational Physics, Cambridge University Press, 1st Edition, 1999.
4. **D. Frenkel and B. Smit,** Understanding Molecular Simulation, Academic Press, USA, 2nd Edition, 2001.
5. **H. M. Antia,** Numerical Methods for Scientists and Engineers, Birkhauser, Switzerland, 2nd Edition, 2002.
6. **H. Gould and J. Tobochink,** An Introduction to Computer Simulation Methods, Addison-Wesley, US, 3rd Edition, 2006.
7. **W. H. Press, B. P. Flannery, S. A. Teukolsky and W. T. Vetterling,** Numerical Recipes in FORTRAN: The Art of Scientific Computing. (Similar volumes in C, C++)., Cambridge University Press, 3rd Edition, 2007.
8. **M. P. Allen,** Computer Simulation of Liquids, Oxford University Press,2nd Edition , 2017.
9. **Kurt Binder and Heerman,** Monte Carlo Simulation in Statistical Physics, Springer, Germany, 6th Edition.2019.

Experimental Methods

Scheme Version: 2019	Name of the subject: Experimental Methods	L	T	P	C
	Applicable to Programs: Ph.D. Physics	5	0	1	6
Subject Code: SPMS PHY 02 102 DCEC 5016	Prerequisite: None	Total hours = 90			
	Semester I				

Course Objective: The course has been developed to teach various experimental techniques/methods for performing research in experimental physics.

Learning Outcome: Students will be able to

- understand and implement vacuum, thin film technology.
- apply photon and electron beam based techniques for surface analysis.
- know the technique for surface structure and composition analysis.

UNIT I

Vacuum Technology: Production and Measurement of Rough to Ultra High Vacuum; various vacuum ranges, applications of vacuum technology, pressure and mean free path. Design of vacuum systems; Leak detection methods, Vacuum Materials.

UNIT II

Thin Film Technology: Synthesis of thin films for research and technological applications. Electrodeposition, Chemical vapor deposition, cluster interaction deposition, choice of thin film substrates etc, Thermal evaporation and sputtering.

UNIT III

Photon and Electron beam based techniques for surface analysis: Auger Electron spectroscopy (AES): Basic Principle, methodology and Instrumentation,. Applications of AES in Composition analysis and depth profiling. X-ray photoelectron spectroscopy (XPS) or ESCA: Principle, Instrumentation, Methodology, Quantitative analysis and Applications. Glancing angle X-ray diffraction, Basic concept, Instrumentation methodology and structural analysis applications.

UNIT IV

Techniques for surface structure and composition analysis:

Scanning electron Microscopy (SEM): Principle, Instrumentation, Methodology and Applications. Transmission Electron Microscopy (TEM): Principle, Instrumentation, Methodology for plain view and cross-sectional analysis, Applications in structural analysis. Atomic Force Microscopy (AFM): Basic principle, Methodology, typical applications in structural analysis. Energy Dispersive X-ray Flourescence: Principle, Instrumentation, Methodology and Applications.

References

1. **K.L. Chopra**, Thin film phenomena, McGraw Hill, New York, 1st Edition, 1969.
2. **C. R. Brundee and A. D. Baker**, Electron spectroscopy: Theory, techniques and applications, Academic Press London, US, 1st Edition, 1977.
3. **L. C. Feldman and J. W. Mayer**, Fundamentals of surface and thin film analysis, North Holland, 1st Edition, 1986.

4. **A. Roth**, "Vacuum Technology", North Holland, 1st Edition, 2012.

5. **Douglas A Skoog et al** , Principles of Instrumental Analysis, Cengaga, San Francisco 6th Edition, 2014.

Advanced Nuclear Physics

Scheme Version: 2019	Name of the subject: Advanced Nuclear Physics	L	T	P	C
	Applicable to Programs: Ph.D. Physics	5	1	0	6
Subject Code: SPMS PHY 02 103 DCEC 5106	Prerequisite: None	Total hours = 90			
	Semester I				

Course Objective: The course has been designed familiarize the students with three branches of nuclear physics based on energy and to make them to understand various phenomena occurring in energy domains.

Learning Outcome: Students will be able to

- understand various phenomenon like fusion, fission and cluster radioactivity occurring at low energy.
- know the various aspects of intermediate energy heavy ion collisions through multi-fragmentation, nuclear flow and nuclear stopping.
- classify the particles in different categories and will be able to understand the different symmetry groups.

UNIT I

Low Energy Nuclear Physics: Nuclear structure and properties, Nuclear spectroscopy, Nuclear shapes, Nuclear forces, Heavy ion collisions; Skyrme Energy Density Formalism, Theory of low energy Nuclear reactions; Quantum Mechanical Fragmentation Theory, Physics of radioactive ion beams, Nuclear astrophysics, Physics of nuclei near drip line and strange matter, Island of stability in superheavy region, Cluster radioactivity and super asymmetric fission

UNIT II

Intermediate Energy Nuclear Physics: Heavy Ion Collisions, Multifragmentation, Elliptical Flow, Transverse Flow, Experimental Scenario, Sub threshold Particle production, Time dependent Hartree Fock Theory, Vlasov Uehling Uhlenbeck and Boltzmann Uehling Uhlenbeck Theory, Statistical Models, Quantum Molecular Dynamics Model, Isospin Quantum Molecular Dynamics Model, Minimum Spanning Tree and Simulated Clusterization Algorithms, Monte Carlo Simulation Techniques.

UNIT III

High Energy Nuclear (Particle) Physics: Fundamental particles and Interactions, Conservation laws and invariance principles, Standard Model, SU(2) and SU(3) Symmetries and its breaking, Feynman Diagrams, Nucleons and pions. Quark model of Hadrons, Quantum Chromo dynamics(QCD), Leptons: Neutrinos and their Oscillations, Atmospheric and Solar neutrinos, Mass Hierarchy and neutrinos masses, Neutrino`s oscillations probability calculations.

UNIT IV

High Energy Astrophysics :
Stellar evolution, Black hole spin, Propagation of cosmic rays, Accretion disks in AGN, Magnetic reconnection. Physics of GRBs,. Quasar feedback, shock acceleration, neutron stars, and pulsars., gravitational wave astronomy. Properties of External Galaxies.

References:

1. **D. Vautherin and D. M. Brink,** Phys. Rev. **C 5** (1972) 626
2. **Burcham and Zoes,** Introduction to Nuclear & Particle Physics, John Wiley & Sons Inc, New Jersey, 2nd Edition, 1995.
3. **J. Aichelin** Phys. Rep. **202**, 233(1991); C. Hartnack et al., Eur. Phys. J **A 1**, 151(1998).
4. **W. Greiner** and **R. K. Gupta**, Heavy elements and related phenomena, World Scientific, Signapore, 1st Edition, 1999.
5. **D. H. Perkins**, Introduction to High Energy Physics, Cambridge University Press, 4th Edition, (2000).
6. **James Binney**, Galactic Dynamics, Princeton University Press, 2nd Edition, 2008.
7. **Stephen Rosswog**, Introduction to high energy physics, Cambridge University Press, 1st Edition, 2011

Nanotechnology and Ion beam

Scheme Version: 2019	Name of the subject: Nanotechnology and Ion Beam	L	T	P	C
	Applicable to Programs: Ph.D. Physics	5	1	0	6
Subject Code: SPMS PHY 02 104 DCEC 5106	Prerequisite: None	Total hours = 90			
	Semester I				

Course Objective: The course has been designed to make students understand the various techniques of nanotechnology based on ion bean.

Learning outcome: Students will be able to understand

- classification of nano materials and their various properties.
- ion bean techniques for ion deposition.
- various applications of ion beam in nanoscience.

UNIT I

Introduction to Nano science: Classification of Nano materials, Size dependence of properties, Energy Bands, Chemical Mechanical, Magnetic, Structural, Optical (linear & non-linear) properties of nanoparticles. Emergence of nanotechnology: Bottom-up & Top-down approach.

UNIT II

Basic ion bombardment processes in solids: General phenomenon, ion penetration and stopping, ion range parameters, Channelling, Components of an ion implanter. Energy deposition during radiation damage, Sputtering process and Ion beam mixing, Surface modification in metals and polymeric materials due to ion irradiation with examples.

UNIT III

Ion beam applications in Nanoscience: Nano-patterning, ion beam mixing, Ball milling technique and synthesis using vacuum deposition. Advances in defect and material characterization. Materials for energy, Materials modifications in nanoparticles, thin films and multilayers

UNIT IV

Ion Beam Techniques: Synthesis, Modification and Processing of novel Materials; Ion beam analysis- SIMS, RBS, Channeling, ERDA.

References:

1. **G. Dearnally**, Ion Implantation, Annual Review of Materials Science, Volume 4, 1974 pp 93-123
2. **James F. Ziegler**, Ion implantation: Science & Technology, Academic Press, 1st Edition, 1984.
3. **J. S. Williams**, Materials Modification with Ion Beams, Reports on Progress in Physics 49(1986)491-587
4. **A. S. Edelstein and R C Cammarata** , Nanomaterials- synthesis, Properties & application, CRC Press, US, 1st Edition, 1998.
5. **Kamali Kannangara Geoff Smith, Michelle Simmons and B. Raguse**., Nanotechnology -Basic Science and Emerging Technologies, CRC Press, US, 1st Edition, 2002.

6. **Charles P. Poole. Jr. and Frank J. Qwens**, Introduction to Nanotechnology, John Wiley & Sons, New Jersey , 1st Edition, 2003.
7. **Michael Köhler and Wolfgang Fritzsche**, Nanotechnology- An Introduction to Nanostructuring Techniques- Wiley, New Jersey, 1st Edition, 2008.
8. **Guozhong Cao and Guozhong Cao**, Nanostructures & Nanomaterials-Synthesis, Properties & Applications-, Volume 2. World Scientific Publisher, Singapore, 2nd Edition, 2011.

Department of Physics, CUH

Syllabus scheme for M.Sc. (Physics) under Choice Based Credit System (CBCS)

From Academic Session 2019 onwards

Course Type

- Core Course (CC)
- Generic Elective Course (GEC)
- Discipline Centric Elective Course (DCEC)

Total Credits: 104

Semester I

Course	Course Code	Credits	Course Type
Mathematical Methods in Physics-I	SPMS PHY 01 101 CC 3104	4	CC
Classical Mechanics	SPMS PHY 01 102 CC 3104	4	CC
Quantum Mechanics	SPMS PHY 01 103 CC 3104	4	CC
Semiconductor Devices	SPMS PHY 01 104 CC 3104	4	CC
Laboratory I	SPMS PHY 01 105 CC 00126	6	CC
Numerical Methods and Programming	SPMS PHY 01 101 GEC 3104	4	GEC*
Modern Optics	SPMS PHY 01 102 GEC 3104	4	GEC*
Introduction to Experimental Physics	SPMS PHY 01 103 GEC 3104	4	GEC*
Total Credits	4×4 (CC) + 6 + 4×1(GEC)	26	

10/01/2020

Semester II

Course	Course Code	Credits	Course Type
Statistical Mechanics	SPMS PHY 01 201 CC 3104	4	CC
Classical Electrodynamics	SPMS PHY 01 202 CC 3104	4	CC
Mathematical Methods in Physics-II	SPMS PHY 01 203 CC 3104	4	CC
Laboratory II	SPMS PHY 01 204 CC 00126	6	CC
Latex for Science & Mathematics	SPMS PHY 01 201 GEC 2044	4	GEC*
Environmental Physics	SPMS PHY 01 202 GEC 3104	4	GEC*
Computational Physics	SPMS PHY 01 201 DCEC 3024	4	DCEC
Advanced Quantum Mechanics	SPMS PHY 01 202 DCEC 3104	4	DCEC
Analog Electronics	SPMS PHY 01 203 DCEC 3104	4	DCEC
Nonlinear Optics	SPMS PHY 01 204 DCEC 3104	4	DCEC
Seminar Presentation	SPMS PHY 01 205 CC 0202	2	CC
Total Credits	3×4 (CC) +4 (DCEC) + 6 + 4(GEC)+2 (S)	28	

Semester III

Course	Course Code	Credits	Course Type
Atomic, Molecular Physics and Lasers	SPMS PHY 01 301 CC 3104	4	CC
Nuclear & Particle Physics	SPMS PHY 01 302 CC 3104	4	CC
Solid State Physics	SPMS PHY 01 303 CC 3104	4	CC
Laboratory III	SPMS PHY 01 304 CC 00126	6	CC
Physics of Electronic Material and Devices	SPMS PHY 01 301 DCEC 3104	4	DCEC
Electronic Communication	SPMS PHY 01 302 DCEC 3104	4	DCEC
Spectroscopy	SPMS PHY 01 303 DCEC 3104	4	DCEC
Physics of Nanomaterials	SPMS PHY 01 304 DCEC 3104	4	DCEC
Advanced Statistical Mechanics	SPMS PHY 01 305 DCEC 3104	4	DCEC
General Theory of Relativity	SPMS PHY 01 306 DCEC 3104	4	DCEC
Digital Electronics and Microprocessor	SPMS PHY 01 307 DCEC 3024	4	DCEC
Total Credits	**3×4 (CC) + 6 + 2×4(DCEC)**	26	

Semester IV

Course	Course Code	Credits	Course Type
Project	SPMS PHY 01 401 PROJ 00012	12	PROJECT
Nuclear Physics: Interaction and Detection	SPMS PHY 01 401 DCEC 3104	4	DCEC
Microprocessor and Microcontroller	SPMS PHY 01 402 DCEC 3104	4	DCEC
Nonlinear Dynamics	SPMS PHY 01 403 DCEC 3104	4	DCEC
Introduction to Astrophysics and Cosmology	SPMS PHY 01 404 DCEC 3104	4	DCEC
Thin Film and Integrated Devices	SPMS PHY 01 405 DCEC 3104	4	DCEC
Superconductivity: Conventional and High Temperature Superconductors	SPMS PHY 01 406 DCEC 3104	4	DCEC
Total Credits	12(P) + 3×4(DCEC)	24	

Note:

- This GEC* courses offered by the Department can only be taken by the students of other Departments. The students of the Physics Department will take GEC from other Departments.
- The Department may offer more than one discipline centric elective courses (DCECs) depending on specialization and strength of faculty members, and the students have to opt one of them for semester II.
- In semester III, students are required to opt two DCEC (courses) out of more than two courses offered by the Department, depending on the specialization and strength of the faculty.
- In semester IV, the students have to opt three DCEC (courses) out of options offered by the Department. Students need to do project also.

Mathematical Methods in Physics I

Scheme Version: 2019	Name of the subject: Mathematical Methods in Physics I	L	T	P	C
	Applicable to Programs: M.Sc. Physics	3	1	0	4
Subject Code: SPMS PHY 01 101 CC 3104	Prerequisite: None	Total hours = 60			
	Semester I				

COURSE OBJECTIVE: This course has been developed to introduce students to some topics of mathematical Physics which are directly relevant in different papers of Physics course. It includes elements of matrices and group theory, introduction to tensor algebra, function of a complex variable and calculus along with an introduction to computational techniques and statistical measures used in physics Course.

Learning outcome: After completion of the course, students would be able

- To use matrices for solving linear algebraic equations and to use group theory for understanding of crystallography.
- To use tensor transformation and related algebra in physics
- To solve real definite integrals in theoretical Physics.
- To find roots of a given polynomial and understand the properties of a statistical distribution of point particles.

UNIT I

Matrices and Group Theory

Linear vector spaces, matrix spaces, linear operators, eigenvectors and eigenvalues, matrix diagonalization, special matrices. Symmetries and groups, multiplication table and representations, permutation group, translation and rotation groups, O(N) and U(N) groups.

UNIT II

Tensors Analysis

Coordinate transformations, scalars, contravariant and covariant vectors, mixed and covariant tensor of second rank, addition, subtraction and contraction of tensors, quotient rule. Christoffel symbols, transformation of Christoffel symbols. Covariant differentiation, Ricci's theorem, divergence, Curl and Laplacian tensor form. Stress and strain tensors, Hook's law in tensor form.

UNIT III

Complex Variables Functions of complex variable. Limits and continuity, differentiation. Analytical functions, Cauchy-Riemannn conditions, Cauchy Integral theorem, Cauchy integral formula, Derivatives of analytical functions, Liouville's theorem. Power series Taylor's theorem, Laurent's theorem. Calculus of residues–poles, essential singularities and branch points, residue theorem, Jordan's lemma, singularities on contours of integration, evaluation of definite integrals.

UNIT IV

Computational Techniques and Probability Theory Root of functions, interpolation, extrapolation, Integration by trapezoid and Simpson's rule,solution of first order differential equation : using Runge-Kutta method and Finite difference methods. . Preliminary Concepts : mean values, standard deviation, various moments; Random walk problem. Binomial distribution, Poisson distribution, Gaussian distributions. Lorentz distribution. Central Limit Theorem.

References:

1. **Fredrick W. Byron and Robert W. Fuller**, Mathematics of Classical and Quantum Physics, Dover Publications, Mineola, New York, Vol 1&2, 1970.
2. **Merle C. Potter and Jack Goldberg**, Mathematical Methods, S CHAND (Prentice Hall of India), New Delhi, 2nd Edition, 1987.
3. **George Arfken and Hans J Weber**, Mathematical Methods for Physicists, Elsevier Academic Press, Cambridge, Massachusetts, 7th Edition 2012
4. **L. A. Pipe**, Applied Mathematics for Engineers and Physicists, Dover Publication Inc., Mineola, New York 3rd Edition 2014.
5. **E. Kreyszig**, Advanced Engineering Mathematics, John Wiley & Sons, Hoboken, New Jersey (United States), 10th Edition, 2015.
6. **K. F. Riley, M.P. Hobson, and S. J. Bence,** Mathematical methods for Physicists and Engineers, S. CHAND (Cambridge University Press), New Delhi, 3rd edition, 2018.
7. **V. BALAKRISHNAN,** Mathematical Physics with Applications, Problems and Solutions, Ane Books, New Delhi, 1st Edition, 2018

Classical Mechanics

Scheme Version: 2019	Name of the subject: Classical Mechanics	L	T	P	C
	Applicable to Programs: M.Sc. Physics	3	1	0	4
Subject Code: SPMS PHY 01 102 CC 3104	Prerequisite: None	Total hours = 60			
	Semester I				

Course Objective: This course aims at providing knowledge of Classical Mechanics to the students so that they are able to understand the Lagrangian & Hamiltonian mechanics of systems of particles interacting with various forces and also their applications in various branches of Physics.

Learning outcome: Students will be able to

- understand the mechanics of system of particles, D'Alembert's principle, Principle of least action and Lagrangian mechanics
- learn rigid body dynamics including problems & Euler's equation of motion.
- understand classical mechanics of Special theory of relativity, various transformation equations and Lagrangian and Hamiltonian of a relativistic particle in interaction with various force fields
- Learn Canonical Transformations &Hamilton-Jacobi theory.

UNIT I

Lagrangian Formulation and Central Force Problem:
Newtonian mechanics of one and many particle systems, Virtual work, Constraints: holonomic and non-holonomic, D'Alembert's Principle and Euler-Lagrange Equations of motion, velocity dependent potentials, simple applications of Lagrangian formulation. Hamilton's Principle, Calculus of Variations, Derivation of Lagrange's equation from Hamilton's principle, Conservation theorems and Symmetry Properties, Noether's theorem.
Two body central force problem: Reduction to equivalent one body problem, equation of motion and first integrals, Equivalent one-dimension problem and classification of orbits, Coriolis force.

UNIT II

Hamilton's Equations of Motion:
Generalized momentum, Legendre transformation and the Hamilton's Equations of Motion, simple applications of Hamiltonian formulation, cyclic coordinates, Routh's procedure, Hamiltonian Formulation of Relativistic Mechanics, Derivation of Hamilton's canonical equation from Hamilton's variational principle, The principle of least action.

UNIT III

Canonical Transformation and Hamilton-Jacobi Theory:
Canonical transformation, integral invariant of Poincare, Lagrange's and Poisson brackets as canonical invariants, equation of motion in Poisson bracket formulation, Infinitesimal contact transformation and generators of symmetry, Liouville's theorem, Hamilton-Jacobi equation and its application, Action angle variable: adiabatic invariance of action variable,the Kepler problem in action angle variables.

UNIT IV

Small Oscillations and Rigid Body Motion:
Stable and unstable equilibria; Theory of small oscillations in Lagrangian formulation, normal coordinates and its applications, Free vibrations of linear triatomic oscillator. Orthogonal transformation, Eigenvalues of the inertia tensor, Euler equations, Eulerian angles, moment of Inertia.

References:

1. **A. Sommerfeld,** Mechanics, Academic Press, United States, 1st Edition, 1952.
2. **I. Percival and D. Richards**, Introduction to Dynamics, Cambridge University Press, 1st Edition 1982.
3. **Ronald L. Greene,** Classical Mechanics with Maple, Springer, Germany, 2nd Edition, 2000.
4. **Herbert Goldstein, Charles Poole, John Safko,** Classical Mechanics, Pearson Education, UK, 3rd Edition, 2011.
5. **L. D. Landau and E. M. Lifshitz,** Mechanics, Butterworth-Heinemann, UK, 2nd Edition, 2012.
6. **N. C. Rana and P. S. Joag,** Classical Mechanics, Tata McGraw Hill, New Delhi, 1st Edition, 2015.

Quantum Mechanics

Scheme Version: 2019	Name of the subject: Quantum Mechanics	L	T	P	C
	Applicable to Programs: M.Sc. Physics	3	1	0	4
Subject Code: SPMS PHY 01 103 CC 3104	Prerequisite: None	Total hours = 60			
	Semester I				

Course Objective: The aim of the course is to enable the students to understand the basic techniques & methods of quantum mechanics, so that they may apply these methods in various fields of research and development. Axioms of quantum mechanics are introduced; matrix representation of quantum mechanics is discussed together with approximate methods.

Learning outcome: The students will learn

- the Schrodinger and Heisenberg pictures of time evolution, which play an important role in the quantum mechanical studies of any dynamical system.
- the quantum mechanical theory of angular momentum. Commutation relations for angular momentum operators, applications to Hydrogen atom, Coupling of angular momenta for multi-particle systems, Tensor operators.
- to apply the Time dependent and Time independent perturbation theories for non-degenerate and degenerate systems up to second order perturbation, with applications to harmonic oscillator and hydrogen atom.
- Basic of scattering theory.

UNIT I

Origin and Structure of Quantum Mechanics

Review of chronological developments of quantum mechanics. Linear spaces and Operators: Vector spaces. Linear independence, Bases, Dimensionality. Linear Transformations, Similarity Transformations: Eigen values and Eigen vectors. Inner product, Orthogonality and Completeness: Gramm Schmidt Orthogonalization Procedure.

Structure of Quantum Mechanics: Postulates of QM, Hilbert space; Hermitian and Unitary Operators; Orthonormality, Completeness and Closure. Dirac's bra and ket notation. Matrix Representation and Change of Basis. Operators and Observables, Significance of eigenvector and eigenvalues, Commutation relation; Uncertainty principle for two arbitrary Operators.

UNIT II

Quantum Dynamics:

Problem in one dimension (1D) with different types of potential functions such as particle in box, barrier potential, harmonic oscillator: analytical and algebraic methods. 3 D problems: Hydrogen Atom.

UNIT III

Angular Momenta &Approximate Analysis:

Orbital angular momentum, angular momentum algebra, raising and lowering operators; Matrix representation for j = 1/2 and j = 1; Spin angular momentum; Addition of two angular momentum, Clebsch-Gordan (CG) Coefficients.

UNIT IV

Time-dependent Perturbation Theory& Scattering Theory:

Perturbation Theory: Time-independent non-degenerate and degenerate cases, Time-dependent Perturbation theory; variational methods, and WKB method.

Differential cross-section, scattering of a wave packet, integral equation for the scattering amplitude, Born approximation, method of partial waves, low energy scattering and bound states, resonance scattering.

References:

1. **Ashok Das and A. C. Melissinos,** Quantum Mechanics, Gordon and Breach Science Publishers, UK, 1st Edition, 1987.
2. **Claude Cohen,** Quantum Mechanics, Wiley, United States, 1st Edition, 1991.
3. **E. Merzbecher,** Quantum Mechanics, John Wiley, USA, 3rd Edition, 1998.
4. **R. Shankar,** Principles of Quantum Mechanics, Springer, USA, 2nd Edition, 2011.
5. **B.H. Bransden & C.A. Joachim**, Quantum Mechanics, Pearson Publication, UK, 2nd Edition, 2012.
6. **P. A. M. Dirac** Lectures on Quantum Mechanics, Snowball Publishing, USA, 1st Edition, 2012.
7. **J.J. Sakurai,** Modern Quantum Mechanics, Pearson Education, UK, 2nd Edition, 2013.
8. **Albert Messiah,** Quantum Mechanics, Dover Publications, New York, 1st Edition, 2014.
9. **Nouredine Zettili,** Quantum Mechanics: Concepts and Applications, Wiley, United States, 2nd Edition, 2016.
10. **L.I. Schiff,** Quantum Mechanics, McGraw Publications, New York 4th Edition, 2017

Semiconductor Devices

Scheme Version: 2019	Name of the subject: Semiconductor Devices	L	T	P	C
	Applicable to Programs: M.Sc. Physics	3	1	0	4
Subject Code: SPMS PHY 01 104 CC 3104	Prerequisite: None	Total hours = 60			
	Semester I				

Course Objective: The objective of the course on Semiconductor Devices is to introduce semiconductor physics, physical principle of devices and their basic applications.

Learning Outcome: Students will be able to

- Get knowledge about various topics related to Semiconductors Physics such as intrinsic & extrinsic semiconductor, mobility, Hall Effect.
- Learn about the semiconductor devices (principle & working).
- Learn about photonic devices.

UNIT I

Semiconductors: Energy Band and Charge Carriers: Energy bands in semiconductors. Types of semiconductors. Charge carriers. Intrinsic and extrinsic materials. Carrier concentration: Fermi Level. Electron and hole concentration equilibrium. Temperature dependence of carrier concentration. Compensation and charge neutrality. Conductivity and mobility. Effect of temperature. Doping and high electric field. Hall Effect.

UNIT II

Junctions: p-n junction and contact potential. Fermi levels. Space charge. Reverse and Forward bias. Zener and Avalanche breakdown. Capacitance of p-n junction. Schottky barriers: Schottky barrier height. C-V characteristics. current flow across Schottky barrier: thermionic emission. Rectifying contact and Ohmic contact.

UNIT III

Field Effect Transistors: JEFT amplifying and switching. Pinch off and saturation, Gate control, I-V characteristics. MOSFET, Operation. MOS capacitor. Debye screening length. Effect of real surfaces: Work function difference. Interface charge. Threshold voltage and its control. MOS C-V analysis and time dependent capacitance. Output and transfer characteristics of MOSFET.

UNIT IV

Bipolar Junction Transistors (BJT): Fundamentals of BJT operation. Minority carrier distribution, Solution of diffusion equation in base region, Terminal current, Current transfer ratio. Ebers-Moll equations. Charge control analysis. BJT switching: Cut off, Saturation, Switching cycle.. LED: Radiative transition. Emission spectra. Luminous efficiency and LED materials. Solar cell and photodetectors: Ideal conversion efficiency. Fill factor. Equivalent circuit, V_{oc}, I_{sc} and Load resistance. Spectral response. Reverse saturation current in photodetector.

References:

1. **J.J. Cathey,** Schaum's Outline of Electronic Devices and Circuits. McGraw Hill. New York. 2nd Edition 2002.
2. **B. Streetman and S. Banerjee**. Solid State Electronics. Prentice Hall India. New Delhi. 6th Edition. 2006.
3. **Millman and Halkias** , Integrated Electronics , McGraw Hill, New York, 2nd Edition 2009.
4. **A.P. Malvino**, Electronic Principles, McGraw, New Delhi, New York 7th , Edition, 2009.
5. **J.H. Moore, C.C. Davis and M.A. Coplan**, Building Scientific Apparatus, Addison Wesley, United States, 4th Edition 2009.
6. **R.L. Boylestad and L. Nashelsky**, Electronics Devices and Circuit Theory. Prentice Hall of India, New Delhi, 11th Edition, 2013.
7. **P. Horowitz and W. Hill**, The Art of Electronics, Cambridge University Press. 3rd Edition, 2015.

Laboratory I

Scheme Version: 2019	Name of the subject: Laboratory I	L	T	P	C
	Applicable to Programs: M.Sc. Physics	0	0	12	6
Subject Code: SPMS PHY 01 105 CC 00126	Prerequisite: None	Total hours = 180			
	Semester I				

Course Objective: The objective of the lab 1 is to train students to perform various experiments associated with Electronics, Quantum physics, Waves mechanics and Spectroscopy.

Learning outcome: Students will

- learn various Physics aspects by performing the experiments related to electronic devices, atomic and molecular physics, light wave, sound waves etc.
- be able to do C programming.

1. Hall Effect
2. Four Probe Method to find band gap of semiconductor
3. Electron Spin Resonance
4. Frank-Hertz experiment
5. PN Junction characteristics
6. Solar cell characteristics
7. Velocity of ultrasonic wave in liquids
8. Characteristics of MOSFET
9. Diode as voltage regulator
10. Ionization potential of mercury
11. Planck's constant using LED
12. Law of Malus
13. Zener diode characteristics

Introduction to C Programming:

14. Write a Program to calculate and display the volume of a CUBE having its height, width and depth.
15. Write a C program to perform addition, subtraction, division and multiplication of two numbers
16. Write a program to input two numbers and display the maximum number.
17. Write a program to find the largest and smallest among three entered numbers and also display whether the identified largest/smallest number is even or odd.
18. Write a program to find the roots of quadratic equation
19. Write a program to check whether the entered year is leap year or not (a year is leap if it is divisible by 4 and divisible by 100 or 400.)
20. Write a program to find the factorial of a number.
21. Write a program to check number is Armstrong or not.
22. Write a program to find GCD (greatest common divisor or HCF) and LCM (least common multiple) of two numbers

23. Write a program to generate Fibonacci series.

Students assigned the general laboratory work will perform at least ten (10) experiments of the above mentioned list of Physics experiments and further 8 experiments from the C programming section.. Experiments of equal standard may be added. Workshop soldering and designing of experiments should be included.

Reference:

1. Worsnop and Flint, Experimental Physics, Little hampton Book Services Ltd, United Kingdom, 9th Edition, 1951.

2. A. C. Melissinos, J. Napolitano, Experiments in Modern Physics. Academic Press, Cambridge, Massachusetts, 2nd Edition, 2003.

3. Lab manuals, prepared by faculty of the Department of Physics, 2018.

Numerical Methods and Programming

Scheme Version: 2019	Name of the subject: Numerical Methods and Programming	L	T	P	C
	Applicable to Programs: M.Sc. Physics	3	1	0	4
Subject Code: SPMS PHY 01 101 GEC 3104	Prerequisite: Mathematics during B.Sc./BCA	Total hours = 60			
	Semester I				

Course Objective: To make student expert in numerical methods and programming the physics problems related to various phenomena

Learning Outcome: Students will be able to learn

- about solutions of linear and non-linear equations, and the convergence of the solutions, along with solutions of simultaneous linear equations.
- numerical differentiation and integration.
- Monte Carlo methods

UNIT I

C/C++:
Flow charts, Algorithms, Integer and floating point arithmetic, Precision, Variable types, Arithmetic statements, Input and output statements, Control statements, Executable and non-executable statements, Arrays, Repetitive and logical structures, Subroutines and functions, Operation with files, Operating systems, Creation of executable programs.

UNIT II

Numerical Methods of Analysis:
Solution of algebraic and transcendental equations: Iterative, Bisection and Newton-Raphson methods; Solution of simultaneous linear equations: Matrix inversion method; Interpolation: Newton and Lagrange formulas; Numerical differentiation, Numerical Integration: Trapezoidal, Simpson and Gaussian quadrature methods; Least-square curve fitting: Straight line and polynomial fits; Numerical solution of ordinary differential equations: Euler and Runge-Kutta methods.

UNIT III

Simulations:
Generation of uniformly distributed random numbers, Statistical tests of randomness, Monte-Carlo evaluation of integrals and error analysis, Non-uniform probability distributions, Importance sampling, Rejection method, Metropolis algorithm, Molecular diffusion and Brownian motion as random walk problems and their Monte-Carlo simulation.

UNIT IV

Short introduction to Programming using C and Psi Lab, class projects may be implemented in any language

References:

1. **S. S. M. Wong,** Computational Methods in Physics and Engineering, World Scientific, Singapore, 2nd Edition, 1997.

2. **C. F. Gerald,** Applied Numerical Analysis. Pearson/Addison Wesley. UK. 7th Edition, 2003.
3. **Teukolsky, Vetterling and Flannery,** Numerical Recipes: The Art of Scientific Computing. Cambridge University Press. 3rd Edition 2007.
4. **Landau and Binder,** A Guide to Monte Carlo Simulations in Statistical Physics. Cambridge University Press, 3rd Edition, 2013.
5. **V. Rajaraman,** Computer Oriented Numerical Methods, Prentice Hall of India, New Delhi, 4th Edition, 2015.
6. **V. Rajaraman,** Computer Programming in FORTRAN 90/95. Prentice Hall of India, New Delhi, 1st Edition, 2015.

Modern Optics

Scheme Version: 2019	Name of the subject: Modern Optics	L	T	P	C
	Applicable to Programs: UG & PG	3	1	0	4
Subject Code: SPMS PHY 01 102 GEC 3104	Prerequisite: B.Sc. with Physics	Total hours = 60			
	Semester I				

Course objective: The course Modern optics has focus on the Geometrical and wave optics, thin films, Holography, optical fiber, liquid crystals, LED and Photonic band gap crystals.

Learning outcome: After completion of this course, students would be able to

- understand the modern concepts like optical fiber, Holography, liquid crystals which have various applications.
- understand various physical phenomena.

UNIT I

An overview of Geometrical and Wave Optics: Laws of Reflection, Refraction, Total Internal Reflection; Ideas of Interference, Diffraction, Polarisation, Dispersion.

UNIT II

Fresnel Relations: Conductors, Thin Films: Reflection Model, Matrix Formalism, Coating Design, Fourier Optics: Wave Propagation, Fraunhofer Diffraction, Fresnel Diffraction, Spatial Filtering, Holography and Holograms.

UNIT III

Coherence, Interference and Visibility, Laser Physics: Overview, Gain Saturation, Light-Atom Interactions, Optical Gain and Pumping Schemes, Output Characteristics, Light Shifts and Optical Forces, Atom-Photon interactions.

UNIT IV

Fiber Optics: Mode Analysis, Single mode and multimode optical fiber, Loss and Dispersion, Photonics Band-gap Crystals, Liquid crystals, Introduction of LED.

References:

1. **A. E. Siegman,** Lasers, University Science Book, USA, Revised Edition, 1986.
2. **G. R. Fowles,** Introduction to Modern Optics, Dover Publication, USA, 2nd Edition, 1989.
3. **J. T. Verdeyen,** Laser Electronics, Prentice-Hall, India, New Delhi, 3rd Edition, 1995.
4. **E. Hecht,** Optics, Addison Wesley, USA, 4th Edition, 2001.
5. **Pedrotti,** Introduction to Optics, Pearson UK, 3rd Edition, 2006.
6. **B. E. A. Saleh and M. C. Teich,** Fundamentals of Photonics, Wiley, United States, 2nd Edition, 2012.
7. **A. Ghatak,** Optics, Tata McGraw-Hill, New Delhi, 6th Edition, 2017.

Introduction to Experimental Physics

Scheme Version: 2019	Name of the subject: Introduction to Experimental Physics	L	T	P	C
	Applicable to Programs: M.Sc. Physics	3	1	0	4
Subject Code: SPMS PHY 01 103 GEC 3104	Prerequisite: B.Sc. with Physics	Total hours = 60			
	Semester I				

Course Objective: To expose students to various experimental techniques to study different phenomena of physics.

Learning Outcome: The students will learn

- about error analysis
- curve fitting methods, Monte Carlo method
- case study of Physics experiments.

UNIT I

Science of Experimental Physics: Background, Objectives, Error Analysis, Graphical Analysis, Writing about Experiments, Design of Experiments.

UNIT II

Probability and Statistics in Experimental Physics: Basic Concepts, Specific Discrete Distributions, Normal Distribution and other Continuous Distributions, Monte-Carlo Method, Inverse Probability; Confidence Limit

UNIT III

Curve-Fitting Methods: Methods for Estimating Parameters, Regression Analysis, The Regularization Method, Interpolating Functions and Unfolding Problems, Fitting Data with Correlations and Constraints.

UNIT IV

Some Fundamental Experiments in Physics: Frequency of Oscillations in Simple Pendulum, Single, Double and N slits Diffraction Experiments, Relation between Refractive Index and Wavelength: Hartmann Formulae, Hall Effect, Ionization Potential of Mercury, Oscillations in Compound Pendulum, more experiments of similar nature may also be discussed.

References:

1. **D.W. Preston and E.R. Dietz,** The Art of Experimental Physics, John Wiley & Sons, United States, 1st Edition, 1991.

2. **C. Cooke,** An Introduction to Experimental Physics, University College Press, London, 1st Edition, 1996.

3. **B.P. Roe,** Probability and Statistics in Experimental Physics, Springer-Verlag New York, 1st Edition, 2001.

Statistical Mechanics

Scheme Version: 2019	Name of the subject: Statistical Mechanics	L	T	P	C
	Applicable to Programs: M.Sc. Physics	3	1	0	4
Subject Code: SPMS PHY 01 201 CC 3104	Prerequisite: Mathematical Methods in Physics I and Quantum Mechanics I	Total hours = 60			
	Semester II				

Course Objective: This course provides a platform to develop concepts in classical laws of thermodynamics and their applications. Course will enable the students learn basic concepts regarding classical statistical mechanics and quantum statistical mechanics, phase transition and theory of probability.

Learning outcome: On completion of the course the students will be capable of

- Explore the ideas about the statistical systems whose applications are in diverse areas of physics.
- Doing numerical based on probability theory.

UNIT I

Elementary Probability Theory:
Preliminary Concepts: mean values, standard deviation, various moments; Random walk and Brownian motion, Diffusion equation, Binomial distribution, Poisson distribution, Gaussian distributions, Central Limit Theorem.

UNIT II

Review of Thermodynamics:
Extensive and intensive variables, laws of thermodynamics, entropy for different systems, Boltzmann relation for Entropy, Legendre transformations and thermodynamic potentials, Maxwell relations, applications of thermodynamics to (a) ideal gas, (b) magnetic material, and (c) dielectric material.

UNIT III

Classical Statistical Mechanics:
Phase space, phase equilibrium, microstates and macrostates, Ensembles, Micro-canonical, Canonical, and grand canonical ensembles and partition functions, Maxwell-Boltzmann statistics, partition function; derivation of thermodynamic properties some examples including (a) classical ideal gas (b) system of classical harmonic oscillator, Gibbs paradox, thermal de Broglie wavelength, equipartition theorem and it applications, Chemical potential, Free energy and connection with thermodynamic variables, First and Second order phase transitions: diamagnetism, paramagnetism, and ferromagnetism, example of superconductivity, Ising model.

UNIT IV

Quantum Statistical Mechanics:
Bose-Einstein, Fermi-Dirac statistics. Bose system: Ideal Bose gas, Debye theory of specific heat, grand partition function for ideal Bose and Fermi gases, properties of black-body radiation, Bose-Einstein condensation. Fermi System: Fermi energy, Ideal Fermi gas, Pauli paramagnetism, electronic specific heat, white dwarf stars.

References:

1. **Richard P. Feynman,** Statistical Mechanics, Westview Press, UK, 1st Edition, 1998.
2. **J. P. Sethna,** Statistical Mechanics: Entropy, Order Parameter and Complexity, Oxford University Press, 1st Edition, 2005.
3. **K. Huang,** Statistical Mechanics, John Wiley & Sons, United States, 2nd Edition, 2008.
4. **F. Reif,** Fundamentals of Statistical and Thermal Physics. McGraw Hill, New York, 1st Edition., 2009
5. **R. K. Patharia,** Statistical Mechanics, Pergamon Press. UK. 3rd Edition. 2011.
6. **B. B. Laud,** Fundamentals of Statistical Mechanics, New Age, 2nd Edition, 2012.
7. **L. D. Landau and E. M. Lifshitz,** Statistical Physics. Butterworth-Heinemann, Germany, 3rd Edition, 2016.
8. **Mark W. Zemansky and Richard H. Dittman,** Heat and Thermodynamics. McGraw Hill, New York, 8th Edition, 2017.

Classical Electrodynamics

Scheme Version: 2019	Name of the subject: Classical Electrodynamics	L	T	P	C
	Applicable to Programs: M.Sc. Physics	3	1	0	4
Subject Code: SPMS PHY 01 202 CC 3104	Prerequisite: Mathematical Methods in Physics I	Total hours = 60			
	Semester II				

Course objective:
This course aims to introduce the student to topics in electrostatic and magneto static theory, Relativity and the Relativistic formulation of electromagnetism.
Learning Outcome:
Upon successful completion of this course, students will be able

- to apply the Maxwell's equation and solve the problems involving the propagation of electromagnetic wave in variety of media.
- Understand the application of special relativity in electrodynamics and also get the knowledge about waveguide and cavity.

UNIT I

Electrostatics:
Review of electrostatics: Gauss's law and its applications, Laplace and Poisson equations, boundary value problems. Differential equation for electric field, Poisson and Laplace equations, formal solution for potential with Green's functions, boundary value problems, examples of image method and Green's function method, solutions of Laplace equation in cylindrical and spherical coordinates by orthogonal functions

UNIT II

Magnetostatics & Maxwell's Equations:

Review of Magnetostatics: Biot-Savart law, Ampere's theorem, Electromagnetic induction, examples of magnetostatic problems, . Scalar and vector potentials, Gauge symmetry, Coulomb and Lorentz gauges Gauge invariance, Displacement current, Maxwell's equations in free space and linear isotropic media (non conducting) boundary conditions on the fields at interfaces.

UNIT III

Electromagnetic Waves:
Electromagnetic waves in free space

Dielectrics and conductors. Reflection and refraction, polarization, Fresnel's law, interference, coherence, and diffraction, frequency dispersion in dielectrics and metals, dielectric constant and anomalous dispersion, wave propagation in one dimension, group velocity, metallic wave guides, boundary conditions at metallic surfaces, propagation modes in wave guides.

UNIT IV

Radiation and Relativistic Electrodynamics:

Lorentz Transformation, Lorentz invariance of Maxwell's equation. Dynamics of charged particles in static and uniform electromagnetic fields. Radiation- from moving charges and dipoles and retarded potentials Field of a localized oscillating source, fields and radiation in dipole and quadrupole approximations. Lienard-Wiechert potentials. Total power radiated by an accelerated charge. Lorentz formula Four-vectors relevant to electrodynamics, electromagnetic field tensor and Maxwell's equations, transformation of fields, fields of uniformly moving particles.

References:

1. **L.D. Landau and E.M. Lifshitz,** Classical Theory of Electrodynamics, Butterworth-Heinemann, Germany, 4th Edition, 1987.
2. **Melvin Schwartz**, Principles of Electrodynamics, Dover Publications, UK, 1st Edition, 1987.
3. **Walter Greiner**, Classical Electrodynamics , Springer, Germany, 1st Edition, 1998.
4. **J. Schwinger, L.L. Deraad Jr, K.A. Milton, W-Y. Tsai and J. Norton**, Classical Electrodynamics ,Westview Press, UK, 1998.
5. **David J. Griffiths**, Introduction to Electrodynamics, Benjamin Cummings, USA, 3rd Edition,1999.
6. **J.D. Jackson,** Classical Electrodynamics, John Wiley & Sons, United States, 2nd Edition, 2003.
7. **Charles A. Brau**, Modern Problems in Classical Electrodynamics, Oxford University Press, 1st Edition, 2003.
8. **L. D. Landau and E. M. Lifshitz & L. P. Pitaevskii,** Electrodynamics of Continuous Media Oxford, 1st Edition, 2005.
9. **Wolfgang K. H. Panofsky and Melba Phillips**, Classical Electricity and Magnetism, Dover Publications, UK, 2nd Edition, 2012.
10. **Joseph Edminister,** Schaum's outline of electromagnetics , New Delhi, 2nd Edition, 2017.

Mathematical Methods in Physics II

Scheme Version: 2019	Name of the subject: Mathematical Methods in Physics II	L	T	P	C
	Applicable to Programs: M.Sc. Physics	3	1	0	4
Subject Code: SPMS PHY 01 203 CC 3104	Prerequisite: Mathematical Methods in Physics I	Total hours = 60			
	Semester II				

COURSE OBJECTIVE: This course has been developed to introduce students to some topics of mathematical Physics which are directly relevant in different subjects of M Sc. Physics. It includes Ordinary differential equation, special functions and different transformation methods to solve differential equation.

Learning outcome: After completion of the course, students would be able

- to solve second order differential equation.
- to use the special function in Quantum mechanics and electrodynamics
- to perform Fourier and laplace transform on a given data set.

UNIT I

Second Order Differential Equations

Separation of variables-ordinary differential equations, singular points, series solutions leading to Legendre, Bessel, Hermite, Laguerre functions as solutions. Orthogonal properties and recurrence relations of these functions.

UNIT II

Special functions

Spherical harmonics and associated Legendre polynomials. Sturm -Liouville systems and orthogonal polynomials. Wronskian linear independence and/ linear dependence.

UNIT III

Fourier Transforms

Fourier Transforms: Development of the Fourier integral from the Fourier Series, Fourier and inverse Fourier transform, Convolution theorem. Simple Applications: FTIR, Telecommunication systems, Solution of partial differential equation wave equation

UNIT IV

Laplace Transforms

Laplace transforms and their properties. Convolution theorem. Application of Laplace transform in solving linear, differential equations with constant coefficient, with variable coefficient and linear partial differential equation.

References:

1. **Merle C. Potter and Jack Goldberg.** Mathematical Methods, S. CHAND (Prentice Hall of India), New Delhi, 2nd Edition, 1987.
2. **Fredrick W. Byron and Robert W. Fuller.** Mathematics of Classical and Quantum Physics, Dover Publications, UK, Vol 1 &2, 1970.
3. **George Arfken and Hans J Weber**, Mathematical Methods for Physicists, Elsevier Academic Press, Cambridge, 7th Edition, 2012.
4. **L. A. Pipe.** Applied Mathematics for Engineers and Physicists, Dover Publication Inc. 2014
5. **E. Kreyszig.** Advanced Engineering Mathematics, John Wiley & Sons, United States, 10th Edition, 2015.
6. **K.F.Riley, M.P. Hobson, and S.J.Bence,** Mathematical methods for Physicists and Engineers, S. CHAND (Cambridge University Press), New Delhi, 3rd Edition, 2018.
7. **V Balakrishnan:** Mathematical Physics with Applications, Problems and Solutions; Anc Books, 1st Edition, 2018

Laboratory II

Scheme Version: 2019	Name of the subject: Laboratory II	L	T	P	C
	Applicable to Programs: M.Sc. Physics	0	0	12	6
Subject Code: SPMS PHY 01 204 CC 00126	Prerequisite: Laboratory I	Total hours = 180			
	Semester II				

Objective of Course: The aim & objective of the course is to impart the practical training on various electronics devices such as; Op-Amp, Vibrators, Amplifiers, Michelson interferometer etc.

Learning outcome: Students will be able to

- Understand spectral lines, grating spectra, and interference fringes
- Learn the characteristics of Op-Amp, vibrators, clipper, clampers, and DA/ AD
- Understand motion of temperature and magnetic field dependence of Hall coefficient

1. Study of Balmer series and Rydberg constant
2. Op-Amp as inverting and non-inverting amplifier
3. Op-Amp as differentiator, Integrator and Adder
4. e/m by Thomson method
5. Single stage RC coupled amplifier
6. Frequency response of common emitter amplifier
7. Bistable/Monostable/Astable vibrators
8. Grating spectra
9. Refractive index of water and oil using prism
10. Magneto resistance
11. Temperature dependence of Hall coefficient
12. Digital to Analog converter, Analog to Digital converter
13. Michelson Interferometer
14. Faraday Effect
15. Clipper and clampers
16. Root finding of a polynomial equation using numerical methods
17. Solving first and second order differential equation numerical methods
18. Numerical integration
19. Generating finite and infinite series

Students assigned the general laboratory work will perform at least twelve (12) experiments from the above mentioned. More experiments of similar nature may be added.

Latex for Science and Mathematics

Scheme Version: 2019	Name of the subject: Latex for Science and Mathematics	L	T	P	C
	Applicable to Programs: M.Sc. Physics	2	0	4	4
Subject Code: SPMS PHY 01 201 GEC 2044	Prerequisite: Mathematics	Total hours = 60			
	Semester II				

Course Aim: To impart knowledge to student about different tools used in writing scientific/mathematical literature.

Course Outcome: The student would be able to write

- CV, documents, books and reports.
- Thesis and seminar presentations using latex.

UNIT I

Software installation. Markup Languages

UNIT II

LATEX typesetting basics, LATEX math typesetting

UNIT III

Tables and matrices. Graphics. Packages. User definable

UNIT IV

Document classes, text bibTEX, beamer, flash cards / CV, Creating your own package, Project

References:

1. **Helmut Kopka & Patrick W. Daly**,Guide to LATEX. Addison-Wesley. New Delhi. 4th Edition 2003
2. **Stefan Kottwitz** , LaTeX Beginner's Guide. Packt Publishing. UK. 1st Edition, 2011
3. Resources from websites:

The not so short introduction to LaTeX - Tobi Oetiker

https://tobi.oetiker.ch/lshort/lshort.pdf

Environmental Physics

Scheme Version: 2019	Name of the subject: Environmental Physics	L	T	P	C
	Applicable to Programs: M.Sc. Physics	3	1	0	4
Subject Code: SPMS PHY 01 202 GEC 3104	Prerequisite: US & PG	Total hours = 60			
	Semester II				

Course Objective: This course aims to introduce students to the application of core physical concepts of the Earth system, with special focus on: atmospheric radiation, greenhouse gases, pollution, and climate change. This course will demonstrate how physics is fundamental to understand natural and human influences on climate and atmospheric composition.

Learning outcome: After completion of this course, students would be able to

- understand the concepts like energy transformations, climate change and its effect on living beings.
- develop an awareness of climate change mitigation, different fossil fuels and their alternatives.

UNIT I

Introduction to Energy:
Importance of energy in science and society. Types of energy (mechanical, heat, chemical, nuclear, electrical). Law of conservation of energy. Energy transformations. Mechanical energy: force, work, kinetic and potential energy, PE diagrams, conservation of mechanical energy, bound systems. Electricity Basics.

UNIT II

Heat Energy and Kinetic Theory:
Heat and Temperature. Internal Energy, Specific Heat. Ideal gas equation. Kinetic theory interpretation of pressure and temperature. Work, heat, and the first law of thermodynamics. Adiabatic lapse rate. Radiant energy. Blackbody radiation. Heat engines and the second law of thermodynamics. The Carnot cycle. Applications of the second law to various energy transformation processes: heat pumps and refrigerators; different engine cycles. Entropy and disorder.

UNIT III

Energy and Climate Change:
Energy balance of the Earth. Greenhouse effect. Climate feedbacks (water, clouds, ice albedo). Global Climate Models. Evidence for climate change. Paleo-climate. Climate change impacts. Climate change mitigation. Target CO_2 levels.

UNIT IV

Energy Source:
Chemical energy. Energy in biology, photosynthesis, respiration. Energy use in the human body, energy content of food. Fossil fuels and their origin (coal, oil, natural gas). Problems with fossil

fuels, greenhouse pollution, peak oil. Alternatives to fossil fuels. Alternative energy resource: Wind energy, energy from water on land, ocean energy. Biomass and other sources.

References:

1. **Sol Wieder,** An Introduction of Solar Energy for scientists and Engineers, John Wiley, United States, 1st Edition, 1982.
2. **J.T. Widell and J. Weir,** Renewable Energy Resources, Elbs, 1st Edition, 1988.
3. **R.N. Keshavamurthy and M. Shankar Rao,** The Physics of Monsoons, Allied Publishers, New Delhi, 1st Edition, 1992.
4. **Landau &Lifshitz,** Fluid Mechanics, Pergamon Press, UK, 2nd Edition, 2000.
5. **Egbert Boeker & Rienk Van Groundelle,** Environmental Physics, John Wiley, United States, 2nd Edition, 2000.
6. **J.T. Hougtyion,** The Physics of Atmosphere, Cambridge University Press, 3rd Edition, 2002.
7. **C. W. Rose,** An Introduction to the Environmental Physics of Soil, Water and Watersheds, Cambridge University Press, 1st Edition, 2004.
8. **R. A. Hinrichs and M. Kleinbach,** Energy, Its Use and the Environment: Brooks Cole, Stanford University Press, 4th Edition, 2005.
9. **P. Hughes, N. J. Mason,** Introduction to Environmental Physics: Planet Earth, Life and Climate, Taylor & Francis, France, 1st Edition, 2005.
10. **J. Monteith, M. Unsworth,** Principles of Environmental Physics: Plants, Animals and the Atmosphere, Elsevier, 4th Edition, Europe, 2013.
11. **K.L. Kumar,** Engineering Fluid Mechanics, S. Chand, New Delhi, 4th Edition, 2016.

Computational Physics

Scheme Version: 2019	Name of the subject: Computational Physics	L	T	P	C
	Applicable to Programs: M.Sc. Physics	3	0	2	4
Subject Code: SPMS PHY 01 201 DCEC 3024	Prerequisite: Mathematical Methods in Physics I, Quantum Mechanics and Statistical Mechanics	Total hours = 75			
	Semester II				

Course Objective: The objective of the course is to train the students for various computational techniques to solve integration, differentiation and molecular dynamics simulation techniques.

Learning outcomes: Students will be able to learn

- computations techniques to solve various differential equations
- the computational integration
- the molecular simulations and optimization techniques.

UNIT I

Stochastic Processes:

Theory of random walks and simulation of random walks in one, two and three dimensions. Elementary ideas and simulations of self-avoiding walks, additive and multiplicative ,stochastic processes, Brownian motion and fractional Brownian motion.

UNIT II

Numerical Integration and Stochastic Differential Equations:

Dynamical equations, Finite Difference Method, Langevin dynamics, TDGL equation, Cahn-Hilliard equation, Burgers' equation, KPZ model, Traffic Flow Dynamics.

UNIT III

Molecular Dynamics (MD) and Monte Carlo (MC) Simulations:

Elementary ideas of molecular dynamics simulation, Physical potentials, Verlet algorithm. Time average and Ensemble average, Monte Carlo methods, Metropolis algorithm. Application of Monte-carlo simulations: (a) Ising model in magnetism (b) Glauber and Kawasaki dynamics.

UNIT IV

Combinatorial Optimization Problems:

Classification of problems; examples of optimization problems: traveling salesman problem (TSP) and satisfiability (k-SAT) problem; heuristic methods of solutions and simulated annealing technique.

Computational experiments using computer programming

1. Finite and infinite series

2. Root finding: (bisection, Secant and Newton-Raphson methods).
3. Solving first and second order ordinary differential equations including simultaneous equations (Euler and Runge-Kutta methods)
4. Numerical integration (trapezoidal, Simpson, Gauss quadrature, methods)
5. Matrices (arrays of variable sizes, addition, multiplication, eigenvalues, eigenvectors, inversion, solutions of simultaneous equations)
6. To determine Wien`s constant using bisection method and false position method.
7. To solve Kepler`s equation by Newton-Raphson method.
8. To solve van der Waals gas equation for volume of a real gas by the method of successive approximation.
9. To interpolate a real data set from an experiment using the Lagrange`s method, and Newton`s method of forward differences and cubic splines.
10. To fit the Einstein`s photoelectric equation to a realistic data set and hence calculate Planck`s constant. To estimate the value of π by rectangular method, Simpson rule and Gauss quadrature by numerically evaluating suitable integral.
11. To find the area of a unit circle by Monte Carlo integration.
12. To simulate Buffen`s needle experiment.
13. To simulate the random walk.
14. To study the motion of an artificial satellite by solving Newton`s equation for its orbit using Euler method.
15. To study the growth and decay of current in RL circuit containing (a) DC source and (b) AC using Runge Kutta method, and to draw graphs between current and time in each case.
16. To study the motion of two coupled harmonic oscillators.

References

1. **V. Rajaraman,** Computer Oriented Numerical Methods, Prentice Hall of India, New Delhi, 3rd Edition, 1993.
2. **V. Rajaraman,** Computer Programming in FORTRAN 90/95, Prentice Hall of India, New Delhi, 1st Edition,1997.
3. **D. Frenkel & B. Smit,** Understanding Molecular Simulation, Academic Press, Cambridge, Massachusetts, 2nd Edition,2001.
4. **M. Plischke & B. Bergersen,** Equilibrium Statistical Physics, World Scientific, Singapore, 3rd Edition, 2006.
5. **W.H. Press, B.P. Flannery, S.A. Teukolsky and W.T. Vetterling,** Numerical Recipes in C/C++: The Art of Scientific Computing, Cambridge University Press, 3rd Edition, 2007.
6. **M. P. Allen,** Computer Simulation of Liquids, Oxford University Press.2nd Edition , 2017.
7. **Kurt Binder and Heerman,** Monte Carlo Simulation in Statistical Physics, Springer, Germany, 6th Edition, 2019.

Advanced Quantum Mechanics

Scheme Version: 2019	Name of the subject: Advanced Qauntum Mechanics	L	T	P	C
	Applicable to Programs: M.Sc. Physics	3	1	0	4
Subject Code: SPMS PHY 01 202 DCEC 3024	Prerequisite: Mathematical Methods in Physics I, Quantum Mechanics I	Total hours = 60			
	Semester II				

Course Objective: Aim of the course is to discuss the fundamental notions of ensemble of identical particles in quantum mechanics (fermions and bosons) and elements of second quantization. Knowledge of the Klein Gordon and Dirac equations and their solutions for simple potentials, together with an understanding the need of going beyond relativistic quantum mechanics, and elements of relativistic quantum field theory.

Learning outcome: The students will be able to gain

- Knowledge about fundamental quantum mechanical processes in nature.
- Experience using mathematical tools to construct approximate quantum mechanical models

UNIT I

Classical Field Theory:

Interaction Picture; Constant and harmonic perturbations; Fermi Golden rule; Sudden and adiabatic approximations. Beta decay as an example. Lagrangian density and equation of motion for field. Symmetries and conservation laws. Noether's theorem.

UNIT II

Symmetry in Quantum mechanics:
Symmetry Operations and Unitary Transformations, conservation principles, space and time translation, rotation, space inversion and time reversal, symmetry and degeneracy, identical particles, Pauli-exclusion principle, spin statistics connection.

UNIT III

Second Quantization:
First Quantization: Many Body Quantum Mechanics; Slater Determinant. Second Quantization: Creation & Annihilation Operators, Number Operator; Non-Interacting Bose & Fermi Gas; Hamiltonian for the interacting system; Adding Spin.

UNIT IV

Relativistic Quantum Mechanics:

Klein Gordon equation, Dirac equation, negative energy solutions, antiparticles, Dirac hole theory, Feynman interpretation of antiparticles, Gamma matrices and their properties, Covariance of Dirac equation, Charge conjugation, Parity & Time reversal invariance, Bilinear covariants, Plane wave solution, Two component theory of neutrino, Spin & Helicity, Relativistic Hydrogen atom problem.

References:

1. **J. D. Bjorken and S.D. Drell,** Relativistic Quantum Mechanics, McGraw Hill, New York, 1st Edition, 1964.
2. **C. Cohen-Tannoudji, Bernard Diu and FrankLaloe,** Quantum Mechanics, Wiley, USA, 1st Edition, 1991.
3. **E. Merzbecher,** Quantum Mechanics, John Wiley, USA, 3rd Edition, 1998.
4. **Amitabha Lahiri and P.B. Pal,** A First Book on Quantum Field Theory, Alpha Science, UK, 2nd Edition, 2005.
5. **R. Shankar,** Principles of Quantum Mechanics, Springer, Germany, 2nd Edition, 2011.
6. **J.J. Sakurai,** Modern Quantum Mechanics, Pearson Education , UK, 2nd Edition, 2013
7. **Albert Messiah,** Quantum Mechanics, Dover Publications, USA, 1st Edition, 2014.
8. **L.I. Schiff,** Quantum Mechanics, McGraw Hill, 4th Edition, New York, 2017.

Analog Electronics

Scheme Version: 2019	Name of the subject: Analog Electronics	L	T	P	C
	Applicable to Programs: M.Sc. Physics	3	1	0	4
Subject Code: SPMS PHY 01 203 DCEC 3104	Prerequisite: Semiconductor Devices, Quantum Mechanics	Total hours = 60			
	Semester II				

Course Objective: Course Objective: To introduce students to entire circuit designs, and to provide in-depth theoretical base of Digital Electronics.

Learning outcomes: The students will be able to learn

- The techniques to shape of signals.
- Working of CRO.
- Fundamental designing concepts of different types of Logic Gates. Minimization techniques etc.
- Working of various amplifiers.

UNIT I

Linear Wave Shaping: High Pass RC circuits: Its response to step. Pulse. Square wave. Ramp. exponential waveforms. Low pass RC Circuit: Its response to step. pulse. Square wave. Ramp. Exponential wave forms. Its application as an integrator. Attenuators. Time base Signal in a CRO. Operation of Clamping Circuits. Clamping Circuit theorem. Practical Clamping Circuit theorem. Operation of Transistor as a switch.

Clipping and Switching Circuits: Diode Clippers. Combinational and Biased clippers Transistor Clippers. Comparators, Applications of Voltage Comparators.

UNIT II

Multivibrators: A bistable multivibrator-basic concepts of its operation. Symmetrical and Unsymmetrical triggering, Application (brief). Monostable Multivibrator. Basic concepts of its operation, quantitative discussion of Quasi stable state. Application, Astable multivibrator - basic concepts of operation. Quantitative discussion of the period of oscillation. Application.

UNIT III

Analog Systems: Operational Amplifier. Differential Amplifier. Transfer Characteristics. Frequency Characteristics. IC Operational Amplifier. Compensation in Operational Amplifiers. Application of OP-AMP as adder, Multiplier. Differentiator. Integrator, Log and Antilog Amplifier. Application of Operational Amplifier to analogue computation.

UNIT IV

Logic Systems: Basic Concepts of dc positive and negative logic systems. Dynamic logic systems. OR gate and AND gate. NOT gate. NAND gate. EX-OR gate. NOR gate & their applications. Response to input

pulse operation. TTL (transistor transistor logic) and DTL (diode transistor logic) logics Binary Adders. Half adders and full adders. Multiplexing and demultiplexing.

References:

1. **P. Horowitz and W. Hill,** The Art of Electronics, Cambridge University Press, 2nd Edition, 1989.
1. **J.J. Cathey,** Schaum's Outline of Electronic Devices and Circuits, McGraw Hill Education, New York, 2nd Edition, 2002.
2. **R.L. Boylestad and L. Nashelsky**. Electronics Devices and Circuit Theory, Prentice Hall of India, New Delhi, 8th Edition 2003.
3. **A.P. Malvino**: Electronic Principles. Tata McGraw, New Delhi, 7th Edition, 2009.
4. **J.H. Moore, C.C. Davis and M.A. Coplan**. Building Scientific Apparatus, Cambridge University Press, 4th Edition 2009.
5. **W. Kleitz**, Digital Electronics, A Practical Approach, Pearson, UK, 9th Edition 2011.
6. **R. J. Tocci**, Digital Systems-Principles and Applications, Prentice Hall of India, New Delhi, 10th Edition 2013.
7. **Millman and Halkias**, Integrated Electronics, McGraw Hill, New York, 2nd Edition, 2017.

Nonlinear Optics

Scheme Version: 2019	Name of the subject: Nonlinear Optics	L	T	P	C
	Applicable to Programs: M.Sc. Physics	3	1	0	4
Subject Code: SPMS PHY 01 204 DCEC 3104	Prerequisite: Quantum Mechanics	Total hours = 60			
	Semester II				

Course Objective: To introduce aware students about the non linear optics and related study of nonlinear crystals.

Learning Outcomes: The students will learn about

- The interaction of light with matter through different optical phenomena
- Phase matching and its characterization
- Properties of some nonlinear crystals.

UNIT I

Interaction of Light with bulk Matter : Scattering, absorption, dispersion, different types of polarization such as oriental polarization, electronic polarization, ionic polarization etc. Dispersion equations, Sellmeir equatuions birefringence, Ordinary and extraordinary waves. electro-optic effect, magneto -optic effect. Acousto-Optic effect.

UNIT II

Nonlinear optics : Lorentz oscillator model , Wave equations, Index ellipsoid, Uniaxial , Biaxial Crystals , optical activity and induced anisotropy. Generation of Second harmonics, Sum Frequency, difference Frequency generation and Optical rectifications. Miller's Rule. Relation between IInd order susceptibility d and χ

UNIT III

Phase Matching: Kleinmman's symmetry conditions,Piezoelectric effect , definition of d_{eff}. Manley –Rowe relationship, Gain in DFG process, SHG output power, Introduction and Importance of Phase matching to nonlinear medium and its characterization. Power flow in nonlinear medium and coupling of power between input and harmonics. Brief history of development of nonlinear materials, their characterization Measurement of second order nonlinearty using Maker fringe technique, Kurtz powder technique

UNIT IV

Study of some nonlinear crystals: KDP, KD*P, ADP, BBO, LiNbO3 etc .and Parametric Up-Conversion, Sum Freq. generation, Limitation to up-conversion, effect of Phase matching, Acceptance angle etc, Optical parametric oscillator (OPO), Effect of Phase matching , Parametric Mismatching, Mode Hopping, Cluster effect , Power gain solution. Damage and optical characterization of nonlinear materials: Types of damage mechanisms and effect of laser pulse, wavelength and inclusions. Introduction to Third order nonlinearity and measurement techniques

References:

1. Max Born and Emril Wolf, Principle of Optics, Cambridge University Press, 1st Edition, 1999.
2. Y. R. Shen. The Principle of Nonlinear Optics. Springer, Germany, 1st Edition. 2002.
3. Zernike and Midwinter, Applied Nonlinear Optics, Elsevier, Netherlands, 4th Edition, 2006.
4. R.W. Boyd, Nonlinear Optics, Elsevier, Netherlands, 3rd Edition, 2008.
5. Walter Koechner, Solid State Laser Engineering, Springer, Germany, 1st Edition, 2009.

Seminar Presentation

Scheme Version: 2019	Name of the subject: Seminar Presentation	L	T	P	C
	Applicable to Programs: M.Sc. Physics	0	2	0	2
Subject Code: SPMS PHY 01 204 CC 0202	Prerequisite: None	Total hours = 30			
	Semester II				

This may include subject/research oriented topics.

Atomic, Molecular Physics and Lasers

Scheme Version: 2019	Name of the subject: Atomic, Molecular and Lasers	L	T	P	C
	Applicable to Programs: M.Sc. Physics	3	1	0	4
Subject Code: SPMS PHY 01 301 CC 3104	**Prerequisite: Mathematical Methods in Physics I, Quantum Mechanics I, Statistical Mechanics**	**Total hours = 60**			
	Semester III				

Course Objective: Aim of the course is to aware students about various atomic and molecular spectra and to understand the working of LASERs.

Learning outcomes: The students will be able to

- Understand different models of an Atom and derive the energy distribution corresponding to different levels of an atom.
- Understand Raman Effect and Raman spectroscopy of molecules.
- understand the working of He-Ne Laser and Ruby Laser.

UNIT I

Atomic Spectra I:
Review of Atomic Models: Rutherford's Model, Bohr's model, Sommerfeld's model, Stern-Gerlach experiment for electron spin. Revision of quantum numbers, exclusion principle, electronic configuration. Relativistic correction to energy levels of an atom, atom in a weak uniform external electric field – first and second order Stark effect.

UNIT II

Atomic Spectra II:
Spin-orbit interaction and fine structure, LS and JJ coupling, Relativistic correction to spectra of hydrogen atom, Lamb shift, effect of magnetic field on the hydrogen atom spectra, Zeeman and Paschen-Back effect. Hyperfine structure and isotope shift, Auger Effect and Frank Condon Principle. Born-Oppenheimer approximation.

UNIT III

Molecular spectra:
Rotational levels in diatomic and polyatomic molecules, vibrational levels in diatomic and polyatomic molecules, diatomic vibrating rotator, Born-Oppenheimer approximation, symmetry of the molecules and vibrational levels, experimental aspects of vibrational and rotational spectroscopy of molecules, polarization of light and Raman effect, Raman Spectroscopy (Brief Introduction).

UNIT IV

Lasers:
Spontaneous and stimulated emission, Spatial and temporal Coherence, Einstein A and B coefficients, Optical Pumping, Population Inversion, Modes of resonator, Q-switching and Mode Locking, Ultra short pulse generation, He-Ne Laser and Ruby Laser- Principle, Construction and working, Application of lasers in the field of medicine and Industry.

References:

1. **H. E. White,** Introduction to Atomic Spectra, McGraw Hill, New York, 1st Edition, 1934.
2. **H. G. Kuhn,** Introduction to Atomic Spectra, Green and Co., Harlow, 2nd Edition, 1969.
3. **K. Thyagarajan and A.K. Ghatak,** Lasers - Theory and Applications, Plenum Press, New York, 1st Edition, 1981.
4. **B. H.Bransden and C. J Joachain,** Physics of Atoms and Molecules, Pearson, UK, 2nd Edition, 2003.
5. **R. Eisberg and R. Resnick,** Quantum Physics of Atoms, Molecules, Solids, Nuclei and Particles, Wiley, United States, 2nd Edition, 2006.
6. **Arthur Beiser,** Perspectives of Modern Physics, McGraw Hill, New York, 6th Edition, 2006.
7. **C. N. Banwell,** Fundamentals of Molecular Spectroscopy, McGraw Hill, New York, 4th Edition, 2017.

Nuclear & Particle Physics

Scheme Version: 2019	Name of the subject: Nuclear and Particle Physics	L	T	P	C
	Applicable to Programs: M.Sc. Physics	3	1	0	4
Subject Code: SPMS PHY 01 302 CC 3104	Prerequisite: Mathematical Methods in Physics I, Quantum Mechanics I, Statistical Mechanics	Total hours = 60			
	Semester III				

Course Objective: The aim and objective of this course is to enable the M.Sc. students to understand the basic concepts of static properties of nuclei, radioactive decays, nuclear forces, nuclear reactions. They will also learn about the elementary particle physics.

Learning outcomes: Students will be able to learn

- Nuclear forces existing in two-nucleon systems.
- About single particle shell model, magic numbers, and collective nuclear model.
- About the Radioactive decays like α-particle emission, Beta decays and gamma decay.
- About nuclear deformations. Exotic nuclei and their production.
- Elementary particle physics.

UNIT I

Introductory Concept of Nuclei:
Scattering and electromagnetic methods for determining the nuclear radius, Nuclear angular momentum, Nuclear magnetic dipole moment and Electric quadruple moment, Parity quantum number, Statistics of nuclear particles, Nuclear Disintegration: Simple theories of decay, Properties of neutrino, Non conservation of parity and Wu's experiment in beta decay, Electron capture, Internal conversion.

UNIT II

Inter Nucleon Forces:
Properties and simple theory of the deuteron ground state, Spin dependence and tensor component of nuclear forces, Nucleon-nucleon scattering at low energy, Charge-independence of nuclear forces, Many–nucleon systems and saturation of nuclear forces, Exchange forces, Elements of meson theory.

UNIT III

Nuclear Structure and Models:
Fermi gas model, Experimental evidence for shell structure in nuclei, Basic assumption for shell model, Single- particle energy levels in central potential, Spin-orbit potential and prediction of magic numbers, Extreme single- particle model, Prediction of angular moment, Parities and magnetic moment of nuclear ground states, Liquid drop model, Semi-empirical mass formula, Nuclear fission, The unified model.

UNIT IV

Particle Physics:
Properties and origin, Elementary particles, Properties, classification, type of interactions and conservation laws, Properties of mesons, Resonance particles, Strange particles and Strangeness quantum number, Simple ideas of group theory, Symmetry and conservation laws, CP and CPT invariance, Special symmetry groups SU (2) and SU (3) classification of hadrons, Quarks, Gell-Mann-Okubu mass formula.

References:

1. **Roy & Nigam,** Nuclear Physics. John Wiley & Sons. USA. 1st Edition. 1967.
2. **H. Enge,** Introduction to nuclear Physics. Addison Wesley. USA. 1st Edition 1969.
3. **J.M. Blatt and V.F. Weisskopf,** Theoretical Nuclear Physics, Springer, Germany, 1st Edition. 1969.
4. **M.Léon,** Particle Physics: An introduction, Elsevier, Netherlands, 1st Edition, 1973.
5. **F.I. Stancu,** Group Theory in Subnuclear Physics, Clarendon Press, UK, 1st Edition, 1997.
6. **J.D. Walecka,** Theoretical Nuclear and Subnuclear Physics. World Scientific. Singapore. 2nd Edition, 2004.
7. **B. R. Martin and G. Shaw,** Particle Physics. John Wiley & Sons, USA. 3rd Edition, 2008.

Solid State Physics

Scheme Version: 2019	Name of the subject: Solid State Physics	L	T	P	C
	Applicable to Programs: M.Sc. Physics	3	1	0	4
Subject Code: SPMS PHY 01 303 CC 3104	Prerequisite: Mathematical Methods in Physics I, Quantum Mechanics I, Statistical Machanics, Classical Mechanics	Total hours = 60			
	Semester III				

Course Objective: This course is designed for the students to explore various experimental and theoretical concepts like, crystal lattice, binding, lattice dynamics, properties of solids and superconductors.

Learning outcomes: On accomplishing this, the students will be able to

- deal with the ideas of crystal structures.
- understand the electronic properties and superconductivity of solids which have many industrial applications.

UNIT I

Crystal structure:
Crystal structures and lattices with basis, Common crystal structures, Reciprocal lattice, Brillouin zones, X-ray diffraction by a crystal and their equivalence, Laue equations, Ewald construction, Brillouin interpretation, Crystal and atomic structure factors, Structure factor; Experimental methods of structure analysis: Types of probe beam, the Laue, rotating crystal and powder methods. Ordered phase of matter: translational and orientational order, kinds of liquid crystalline order, quasi crystal.

UNIT II

Lattice dynamics, Crystal Binding and Thermal properties:
Classical theory of lattice dynamics: Vibrations of crystals with monatomic basis and Two atomic basis, Dispersion relation, Group velocity, Acoustical and optical modes; Bonding in solids, Elastic constants and properties, Phonons: Quantization of lattice vibration, Phonon momentum, Inelastic scattering of neutrons by phonons; Thermal properties: heat capacity, Density of states, Normal modes, Debye and Einstein models

UNIT III

Electronic properties of solids:
Free electron gas model: Electrical conductivity, Ohm's law and electronic specific heat, Response and relaxation phenomena, Drude Model of electrical and thermal conductivity, Density of states, Heat capacity, Hall effect and thermoelectric power, Fermi energy, Effect of temperature, effective mass, Limitations of the free electron gas model, Band theory of solids: metals, insulators and semiconductors, Kronig-Penney model.

UNIT IV

Superconductivity:
Introduction to Superconductivity, effect of magnetic field, Meissner effect, Type I and type II superconductors, Entropy, Free energy, Heat capacity, Energy gap, Isotope effect; Thermodynamics

of the superconducting transition, London equation and penetration depth. Coherence length. Ginzburg Landau parameter, BCS theory of superconductivity, Cooper Pair. Flux quantization. DC and AC Josephson effects; SQUIDs. High Tc superconductors. Applications of superconductors.

References:

1. **J. M. Ziman,**Principles of the Theory of Solids, Cambridge University Press, 2nd Edition, 1979
2. **J. F. Annett**, Superconductivity Super fluids and Condensates, Oxford University Press, 1st Edition, 2004.
3. **J. P. Srivastava**, Elements of Solid State Physics, Prentice-Hall of India, New Delhi, 2nd Edition, 2006
4. **H. Ibach and H. Luth,** Solid State Physics: An Introduction to Theory and Experiment, Springer, Germany, 4th Edition, 2009
5. **M. A. Wahab**, Solid State Physics: Structure and Properties of Materials, Narosa Publications, New Delhi, 2nd Edition, 2009
6. **Rajnikant,** Applied Solid State Physics, Wiley, USA, 1st Edition, 2011.
7. **Charles Kittel,**Introduction to Solid State Physics, Wiley, USA, 8th Edition, 2012
8. **Neil W. Ashcroft and N. David Mermin,** Solid State Physics, Holt, Rinehart and Winston, USA, Revised Edition, 2016.
9. **S. O. Pillai**, Solid State Physics, New Age International Publishers, New Delhi, 8th Edition, 2018.

Laboratory III

Scheme Version: 2019	Name of the subject: Laboratory III	L	T	P	C
	Applicable to Programs: M.Sc. Physics	0	0	12	6
Subject Code: SPMS PHY 01 304 CC 00126	Prerequisite: Laboratory I & II	Total hours = 180			
	Semester III				

Course Objective: Aim of Lab III is to train students for advanced practical related to solid state physics, nuclear physics, electronics, numerical techniques and material science.

Learning outcomes:

- Apart from some experiments based on nuclear physics, electronics, computation and solid state physics, students will also perform the advance experiments like DTA, TGA, UV-VIS, Microwave furnace and thin film coating techniques.
- To understand the basic synthesis and characterization techniques for different materials such as thin films and nanoparticles.

Each student is required to perform at least five experiments from Section A and at least three experiments from any one of the optional subtopics of Section B: (i) Electronics (ii) Thin Film and Nano-Material (iii) Numerical Techniques: depending upon the courses opted under discipline centric elective course.

Section A

1. Kerr Effect
2. Curie Temperature
3. B-H curve
4. Dielectric constant
5. Solid State Nuclear Track Detector (SSNTD)
6. G M Counters: characteristics, dead time and counting statistics
7. Scintillation detector-energy calibration, resolution and determination of gamma ray energy
8. Quinks tube method to find susceptibility of a material
9. Nuclear Magnetic Resonance
10. Zeeman Effect
11. To study Lattice Dynamics

Section B

(i) Electronics

1. PCM/delta modulation and demodulation
2. Fiber optic communication
3. Modulation/Demodulation
4. 4-bit ripple counter

(ii) Thin Film and Nano-Material

1. Data Analysis of XRD, SEM and TEM
2. Chemical Deposition (for CNT growth)

3. ZnO wire by thermal oxidation
4. Band gap estimation by Tauc-plot method
5. Thin film deposition technique
6. DTA/TGA analysis

(iii) Numerical Techniques

1. Solution of Linear algebraic equation: Gauss Jordon elimination, Singular Value Decomposition, Sparse linear system.
2. Evaluation of Functions: special functions, evaluation of functions by path integration, incomplete gamma, beta function.
3. Random Numbers: Uniform random numbers generators, statistical distributions and their properties, Rejection Methods, transformation method, simple Monte Carlo integration, Adaptive and recursive Monte Carlo methods, Test of randomness.
4. Signal Processing: FFT, IFFT, Filtering with FFT, convolution and correlation functions, application to real time series data.
5. Eigen systems: Solving eigenvalues and finding eigen functions of Schrodinger equation for analytically unsolvable potentials using variational principle

References:

1. Albert Malvino, Digital Principles and Applications, McGraw Hill, New York, 4th Edition, 1986.

2. **A. C. Melissinos, J. Napolitano,** Experiments in Modern Physics, Academic Press, Cambridge, Massachusetts, 2nd Edition, 2003.

3.**W.H. Press, B.P. Flannery, S.A. Teukolsky and W.T. Vetterling,** Numerical Recipes in C/C++: The Art of Scientific Computing. Cambridge University Press, 3rd Edition, 2007.

4. J. P. Sethna, Statistical Mechanics: Entropy, Order Parameters, and Complexity, Oxford University Press, 2nd Edition, 2007.

5. E. Balagurusamy, Numerical Methods, Tata McGraw Hill, New Delhi, 1st Edition, 2017.

Physics of Electronic Material and Devices

Scheme Version: 2019	Name of the subject: Physics of Electronic Materials and Devices	L	T	P	C
	Applicable to Programs: M.Sc. Physics	3	1	0	4
Subject Code: SPMS PHY 01 301 DCEC 3104	Prerequisite: Quantum Mechanics	Total hours = 60			
	Semester III				

Course Objective: This course intends to provide knowledge about band structure and electronic properties of semiconducting materials. In addition, this course aims to provide a detailed theory and design of electronic, microwave and photonics devices.

Learning outcome:

- The students will be able to elucidate the important features of semiconducting materials.
- They will be able to learn about electronic and microwave devices.

UNIT I

Physical Mechanisms-I:
Crystal structures of Electronic materials (Elemental, III-IV and VI semiconductors), Energy Band consideration in solids in relation to semiconductors, Direct and Indirect bands in semiconductor, Electron/Hole concentration and Fermi energy in intrinsic/Extrinsic semiconductor continuity equation, effective mass of hole and electron, Heavy hole

UNIT II

Physical Mechanisms-II
Carrier mobility in semiconductors, Electron and Hole conductivity in semiconductors, Shallow impurities in semiconductors (Ionization Energies), Deep Impurity states in semiconductors, Carrier Trapping and recombination/generation in semiconductors, Shockley read theory of recombination, Switching in electronic devices

UNIT III

Electronic Devices:
Metal/Semiconductor Junction or (Abrupt P-N Junction), Current-voltage characteristics, C-V measurements, Estimation of Barrier Height and carrier concentration from C-V characteristics, Surface/Interface States, Role of interface States in Junction Diodes, Field Effect devices, C-V characteristics of MIS diodes (Frequency dependence), Estimation of Interface Trapped charges by capacitance conductance, method CCD (Charge Coupled Devices).

UNIT IV

Microwave and Photonics Devices:
Tunnel diode, MIS Tunnel diode, Degenerate and Non-degenerate semiconductor, MIS switch diode, MIM Tunnel diode, IMPATT diode, Characteristics, breakdown Voltage, Avalanche Region and Drift Region, Transferred electron devices.

Photonic devices: LED and LASER, Photo detectors, Solar-cells.

References:

1. **A.S. Grove,** Physics and Technology of Semiconductor Devices. WILEY. United States. 1st Edition , 1967
2. **B.L. Sharma,**Metal/Semiconductor Schottky Barrier Junction and their Applications. Springer ,USA, 1st Edition, 1984.
3. **E. H.Rhoderick,** Metal/Semiconductor Contacts, Clarendon Press, UK, 1st Edition , 1988.
4. **Jasprit Singh,**Semiconductor Devices Basic Principles. John Wiley & Sons, United States. 1st Edition, 2000
5. **S.M. Sze,**Physics of Semiconductor Devices, John Wiley & Sons. United States. 2nd Edition. 2003.

Electronic Communication

Scheme Version: 2019	Name of the subject: Electronic Communication	L	T	P	C
	Applicable to Programs: M.Sc. Physics	3	1	0	4
Subject Code: SPMS PHY 01 302 DCEC 3104	Prerequisite: Physics of Semiconductor Devices, Analog Electronics	Total hours = 60			
	Semester III				

Course Objective: The aim of this course is to aware students about digital communication and related noise along with knowledge of data transmission and computer communication system.

Learning outcomes: Students will be able to understand

- the need for communication.
- various sources of noise in digital communication.
- modulation and demodulation of digital signals.
- communication via satellite and mobile.

UNIT I

Digital communication:
Need for communication: AM, FM, modulation index. Pulse – Modulation systems, sampling theorem – Low – Pass and Band – Pass signals. PAM. Channel BW for a PAM signal. Natural sampling. Flat – top sampling. Signal recovery through Holding. Quantization of signals. Quantization error. Differential PCM. Delta Modulation. Adaptive Delta Modulation. CVSD Digital Modulation Techniques: BPSK, DPSK, QPSK, PSK, QASK, BFSK, FSK, MSK.

UNIT II

Mathematical representation of Noise:
Sources of noise. Frequency domain representation of noise, effect of filtering on the probability density of Gaussian noise, spectral component of noise, effect of a filter on the power spectral density of noise. Superposition of noises. Mixing involving noise. Linear filtering. Noise Bandwidth. Quadrature components of noise. Power spectral density of nc(t), ns(t) and their time derivatives.

UNIT III

Data Transmission:
Baseband signal receiver, probability of error. Optimum filter. White noise.
Noise in pulse–code and Delta–modulation system: PCM Transmission. Calculation of Quantization noise. Output – signal power. Effect of thermal noise in D M. Output signal–to–noise ratio in PCM, DM. Quantization noise in DM. Effect of thermal noise in Delta modulation. Output signal to noise ratio in DM.

UNIT IV

Computer Communication Systems:
Types of networks. Design features of a communication network, examples: TYMNET, ARPANET, ISDN, LAN.

Mobile Radio and Satellites: Time division multiple Access (TDMA), Frequency Division Multiple Access (FDMA), ALOHA, Slotted ALOHA, Carrier Sense Multiple Access (CSMA) Poisson distribution, Protocols, Cellular communications, Mobile communication via Satellites, Bandwidth consideration in INTERNET.

References:

1. **Taub and Schilling,**Principles of Communication Systems, McGraw Hill, New York, 3rd Edition, 2007,.
2. **Simon Haykin,**Communication Systems, Wiley, United States, 2nd Edition, 2007.
3. **Jack, W. Hudson and Jerry Lucke,** Basic Communications Electronics, Master Publications, India, 1st Edition, 1999.
4. **Robert L. Shrader,** Electronic Communication, Macmillan, New York, 5th Edition, 1985.
5. **B.P. Lathi,** Modern Digital and Analogue Electronic Communication, Oxford University Press, 4th Edition, 2011.

Spectroscopy

Scheme Version: 2019	Name of the subject: Spectroscopy	L	T	P	C
	Applicable to Programs: M.Sc. Physics	3	1	0	4
Subject Code: SPMS PHY 01 303 DCEC 3104	Prerequisite: Quantum Mechanics, Atomic Molecular and Lasers	Total hours = 60			
	Semester III				

Course Objective: The aim of this course is to aware students about molecular structures: Raman spectroscopy, nuclear magnetic resonance and Electron spin resonance.

Learning Outcome: Students will be able to understand

- Stark effect and normal modes of vibration of polyatomic molecules.
- Stokes and anti stokes part of Raman Spectra.
- steady state solution of Bloch equation.
- steady state solution of Bloch equation.
- nuclear interactions and hyperfine structures.

UNIT I

Molecular structure and Vibration spectroscopy:
Molecular structure determination, Stark effect, inversion spectrum of ammonia, Applications to chemical analysis. Vibrational spectroscopy of diatomic and simple polyatomic molecules, Harmonic Oscillator. Anharmonic Oscillator - Rotational vibrators - Normal modes of vibration of Polyatomic molecules. Experimental techniques. Applications of infrared spectroscopy, H_2O and N_2O molecules. Reflectance spectroscopy.

UNIT II

Raman Spectroscopy:
Classical theory of Raman Scattering - Raman effect and molecular structure, Raman effect and crystal structure, Raman effect in relation to inorganic, organic and physical chemistry, Experimental techniques, Coherent anti-Stokes Raman Spectroscopy, Applications of infrared and Raman spectroscopy in molecular structural confirmation of water and CO_2 molecules, Laser Raman Spectroscopy.

UNIT III

NMR
Theory of NMR, Bloch equations, Steady state solution of Bloch equations, Theory of chemical shifts, Experimental methods, Single Coil and double coil methods, Pulse Method, High resolution method. Applications of NMR to quantitative measurements. Quadruple Hamiltonian of NQR, Nuclear quadruple energy levels for axial and non-axial symmetry – Experimental techniques and applications.

UNIT IV

ESR and Mossbauer spectroscopy:
Quantum mechanical treatment of ESR:Nuclear interaction and hyperfine structure, Relaxation effects. Basic principles of spectrographs, Applications of ESR method. Mossbauer Effect,Recoilless emission and absorption - Mossbauer spectrum - Experimental methods -

Mossbauer spectrometer, Hyperfine interactions, Chemical Isomer shift. Magnetic hyperfine interactions, Electric quadruple interactions. Simple biological applications

References:

1. **Raymond Chang,** Basic Principles of Spectroscopy. McGraw Hill. New York. 1st Edition. 1970
2. **Martin Karplus and Richard N. Porter,** Atoms and Molecules: An Introduction For Students of Physical Chemistry, W.A. Benjamin, Inc, New York, 1st Edition, 1970.
3. **C.N. Banwell and E.M. Mc Cash,** Fundamentals of Molecular Spectroscopy, McGraw-Hill, New York, 4th Edition, 1994.
4. **D.N. Satyanarayana,** Vibrational Spectroscopy and Applications. New Age Publications. New Delhi,1st Edition, 2000.
5. **G. Aruldas,** Molecular Structure and Spectroscopy. Prentice Hall of India . New Delhi. 2nd Edition, 2007.

Physics of Nanomaterials

Scheme Version: 2019	Name of the subject: Physics of Nanomaterals	L	T	P	C
	Applicable to Programs: M.Sc. Physics	3	1	0	4
Subject Code: SPMS PHY 01 304 DCEC 3104	Prerequisite: Quantum Mechanics, Solid State Physics	Total hours = 60			
	Semester III				

Course Objective:
This course aims to introduce the students to physics of nanosystems as well as emerging area of nanotechnology. In addition, this course provides knowledge about the synthesis, characterization and applications of nanomaterials.

Learning Outcome:

- The students will be able to elucidate the properties of nanomaterials and compare them with their bulk counterparts.
- Topics cover in this paper will enhance the knowledge of students in emerging area of nanotechnology.

UNIT I

Introduction to Nanostructure Materials:
Nanoscience & nanotechnology, Size dependence of properties, Moor's law, Surface energy and Melting point (quasi melting) of nanoparticles, Excitons, Density of states for O, 1, 2 and 3D, Variation of density of states with energy and Size of crystal. Population of conduction and valance band for 0D, 1D, 2D & 3D material.

UNIT II

Quantum Size Effect:
Quantum confinement: carrier and photon, Nanomaterials structures, Two dimensional quantum system, Quantum well, Quantum wire and Quantum dot, Fabrication techniques.

UNIT III

Synthesis of Nanomaterials:
Key issue in the synthesis of Nanomaterials, Different approaches of synthesis, Top down and Bottom up approaches, Thermal and e-beam evaporation, Cluster beam evaporation, Ball Milling, Chemical bath deposition with capping agent, synthesis of graphene and carbon nanotubes (CNT).

UNIT IV

Characterization techniques:
Determination of particle size, XRD (Scherrer's formula), Increase in width of XRD peaks of nanoparticles, Shift in absorption spectra peak of nanoparticles, Shift in photoluminescence peaks, Electron Microscopy: Scanning Electron Microscopy (SEM), Transmission Electron Microscopy(TEM), Scanning Probe Microscopy (SPM), Scanning Tunnelling Electron Microscopy(STEM), and Atomic Force Microscopy (AFM). Estimation of band gap using UV-Vis-NIR spectroscopy, Thermogravimetric analysis.

References:

1. **D. Bimberg, M. Grundmann, N.N. Ledenstov,** Quantum Dot Hetrostructures. John Wiley & Sons, United States, 1st Edition, 1999.
2. **Charles P. Poole, Jr. Frank J. Owens,** Introduction to Nanotechnology, John Wiley & Sons, United States, 1st Edition, 2003.
3. **Guozhong Cao,** Nanostructures & Nanomaterials, Synthesis, Properties & Applications, Imperial College Press. UK. 1st Edition. 2004
4. **Liming Dai,** Carbon Nanotechnology. Elsevier. Netherland. 1st Edition . 2006.
5. **Michael J. O'Connell,** Carbon Nanotubes: Properties and Applications. CRC Press, USA. 1st Edition, 2006.
6. **T. Pradeep,** Nano: The Essentials, McGraw Hill Companies. New York. 1st Edition. 2007.
7. **Hornyak G.L., Tibbals H.F., Dutta J.,Moore J.J.,** Introduction to Nanoscience and Nanotechnology. CRC Press. USA. 1st Edition. 2008.
8. **Guozhong Cao,** Nanostructures & Nanomaterials, Synthesis, Properties & Applications, World Scientific Publisher. Signapore. Volume 2. 2nd Edition. 2011.
9. **Paul Harrison, Alex Valavanis.** Quantum Wells. Wires and Dots:. Theoretical and Computational Physics of Semiconductor Nanostructures. John Wiley & Sons. United States. 4th Edition (2016)

Advanced Statistical Mechanics

Scheme Version: 2019	Name of the subject: Advanced Statistical Mechanics	L	T	P	C
	Applicable to Programs: M.Sc. Physics	3	1	0	4
Subject Code: SPMS PHY 01 305 DCEC 3104	Prerequisite: Quantum Mechanics, Statistical Mechanics	Total hours = 60			
	Semester III				

Course objective: The aim of this course is to aware students about the concept of phase transition, non-equilibrium systems and coarse grained models.

Learning Outcome: The students will be able to learn

- the concepts of phase transition
- various model like Landau and Ising model
- coarse grained models.

UNIT I

Phase Transitions and Critical Phenomena

Thermodynamics of phase transitions, metastable states, Van der Waals' equation of state, coexistence of phases, Landau theory, critical phenomena at second-order phase transitions, spatial and temporal fluctuations, scaling hypothesis, critical exponents, universality classes, Ising model, mean-field theory, exact solution in one dimension.

UNIT II

Nonequilibrium Systems I

Systems out of equilibrium, kinetic theory of a gas, approach to equilibrium and the H theorem, Boltzmann equation and its application to transport problems, master equation and irreversibility, simple examples, ergodic theorem.

UNIT III

Nonequilibrium Systems II

Brownian motion, Langevin equation, fluctuation-dissipation theorem, Einstein relation, Fokker-Planck equation. Time correlation functions, linear response theory, Kubo formula, Onsager relations.

UNIT IV

Coarse-grained Models

Hydrodynamics, Navier-Stokes equation for fluids, simple solutions for fluid flow, conservation laws and diffusion.

References:

1. **E.M. Lifshitz and L.P. Pitaevskii,** Physical Kinetics, Butterworth-Heinmann, UK, 1st Edition, 1981.
2. **L.P. Kadanoff,** Statistical Physics: Statistics, Dynamics and Renormalization, World Scientific Publishing Company, Singapore, 1st Edition, 2000.
3. **P.M. Chaikin and T.C. Lubensky,** Principles of Condensed Matter Physics, Cambridge University Press, 1st Edition, 2000.
4. **Robert Zwanzig,** Nonequilibrium Statistical Mechanics, Oxford University Press, 1st Edition, 2001.
5. **K. Huang,** Statistical Mechanics, Wiley, United States, 2nd Edition, 2008.
6. **R.K. Pathria,** Statistical Mechanics, Elsevier, Netherland, 3rd Edition, 2011.
7. **D.A. McQuarrie,** Statistical Mechanics, Viva Books, New Delhi, 1st Edition, 2011.

General Theory of Relativity

Scheme Version: 2019	Name of the subject: General Theory of Relativity	L	T	P	C
	Applicable to Programs: M.Sc. Physics	3	1	0	4
Subject Code: SPMS PHY 01 306 DCEC 3104	Prerequisite: Quantum Mechanics, Mathematical Methods in Physics I & II	Total hours = 60			
	Semester III				

Course Objectives: To aware students about the different principles of general theory of relativity.

Learning outcome:

- After completing this course the students shall be able to understand the mathematical rigour that goes behind the theory of relativity.
- They will be able to understand few applications of general theory of relativity.

UNIT I

Equivalence principle and Tensors in GTR:
Equality of Gravitational and inertial Masses, Equivalence Principle, Principle of general Covariance; Tensor Analysis: Covariant and Contravariant tensor, Metric Tensor, Parallel Displacement and covariant differentiation, Affine connection and relation to metric tensor, Curvature tensor and its symmetries

UNIT II

Geodesics
Equation of motion of a particle, Weak fields and newtonian approximation, Time and distance in gravitational theory, gravitational red and blue shift, experimental verification, Einstein Field Equation, Schwarzschild Solution, Mach's Principle, Radial motion towards centre, Nature of singularities, Black holes, event horizons, Kruskal coordinates.

UNIT III

Applications of GTR:
General orbits, constants of motion, deflection of light, precession of perihelion and radar echo, Standard, isotropic and harmonic coordinates, Post Newtonian formalism and status of observational verifications

UNIT IV

Energy content and equation of Motion:

Energy momentum for a perfect fluid, equation of motion from field equation for equation of dust. Action principle for field equations, conservation laws in curved space and pseudo energy tensor for energy fields.

References:

1. **P.A.M. Dirac,** General theory of Relativity, Wiley-Blackwell, United States, 1st Edition, 1975.
2. **M. Berry**, Principle of Cosmology and Gravitation, Taylor & Francis, UK, 1st Edition, 1989.
2. **Ray D'Inverno**, Introducing Einstein's General Relativity, Oxford University, 1st Edition, 1992.
3. **S. Weinberg**, Cosmolgy, Oxford University, 1st Edition, 2008.
4. **Tai L. Chow**, Introduction to General theory of Relativity and Cosmology, Springer, Germany, 1st Edition,
   2008.
6. **L.D. Landau and E.M. Lifshitz**, The Classical Theory of Fields, Shroff Publishers, New Delhi, 2nd Edition, 2010

Digital Electronics and Microprocessor

Scheme Version: 2019	Name of the subject: Digital Electronics and Microprocessor	L	T	P	C
	Applicable to Programs: M.Sc. Physics	3	0	2	4
Subject Code: SPMS PHY 01 307 DCEC 3104	Prerequisite: Physics of Semiconductor Devices, Analog Electronics	Total hours = 75			
	Semester III				

Course objective: The aim of the course is to train the students for digital systems, their implementation and application of microprocessor.

Learning outcome: The students will be able to learn

- the basics of digital systems
- digital arithmetic operations
- application as memory devices
- microprocessor and its various operations

UNIT I

Digital Systems : Digital signals, binary number system, conversions, boolean algebra, logic gates, standard gate assemblies, Bipolar and MOS digital systems and their comparison, implementing circuits from boolean expressions, SOP, POS, Simplifying logic circuits: algebraic method, K-mapping, Flip flops: SR, T, D and J-K, Error detection: Parity method, checksum method.

UNIT II

Digital Circuits: Combinational Circuits: Half Adder, Full Adder, Decoder, Encoder, Multiplexer, Demultiplexer and their applications. Sequential Circuits: Shift Register, Parallel and Serial data transfer. Timming Waveforms. Counters: Synchronous and Asynchronous Up, Down, and Bidirectional Counters, Timing Wave forms. Digital to Analog Converters and their properties, weighted resistor and R-2R Ladder type, Analog to digital Converters: Flash, Successive approximation, Sigma- Delta ADC.

UNIT III

Applications: Memory: Read Only Memory (ROM): PROM, EPROM, EEPROM, Applications, Programming a ROM, Random Access Memory(RAM): SRAM, DRAM, Applications, Memory Storage cell, Read and Write operations, Programmable Logic Devices (PLD) Digital Display, Seven segment display.

UNIT IV

8085 Microprocessor: Basics of Microprocessor-8085, PIN description, Microprocessor initiated operations, Internal data operations, Introduction to 8085 assembly language programming, 8085 instruction , General purpose programmable Peripheral devices, Microprocessor Applications, Recent trends in Microprocessor Technology.

Laboratory Assignments:

1. To construct logic gates OR, AND, NOT, NOR, NAND gates using discrete components and verify their truth tables
2. To construct logic gates AND, NOT, EX-NOR and EX-OR using NANAD gates and verify their truth tables.
3. To perform 4 bit DAC and ADC operations
4. To arrange a data set in ascending order using 8080 microprocessor.
5. Use the IC555 chip as astable, bistable and monostable multivibrator.
6. To study various operations of Arithmetic logic Unit (ALU).
7. To perform the addition and subtraction of n 8 bit numbers using 8085 microprocessor
8. To perform the multiplication and division of two 8 bit number using 8085 microprocessor
9. To write a program to arrange an array of data in ascending order using 8085 microprocessor
10. To design and construct multiplexer and demultiplexer and verify their truth tables.
11. To study the encoders and decoders
12. To perform BCD to Binary operation using 8085 microprocessor.

References:

1. **Malvino A.P.** and **Brown A.**, Digital Computer Electronics, Prentice-Hall, India, New Delhi, 3rd Edition, 1999.
2. **Gaonkar R. S.**, Microprocessor Architecture, Programming and Applications, Prentice-Hall, India, New Delhi, 2nd Edition, 2014.
3. **Tocci R. J.**, Digital Systems-Principles and Applications, Prentice Hall of India, New Delhi, 8th Edition, 2015.

Project

Scheme Version: 2019	Name of the subject: Project	L	T	P	C
	Applicable to Programs: M.Sc. Physics	0	0	0	12
Subject Code: SPMS PHY 01 401 PROJ 00012	Prerequisite: None	Total hours = 60			
	Semester IV				

Course Code: SPMS PHY 01 401 PROJ 00012

The dissertation topics will be based on special papers or elective papers and topics of current interest. A departmental committee will distribute the topics according to the skill and merit of the students

Nuclear Physics: Interaction and Detection

Scheme Version: 2019	Name of the subject: Nuclear Physics: Interaction and Detection	L	T	P	C
	Applicable to Programs: M.Sc. Physics	3	1	0	4
Subject Code: SPMS PHY 01 401 DCEC 3104	Prerequisite: Quantum Mechanics, Nuclear and Particle Physics	Total hours = 60			
	Semester IV				

Course Objective: To aware students about the nucleon-nucleon interactions and deformations of nuclei. To aware the students about the interaction of radiations with matter and their detector.

Learning Outcome: Students will be able to understand

- Two body and three body interactions among the nucleons.
- Various aspects of nuclear models that include the high spin states as well as deformations of nuclei.
- Interactions of radiation with matter and their detection using different type of detectors.

UNIT I

N-N interaction:
Phenomenological N-N Potentials (Soft core & hard core) and meson theoretical potentials. Polarization in N-N scattering, .Probing charge distribution with electrons, Form factors, Proton form factors, Qualitative ideas on deep inelastic electron-proton scattering. Bjorken scaling and the patron model, Quark structure of the nucleon.

UNIT II

Nuclear Models
Single particle model of the nucleus. Qualitative discussion and estimates of transition rates. Configuration mixing, Magnetic moments and Schmidt lines. Simple description of Two particle shell model spectroscopy. Deformable liquid drop and nuclear fission. Collective vibrations and excited states, Permanent deformation and collective rotations, Nilsson model and equilibrium deformation, Behavior of Nuclei at high spin.

UNIT III

Radiation Detection: Interaction of radiation with matter, Detection of nuclear radiation and their measurement: Methods for detection of free charge carriers, ionization chamber, Proportional counter, Geiger-Muller counter, Semi-conductor detectors for X-rays, gamma rays, and charged particles detection, Cherenkov detector.

UNIT IV

Nuclear Accelerators: Accelerators of charged particles: Classification and performance characteristics of accelerators, ion sources, Electrostatic accelerators, Cockroft – Walton generator, Cyclotron, Electron and Proton synchrotron. Particle Physics Experiments, Higgs Boson, Large Hadron Collider.

References:

1. **M. A. Preston and R. K. Bhaduri,** Nuclear Structure, Perseus Books Group, USA, 1st Edition, 1993.
2. **S. N. Ghoshal,** Nuclear Physics, S. Chand Limited, New Delhi, 2nd Edition, 1994.
3. **Brown and Jackson,** Nucleon-nucleon Interaction, North-Holland Pub. Co., Amsterdam, 1st Edition 1970.
4. **M.K.Pal,** Nuclear Structure, Pearson Publication, UK, 1st Edition, 2008.
5. **Knoll G. F.,** Radiation Detection and Measurement, John Wiley and Sons, United States, 3rd Edition, (2008).
6. **S.S.M. Wong,** Introductory Nuclear Physics, Prentice Hall, India, New Delhi, 1st Edition, 2013.

Microprocessor and Microcontroller

Scheme Version: 2019	Name of the subject: Microprocessor and Microcontroller	L	T	P	C
	Applicable to Programs: M.Sc. Physics	3	1	0	4
Subject Code: SPMS PHY 01 402 DCEC 3104	Prerequisite: Physics of Semiconductor Devices, Analog Electronics	Total hours = 60			
	Semester IV				

Course Objective: The aim of this course is to make the students aware about architecture and interfacing of microprocessor and microcontrollers.

Learning outcome: Students will be able to understand

- complete instruction set of Intel 8085
- programmable peripheral device 8255A - 8253 Timer Interface
- arithmetic, Logic and Sorting operations
- applications of microcontrollers in communication and industrial controls

UNIT I

Architecture:

8085 Architecture - Programmer's model - ALU - Registers and Flags - Stacks - Complete instruction set of Intel 8085 - State transition and timing diagrams - T States - Machine cycles - Instruction cycles - Addressing modes - Assembly language programs – Timing diagram for memory read and memory write cycles - time delay subroutines and delay calculations – maskable and Non-maskable Interrupts.

UNIT II

Interfacing memory and devices– I/O and Memory mapped I/O – Simple polled I/O and Handshaking operations - Programmable keyboard/display interface 8279 - Programmable peripheral device 8255A - 8253 Timer Interface - Wave form generation (Square, triangular and ramp wave) - Programmable communication interface 8251 (USART).

UNIT III

Microcontroller

Introduction – 8 and 16 bit Microcontroller families –Flash series – Embedded RISC Processor – 8051 Microcontroller Hardware – Internal registers – Addressing modes – Assembly Language Programming – Arithmetic, Logic and Sorting operations.

UNIT IV

Interfacing

Interfacing I/O Ports, External memory, counters and Timers - Serial data input/output, Interrupts – Interfacing 8051 with ADC, DAC, LED display, Keyboard, Sensors and Stepper motor.

Embedded microcontroller system – types of embedded operating system – Micro chip PIC 16C6X /7X family – features – Architecture – Memory Organization – Register file map – I/O ports –

Data and flash program memory – asynchronous serial port – Applications in communication and industrial controls.

References:

1. **Kenneth J. Ayala,** The 8051 Micro Controller Architecture, Programming and Applications, McGraw Hills, New York, 2nd Edition, 1996.
2. **John B. Peatman,** Design with PIC Microcontrollers, McGraw Hills, New York, 1st Edition, 1997
3. **R. S. Gaonkar,** Microprocessor Architecture, programming and Application with the 8085, Cengage Publication, New Delhi, 5th Edition, 2008.
4. **V. Vijayendran,** Fundamentals of Microprocessor 8085 - Architecture, programming and interfacing, Pearson, UK, 1st Edition, 2009.

Nonlinear Dynamics

Scheme Version: 2019	Name of the subject: Nonlinear Dynamics	L	T	P	C
	Applicable to Programs: M.Sc. Physics	3	1	0	4
Subject Code: SPMS PHY 01 403 DCEC 3104	Prerequisite: Mathematical Methods in Physics I and Quantum Mechanics	Total hours = 60			
	Semester IV				

Course Objective: The aim of this course is to aware students aware about Dynamical and dissipative systems within the framework of Hamiltonian mechanics.

Learning outcome: Students will be able to understand

- Physics of nonlinear systems
- Lorentz equations, fractal geometry, generalized dimensions
- Liouville's theorem and representation in action-angle variables
- concept of turbulence.

UNIT I

Introduction to Dynamical Systems
Physics of nonlinear systems, dynamical equations and constants of motion, phase space, fixed points, stability analysis, bifurcations and their classification, Poincare section and iterative maps.

UNIT II

Dissipative Systems
One-dimensional non invertible maps, simple and strange attractors, iterative maps, period doubling and universality, intermittency, invariant measure, Lyapunov exponents, higher dimensional systems, Henon map, Lorenz equations, fractal geometry, generalized dimensions, examples of fractals.

UNIT III

Hamiltonian Systems
Integrability, Liouville's theorem, action-angle variables, introduction to perturbation techniques, KAM theorem, area-preserving maps, concepts of chaos and stochasticity.

UNIT IV

Advanced Topics
Selections from quantum chaos, cellular automata and coupled map lattices, pattern formation, solitons and completely integrable systems, turbulence.

References:

1. **A.J. Lichtenberg and M.A. Lieberman,** Regular and Stochastic Motion, Springer-Verlag, Germany, 1st Edition,1982.

2. **M. Tabor,** Chaos and Integrability in Nonlinear Dynamics, Wiley, United States, 1st Edition, 1989.
3. **A.M. Ozorio de Almeida,** Hamiltonian Systems: Chaos and Quantization, Cambridge University Press, Reprint Edition, 1990.
4. **E.A. Jackson,** Perspectives of Nonlinear Dynamics (Volumes 1 and 2), Cambridge University Press, Reprint edition, 1992.
5. **E. Ott,** Chaos in Dynamical Systems, Cambridge University Press, 2nd Edition, 2002.
6. **M. Lakshmanan and S. Rajasekar,** Nonlinear Dynamics: Integrability, Chaos and Patterns, Springer, Germany, 1st Edition, 2003.

Introduction to Astrophysics and Cosmology

Scheme Version: 2019	Name of the subject: Introduction to Astrophysics and Cosmology	L	T	P	C
	Applicable to Programs: M.Sc. Physics	3	1	0	4
Subject Code: SPMS PHY 01 404 DCEC 3104	Prerequisite: Mathematical Methods in Physics I and Nuclear and Particle Physics	Total hours = 60			
	Semester IV				

Course Objective: To make the students aware about different theoretical and observational technique adopted in understanding astrophysics and cosmology.

Learning Outcome:

- The student will be able to differentiate between various coordinate systems, should know about the characteristics of Sun.
- The student should also be able to grasp concepts like red shift, age of the universe and dark matter & dark energy present in observable universe

UNIT I

Observational Data: Astronomical Coordinates- Celestial Sphere, Horizon, Equatorial, Ecliptic and galactic system of coordinates, Conversion from one coordinate system to another. Magnitude Scale – Apparent and absolute magnitude, distance modulus. Determination of Mass, luminosity, radius, temperature and distance of a star, H-R Diagram, Empirical mass-luminosity relation

UNIT II

Sun : Physical Characteristic of Sun – Basic data, solar rotation, solar magnetic fields, Photosphere- granulation, sun-spots, Babcock model of sunspot formation, solar atmosphere-chromospheres and corona, Solar activity – flares, prominences, Solar wind, activity cycle, Helioseismology

UNIT III

Cosmology : Cosmological Principle, Maximally symmetric spaces, Killing vectors, Robertson Walker Metric, Redshift via Hubble's Law, Magnitude red shift relation, Hubble's Constant and deaccleration parameter,

UNIT IV

Models of Universe:
Einstein equation and standard model, Closed flat and open Universes, Age of the Universe, critical density and problem of missing mass or missing light. History of early Universe, helium formation, decoupling of matter and radiation, microwave background radiation.

References:

1. **J. V. Narlikar,** Introduction to Cosmology, Cambridge University Press , 1st Edition,2000.
2. **M. Zeilik,** Astronomy, The evolving Universe, Cambridge University Press , 1st Edition, 2002.
3. **P.V. Foukal,** Solar Astrophysics , Wiley-VCH, United States, 1st Edition, 2004.
4. **I. Morrison,** Introduction to astronomy and cosmology, Wiley, United States, 1st Edition, 2008

Thin Film and Integrated Devices

Scheme Version: 2019	Name of the subject: Thin Film and Integrated Devices	L	T	P	C
	Applicable to Programs: M.Sc. Physics	3	1	0	4
Subject Code: SPMS PHY 01 405 DCEC 3104	Prerequisite: Physics of Nanomaterial	Total hours = 60			
	Semester IV				

Course Objective: The aim of this course is to make the students aware about material for integrated circuits, metallic and non metallic thin films and various techniques related to lithography.

Learning outcomes: The students will be able to learn

- the basic steps in the formation of Electronic Grade silicon.
- different terminology related to diffusion.
- the basic thin film fabrication techniques such as PVD, Vacuum coating units, D.C and R.F. sputtering and their applications.

UNIT I

Materials for Integrated Circuits:
Classification of IC, CMOS Process Overview, Electronic grade silicon. Crystal growth. Czeehralski and float zone crystal growing methods. Silicon shaping lapping. Polishing and wafer preparation, Hot Processes-I: Oxidation and Diffusion. Oxidation of silicon. oxide deposition by thermal dry oxidation and wet oxidation method Diffusion Process. Diffusion Coefficient. Fick's 1st and 2nd Laws of Diffusion. Vacancy –Impurity interactions. Dopants and Dopant Sources. Doping by Diffusion. ion implantation. Diffusion Process Control. Diffusion Systems. Implantation Technology. Selective Implantation. Junction depth. Channeling. Lattice Damage. Annealing. Dopant Diffusion and Related Operations: Equipment for Diffusion and Related Operations.

UNIT II

Thin Films: Metals and Nonmetals
Vacuum Science and Technology, Evaporation theory and electron beam evaporation. evaporation system. idea of DC and R.F. sputtering system. Physical vapour deposition methods. Design construction of vacuum coating units. Chemicals Vapour Deposition. Reactors for Chemical Vapour Deposition. CVD Applications. Epitaxy methods for thin film deposition. Vapour-Phase Epitaxy, Photolithography, Photoresist Processing and Etching.

UNIT III

Lithography:
Wafer Cleaning methods. Wafer Preparation method: photoresist coating methods. soft backing of photo resist. post exposure backing of photo resist. Negative photoresist. Positive photoresist. Contrast and sensitivity of photoresist. Chemical Modulus Transfer Function (CMTF) of Photoresist, Resist Exposure (single. bi-layer and multi-level photoresist exposure) and Resist Development, Hard Baking and Resist curing, Photolithographic Process Control.

Photolithography: An Overview, Photo lithography source, Photolithographic methods: Contact, proximity and projection and their resolution limit, Idea of electron beam lithography, Idea of an X-ray lithography.

UNIT IV

Interconnections and Contacts and Packaging and Yield

Ohmic Contact Formation, Contact Resistance, Electro-migration, Diffused Interconnections, Poly-silicon Interconnections, Buried Contacts, Butted Contacts, Silicides, Multilayer Contacts, Liftoff Process, Multilevel Metallization. Testing, Die Separation, Die Attachment, Wire Bonding, Packages, Flip-Chip Process, Tape-Automated-Bonding Process, Yield, Uniform and Nonuniform Defect Densities.

References:

1. **K.L. Chopra,** Thin Film Phenomena, McGraw Hill, New York, 1st Edition, 1969.
2. **Millman and Gros,** Microelectronics, McGraw Hill, New York, 1st Edition, 1987.
3. **Millman and Taub,** Integrated Electronics, McGraw Hill, New York, 1st Edition, 2017.
4. **S.M. Sze,** VLSI Technology, McGraw Hill, New York, 2nd Edition, 2017.

Superconductivity: Conventional and High temperature Superconductors

Scheme Version: 2019	Name of the subject: Conventional and High Temperature Superconductors	L	T	P	C
	Applicable to Programs: M.Sc. Physics	3	1	0	4
Subject Code: SPMS PHY 01 405 DCEC 3104	Prerequisite: Quantum Mechanics, Solid State Physics	Total hours = 60			
	Semester IV				

Course Objective: The aim of this course is to understand the intricate mechanism of superconductivity. Various theoretical and experimental concepts have been discussed like, Meissner effect, BCS theory, SQUID and High Temperature Superconductors.

Learning Outcome:

- Students will achieve a platform to comprehend the many applications of Superconductors like Maglev Trains, MRI and fast digital circuits etc.
- Students will be able to understand the various concepts related to superconductors.

UNIT I

Conventional Superconductors:
Brief Introduction of Superconducting materials, critical temperature, zero resistivity, critical field, persistent current, Meissner-Ochsenfeld effect, perfect diamagnetism, type I and type II superconductors: properties of mixed state, vortex state.

UNIT II

London Theory and Ginzburg-Landau Theory:
London's phenomenological theory, London vortex, Penetration depth, Ginzburg-Landau theory, Ginzburg-Landau parameter, Order parameter, Condensation energy, Ginzburg-Landau theory of the Bulk phase transition, Ginzburg-Landau theory in a magnetic field, Flux quantization in a superconducting ring, Isotope effect, thermodynamics of superconductors, thermal specific heat below, density of states and Debye temperature, specific heat in a magnetic field, superconductor in zero field, superconductor in magnetic field.

UNIT III

Microscopic Theory:
BCS Theory of superconductors: electron-phonon interaction, mechanism of Cooper pairing, BCS wave function, Hamiltonian, BCS Energy gap and quasiparticle states, Josephson effects: Josephson junction, DC and AC Josephson effects, Applications of superconducting Magnets, Superconducting Quantum Interference device: SQUIDs schematic diagram and working.

UNIT IV

High temperature Superconductors:

Origin of High temperature superconductivity, Characteristics of High Temperature Superconductors, Crystal Structure and phase diagram, Perovskites, Cubic Form, Orthorhombic Form, Tetragonal Form, YBCO superconductor: Copper Oxide planes, Stacking rules, Hg-Ba-Ca-Cu-O and Tl-Ba-Ca-Cu-O superconductors, crystal structures, layering schemes, applications of superconductors.

References

1. **J. F. Annett**, Superconductivity Superfluids and Condensates, Oxford University Press, 1st Edition, 2004.

2. **P. J. Ford, G. A. Saunders**, The Rise of the Superconductors, CRC Press, USA, 3rd Edition, 2004.

3. G. Deutscher, New Superconductors from Ganular to High, World Scientific Publishing, Singapore, 1st Edition, 2006.

4. **C. P. Poole, H. A. Farach, R. J. Creswic, R. Prozorov,** Superconductivity, Elsevier, Netherland, 3rd Edition, 2014.

हरियाणा केंद्रीय विश्वविद्यालय
CENTRAL UNIVERSITY OF HARYANA
NAAC ACCREDITED 'A' GRADE UNIVERSITY

MEETING OF THE STANDING COMMITTEE ON ACADEMIC MATTERS OF THE ACADEMIC COUNCIL

Minutes

The Academic Council of the University in its 28th resolved to constitute a Standing Committee on Academic matters of the Academic Council to review the course structure, syllabi, scheme of examination and suggested readings etc. proposed to be put up for consideration of the Academic Council. The committee met on 04.11.2019 and 26.11.2019. The recommendations of the committee are as follows:

AGENDA ITEM NO-01: Agenda Items referred to the Standing Committee on Academic matters of the Academic Council for examination and review, vide Resolution No-8 to 14 of the 28th meeting of the Academic Council held on 26.06.2019.

RECOMMENDATIONS:

a. Recommendation of the Board of Studies of the Department of Physics dated 28.03.2019 and School Board of School of Physical and Mathematical Sciences dated 28.03.2019, for the scheme and syllabi of course work for Ph.D. programme in Physics, w.e.f. the Academic Session-2019-20, **recommended for the consideration of the Academic Council with minor modifications**.

b. Recommendation of the Board of Studies of the Department of Physics dated 28.03.2019 and School Board of School of Physical and Mathematical Sciences dated 28.03.2019, for revision of the scheme and syllabi of M.Sc. Physics (Semesters I to IV), w.e.f. the Academic Session-2019-20, **recommended for the consideration of the Academic Council with minor modifications.**

The following Agenda Items referred back for correction in last meeting held on 04.11.2019, were not presented before the Standing Committee by the respective Department(s):

i. Recommendation of the Board of Studies of the Department of Environmental Studies dated 12.03.2019 and School Board of School of Earth, Environment and Space Studies dated 09.05.2019, for revision of the scheme and credit points for course curriculum of M.Sc. (Environmental Science), w.e.f. the Academic Session-2019-20.

ii. Recommendation of the Board of Studies of the Department of Environmental Studies dated 12.03.2019 and School Board of School of Earth, Environment and Space Studies dated 09.05.2019, for the syllabi of newly introduced subjects (Semester-I: 'Elementary Mathematics for Environmental Sciences'/ 'Elementary Biology for Environmental Sciences' & 'Statistical approaches in Environmental Sciences'; Semester-II: 'Solid and Hazardous Waste Management' & 'Agriculture and Environment'), w.e.f. the Academic Session-2019-20

iii. Recommendation of the Board of Studies of the Department of Environmental Studies dated 12.03.2019 and School Board of School of Earth, Environment and Space Studies dated

09.05.2019, for revision of the syllabus of M.Sc. (Environmental Sciences) for Semesters-I to IV, w.e.f. the Academic Session-2019-20

iv. Recommendation of the Board of Studies of the Department of Geography dated 11.03.2019 and School Board of School of Earth, Environment and Space Studies dated 09.05.2019, for revision of the syllabus of M.Sc. (Geography) for Semesters-I to IV, w.e.f. the Academic Session 2019-20

v. Recommendation of the Board of Studies of the Department of Geography dated 11.03.2019 and School Board of School of Earth, Environment and Space Studies dated 09.05.2019, for addition of "Geography of Rural Development" as a Discipline Centric Elective Course in 4th Semester for the batches of 2018-20 and 2019-21 onwards

The Committee showed serious concern over the fact that the Departments as mentioned at i. to v. above could not present their amended drafts before the Committee.

AGENDA ITEM NO-02: Any other Agenda Items duly approved by the BoS and School Board (Course structure, syllabi, scheme of examination and suggested readings etc.) proposed to be put up for consideration of the Academic Council in its next meeting

i. **Recommendation of the BoS and School Board of School of Chemical Sciences for syllabi of M.Sc. Chemistry and course work for the Ph.D. referred back for necessary corrections.**

AGENDA ITEM NO-03: Proposal of Dean, School of Engineering and Technology to opt new scheme and syllabus (ongoing for the current batch) for students who are required to rejoin in order to complete their programme due to shortage of attendance and non-promotion cases etc.

RECOMMENDATIONS: **In view of the interest of the students and smooth functioning of the Department, new scheme and syllabi may be opted for the students who are required to rejoin in order to complete their programme due to shortage of attendance and non-promotion cases etc. The respective Dean/Head(s) shall advise the students to fulfill the required credit requirements of the syllabus in force.**

AGENDA ITEM NO-04: To consider the proposal for creation of new department with nomenclature "Department of Applied Sciences and Humanities" under School of Engineering and Technology.

RECOMMENDATIONS: **The proposal was not found to be justified, so it was turned down.**

AGENDA ITEM NO-05: Proposal for starting of B.Voc (Animal Husbandry and Management) course.

RECOMMENDATIONS: **The proposal of starting B.Voc (Animal Husbandry and Management) programme is very timely as there is tremendous scope in terms of employment in the areas addressing the issue of doubling the famer's income in the country, recommended for the consideration of the Academic Council.**

The recommendations of the Committee may be submitted for approval of the competent authority before submission to Academic Council for consideration.

The meeting ended with a vote of thanks to the chair.

Chairman
(Dean Academic)

Annexure-VII

ज्ञान-विज्ञान विमुक्तये

सत्यमेव जयते

विश्वविद्यालय अनुदान आयोग
University Grants Commission
(मानव संसाधन विकास मंत्रालय, भारत सरकार)
(Ministry of Human Resource Development, Govt. of India)
बहादुरशाह जफ़र मार्ग, नई दिल्ली-110002
Bahadur Shah Zafar Marg, New Delhi-110002
Ph : 011-23236288/23239337
Fax : 011-2323 8858
E-mail : secy.ugc@nic.in

प्रो. रजनीश जैन
सचिव
Prof. Rajnish Jain
Secretary

D.O.No.F.1-1/2018(Journal/CARE)

December, 2019

Respected Sir/Madam,

University Grants Commission in its 543rd meeting held on 9th August, 2019 approved two Credit Courses for awareness about publication ethics and publication misconducts entitled **"Research and Publication Ethics (RPE)"** to be made compulsory for all Ph.D. students for pre-registration course work (**attached as Annexure**).

In view of the above, you are requested to ensure that the above two Credit courses may be made compulsory for all Ph.D. students for pre-registration course work undertaken in your University from the forthcoming academic session.

With regards,

Yours sincerely,

(Rajnish Jain)

TO THE VICE-CHANCELLORS OF ALL UNIVERSITIES

ANNEXURE

Course Title:

- **Research and Publication Ethics (RPE)**-Course for awareness about the publication ethics and publication misconducts.

Course Level:

- 2 Credit course (30 hrs.)

Eligibility:

- M.Phil., Ph.D. students and interested faculty members (It will be made available to post graduate students at later date)

Fees:

- As per University Rules

Faculty:

- Interdisciplinary Studies

Qualifications of faculty members of the course:

- Ph.D. in relevant subject areas having more than 10 years' of teaching experience

About the course

Course Code: CPE- RPE

Overview

- This course has total 6 units focusing on basics of philosophy of science and ethics, research integrity, publication ethics. Hands-on-sessions are designed to identify research misconduct and predatory publications. Indexing and citation databases, open access publications, research metrics (citations, h-index, Impact Factor, etc.) and plagiarism tools will be introduced in this course.

Pedagogy:

- Class room teaching, guest lectures, group discussions, and practical sessions.

Evaluation

- Continuous assessment will be done through tutorials, assignments, quizzes, and group discussions. Weightage will be given for active participation. Final written examination will be conducted at the end of the course.

Course structure

- The course comprises of six modules listed in table below. Each module has 4-5 units.

Modules	Unit title	Teaching hours
Theory		
RPE 01	Philosophy and Ethics	4
RPE 02	Scientific Conduct	4
RPE 03	Publication Ethics	7
Practice		
RPE 04	Open Access Publishing	4
RPE 05	Publication Misconduct	4
RPE 06	Databases and Research Metrics	7
	Total	**30**

Syllabus in detail

THEORY

- **RPE 01: PHILOSOPHY AND ETHICS (3 hrs.)**

1. Introduction to philosophy: definition, nature and scope, concept, branches
2. Ethics: definition, moral philosophy, nature of moral judgements and reactions

- **RPE 02: SCIENTIFICCONDUCT (5hrs.)**

1. Ethics with respect to science and research
2. Intellectual honesty and research integrity
3. Scientific misconducts: Falsification, Fabrication, and Plagiarism (FFP)
4. Redundant publications: duplicate and overlapping publications, salami slicing
5. Selective reporting and misrepresentation of data

- **RPE 03: PUBLICATION ETHICS (7 hrs.)**

1. Publication ethics: definition, introduction and importance
2. Best practices / standards setting initiatives and guidelines: COPE, WAME, etc.
3. Conflicts of interest
4. Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa, types
5. Violation of publication ethics, authorship and contributorship
6. Identification of publication misconduct, complaints and appeals
7. Predatory publishers and journals

PRACTICE

- **RPE 04: OPEN ACCESS PUBLISHING(4 hrs.)**

1. Open access publications and initiatives

2. SHERPA/RoMEO online resource to check publisher copyright & self-archiving policies
3. Software tool to identify predatory publications developed by SPPU
4. Journal finder / journal suggestion tools viz. JANE, Elsevier Journal Finder, Springer Journal Suggester, etc.

- **RPE 05: PUBLICATION MISCONDUCT (4hrs.)**

A. Group Discussions (2 hrs.)

1. Subject specific ethical issues, FFP, authorship
2. Conflicts of interest
3. Complaints and appeals: examples and fraud from India and abroad

B. Software tools (2 hrs.)

Use of plagiarism software like Turnitin, Urkund and other open source software tools

- **RPE 06: DATABASES AND RESEARCH METRICS (7hrs.)**

A. Databases (4 hrs.)

1. Indexing databases
2. Citation databases: Web of Science, Scopus, etc.

B. Research Metrics (3 hrs.)

1. Impact Factor of journal as per Journal Citation Report, SNIP, SJR, IPP, Cite Score
2. Metrics: h-index, g index, i10 index, altmetrics

****

हरियाणा केंद्रीय विश्वविद्यालय

(संसद के अधिनियम संख्या-25 (2009) के तहत स्थापित)

जांट-पाली, महेंद्रगढ़- 123031 (हरियाणा)

Annexure-VIII

CENTRAL UNIVERSITY OF HARYANA

(Established vide Act No. 25 (2009) of Parliament)

Jant-Pali, Mahendergarh-123031 (Haryana)

No: CUH/2019/A&C/217

Date: 07.08.2019

NOTIFICATION

With the approval of the competent authority, the revised Academic Calendar of the University for the Academic Session 2019-20 is notified as under:

ACADEMIC CALENDAR 2019-20 (Revised)
(For all the Post Graduate & B.Voc Programmes)

Classes to begin for the odd semester	15-07-2019 (Monday)
Dispersal of classes for the odd semester	25-11-2019 (Monday)
Preparation and conduct of the Examinations for the odd semester	26-11-2019 (Tuesday) 14-12-2019 (Saturday)
Winter break	15-12-2019 (Sunday) 26-12-2019 (Thursday)
Classes begin for the even semester	27-12-2019 (Friday)
Dispersal of classes for the even semester	08-05-2020 (Friday)
Preparation and conduct of the Examinations for the even semester	09-05-2020 (Saturday) 31-05-2020 (Sunday)
Summer vacation	01-06-2020 (Monday) 30-06-2020 (Tuesday)

Note: Gazetted and Restricted Holidays will be observed as notified by the University of Haryana.

7.8.2019

Assistant Registrar
(Academic & Council Branch)

Copy of above is forwarded to the following for information and necessary action:

1. All Deans/HoDs/TICs, CUH
2. Finance Officer, CUH
3. Controller of Examinations, CUH
4. Director, DDUKK, CUH
5. Vice-Chancellor's Secretariat (for kind information of Vice-Chancellor), CUH
6. Office of the Registrar (for kind information of Registrar), CUH
7. ICT Section, CUH

हरियाणा केंद्रीय विश्वविद्यालय
CENTRAL UNIVERSITY OF HARYANA
NAAC ACCREDITED 'A' GRADE UNIVERSITY

MEETING OF THE STANDING COMMITTEE ON ACADEMIC MATTERS OF THE ACADEMIC COUNCIL

Minutes

The Academic Council of the University in its 28th resolved to constitute a Standing Committee on Academic matters of the Academic Council to review the course structure, syllabi, scheme of examination and suggested readings etc. proposed to be put up for consideration of the Academic Council. The committee met on 04.11.2019 and 26.11.2019. The recommendations of the committee are as follows:

AGENDA ITEM NO-01: Agenda Items referred to the Standing Committee on Academic matters of the Academic Council for examination and review, vide Resolution No-8 to 14 of the 28th meeting of the Academic Council held on 26.06.2019.

RECOMMENDATIONS:

a. Recommendation of the Board of Studies of the Department of Physics dated 28.03.2019 and School Board of School of Physical and Mathematical Sciences dated 28.03.2019, for the scheme and syllabi of course work for Ph.D. programme in Physics, w.e.f. the Academic Session-2019-20, **recommended for the consideration of the Academic Council with minor modifications**.

b. Recommendation of the Board of Studies of the Department of Physics dated 28.03.2019 and School Board of School of Physical and Mathematical Sciences dated 28.03.2019, for revision of the scheme and syllabi of M.Sc. Physics (Semesters I to IV), w.e.f. the Academic Session-2019-20, **recommended for the consideration of the Academic Council with minor modifications.**

The following Agenda Items referred back for correction in last meeting held on 04.11.2019, were not presented before the Standing Committee by the respective Department(s):

i. Recommendation of the Board of Studies of the Department of Environmental Studies dated 12.03.2019 and School Board of School of Earth, Environment and Space Studies dated 09.05.2019, for revision of the scheme and credit points for course curriculum of M.Sc. (Environmental Science), w.e.f. the Academic Session-2019-20.

ii. Recommendation of the Board of Studies of the Department of Environmental Studies dated 12.03.2019 and School Board of School of Earth, Environment and Space Studies dated 09.05.2019, for the syllabi of newly introduced subjects (Semester-I: 'Elementary Mathematics for Environmental Sciences'/ 'Elementary Biology for Environmental Sciences' & 'Statistical approaches in Environmental Sciences'; Semester-II: 'Solid and Hazardous Waste Management' & 'Agriculture and Environment'), w.e.f. the Academic Session-2019-20

iii. Recommendation of the Board of Studies of the Department of Environmental Studies dated 12.03.2019 and School Board of School of Earth, Environment and Space Studies dated

09.05.2019, for revision of the syllabus of M.Sc. (Environmental Sciences) for Semesters-I to IV, w.e.f. the Academic Session-2019-20

iv. Recommendation of the Board of Studies of the Department of Geography dated 11.03.2019 and School Board of School of Earth, Environment and Space Studies dated 09.05.2019, for revision of the syllabus of M.Sc. (Geography) for Semesters-I to IV, w.e.f. the Academic Session 2019-20

v. Recommendation of the Board of Studies of the Department of Geography dated 11.03.2019 and School Board of School of Earth, Environment and Space Studies dated 09.05.2019, for addition of "Geography of Rural Development" as a Discipline Centric Elective Course in 4th Semester for the batches of 2018-20 and 2019-21 onwards

The Committee showed serious concern over the fact that the Departments as mentioned at i. to v. above could not present their amended drafts before the Committee.

AGENDA ITEM NO-02: Any other Agenda Items duly approved by the BoS and School Board (Course structure, syllabi, scheme of examination and suggested readings etc.) proposed to be put up for consideration of the Academic Council in its next meeting

i. **Recommendation of the BoS and School Board of School of Chemical Sciences for syllabi of M.Sc. Chemistry and course work for the Ph.D. referred back for necessary corrections.**

AGENDA ITEM NO-03: Proposal of Dean, School of Engineering and Technology to opt new scheme and syllabus (ongoing for the current batch) for students who are required to rejoin in order to complete their programme due to shortage of attendance and non-promotion cases etc.

RECOMMENDATIONS: **In view of the interest of the students and smooth functioning of the Department, new scheme and syllabi may be opted for the students who are required to rejoin in order to complete their programme due to shortage of attendance and non-promotion cases etc. The respective Dean/Head(s) shall advise the students to fulfill the required credit requirements of the syllabus in force.**

AGENDA ITEM NO-04: To consider the proposal for creation of new department with nomenclature "Department of Applied Sciences and Humanities" under School of Engineering and Technology.

RECOMMENDATIONS: **The proposal was not found to be justified, so it was turned down.**

AGENDA ITEM NO-05: Proposal for starting of B.Voc (Animal Husbandry and Management) course.

RECOMMENDATIONS: **The proposal of starting B.Voc (Animal Husbandry and Management) programme is very timely as there is tremendous scope in terms of employment in the areas addressing the issue of doubling the famer's income in the country, recommended for the consideration of the Academic Council.**

The recommendations of the Committee may be submitted for approval of the competent authority before submission to Academic Council for consideration.

The meeting ended with a vote of thanks to the chair.

Chairman
(Dean Academic)

Approval of Course Structure and Syllabus from School Board

13 messages

Head- Tourism & Hotel Mgmt <hodthm@cuh.ac.in> Thu, Oct 10, 2019 at 7:13 PM
To: deansllch@cuh.ac.in, sanjeevkumar@cuh.ac.in

Dear Sir,

The Department of Tourism & Hotel Management recently has approved the course structure and syllabus of MTTM course started from academic session July,2019 and the same was approved from BOS of the department (ITEM NO.II).
The minutes and the Course structure and Syllabus is attached herewith.
The same has to approved by School Board and hence is requested from your kind self to do needful.
The Constitution of School Board is also attached for your kind reference.
Further, the same has to be forwarded to Academic Council for approval scheduled to be held on 24.0.2019.

Thanking you

Warm Regards

--
Dr. Ankush Ambardar
Head of Department
Department of Tourism & Hotel Management
Central University of Haryana - Mahendergarh.
(M)-9466942556
www.cuh.ac.in

2 attachments

School Board-SLLCH.pdf
350K

BOS Approved MTTM Syllabus For School Board.pdf
8941K

School of Language, Linguistics, Culture and Heritage <deansllch@cuh.ac.in> Fri, Oct 11, 2019 at 7:52 PM
To: drashishdahiya@gmail.com, hodthm@cuh.ac.in, Academic Branch <academicbranch@cuh.ac.in>, rambux.jnu@gmail.com, Raj Kumar <bedamatiraj@gmail.com>, sukhbir singh <ssukhbir@hotmail.com>, "Ms. Rinu" <rinueng@cuh.ac.in>, Arvind Singh Tejawat <arvindtejawat@cuh.ac.in>, vikasmohan@cuh.ac.in, "Dr. Sanjiv Kumar" <sanjivkumar@cuh.ac.in>, rameshkgautamkgautam.du@gmail.com

Respected Sir/Madam
Kindly find attached the pattern and syllabi of MTTM as approved by the Board of Studies for your kind consideration and concurrence. The esteemed members of School Board are requested to suggest the changes, if required.
In this regard, I would make a special request to Prof. Ashish Dahiya who is an expert in the concerned discipline to share his valuable inputs and observations.
The department shall incorporate the changes suggested by you, if any.
Kindly email your inputs and concurrence at your earliest and oblige.
Best regards and thanks.
Yours Sincerely

Dr Sanjiv Kumar, Dean, School of Language, Linguistics, Culture and Heritage and Dean (Academic)
Central University of Haryana, 123031

Begin forwarded message:

From: Head- Tourism & Hotel Mgmt <hodthm@cuh.ac.in>
Date: 10 October 2019 at 7:14:12 PM IST
To: deansllch@cuh.ac.in, sanjeevkumar@cuh.ac.in
Subject: Approval of Course Structure and Syllabus from School Board

[Quoted text hidden]

2 attachments

School Board-SLLCH.pdf
350K

BOS Approved MTTM Syllabus For School Board.pdf
8941K

Mail Delivery Subsystem <mailer-daemon@googlemail.com> Fri, Oct 11, 2019 at 7:53 PM
To: deansllch@cuh.ac.in



The response was:

```
550 5.1.1 The email account that you tried to reach does not exist. Please try double-checking
the recipient's email address for typos or unnecessary spaces. Learn more at
https://support.google.com/mail/?p=NoSuchUser k185sor9692021pge.39 - gsmtp
```

Final-Recipient: rfc822; rameshkgautamkgautam.du@gmail.com
Action: failed
Status: 5.1.1
Diagnostic-Code: smtp; 550-5.1.1 The email account that you tried to reach does not exist. Please try
550-5.1.1 double-checking the recipient's email address for typos or
550-5.1.1 unnecessary spaces. Learn more at
550 5.1.1 https://support.google.com/mail/?p=NoSuchUser k185sor9692021pge.39 - gsmtp
Last-Attempt-Date: Fri, 11 Oct 2019 07:23:53 -0700 (PDT)

---------- Forwarded message ----------
From.. School of Language, Linguistics, Culture and Heritage" <deansllch@cuh.ac.in>
To: drashishdahiya@gmail.com, hodthm@cuh.ac.in, Academic Branch <academicbranch@cuh.ac.in>, rambux.jnu@gmail.com, Raj Kumar <bedamatiraj@gmail.com>, sukhbir singh <ssukhbir@hotmail.com>, "Ms. Rinu" <rinueng@cuh.ac.in>, Arvind Singh Tejawat <arvindtejawat@cuh.ac.in>, vikasmohan@cuh.ac.in, "Dr. Sanjiv Kumar" <sanjivkumar@cuh.ac.in>, rameshkgautamkgautam.du@gmail.com
Cc:
Bcc:
Date: Fri, 11 Oct 2019 19:52:40 +0530
Subject: Fwd: Approval of Course Structure and Syllabus from School Board
Respected Sir/Madam
Kindly find attached the pattern and syllabi of MTTM as approved by the Board of Studies for your kind consideration and concurrence. The esteemed members of School Board are requested to suggest the changes, if required.
In this regard, I would make a special request to Prof. Ashish Dahiya who is an expert in the concerned discipline to share his valuable inputs and observations.
The department shall incorporate the changes suggested by you, if any.
Kindly email your inputs and concurrence at your earliest and oblige.
Best regards and thanks.
Yours Sincerely

Dr Sanjiv Kumar, Dean, School of Language, Linguistics, Culture and Heritage and Dean (Academic)
Central University of Haryana, 123031

Begin forwarded message:

> **From:** Head- Tourism & Hotel Mgmt <hodthm@cuh.ac.in>
> **Date:** 10 October 2019 at 7:14:12 PM IST
> **To:** deansllch@cuh.ac.in, sanjeevkumar@cuh.ac.in
> **Subject: Approval of Course Structure and Syllabus from School Board**
>
> Dear Sir,<di ----- Message truncated -----

School of Language, Linguistics, Culture and Heritage <deansllch@cuh.ac.in> Fri, Oct 11, 2019 at 7:55 PM
To: rameshkgautam.du@gmail.com

Dr Sanjiv Kumar, Professor,
Department of English and Foreign Languages, Dean (Academic) and Director, IQAC
Central University of Haryana, 123031

Begin forwarded message:

> **From:** "School of Language, Linguistics, Culture and Heritage" <deansllch@cuh.ac.in>
> **Date:** 11 October 2019 at 7:53:42 PM IST
> **To:** drashishdahiya@gmail.com, hodthm@cuh.ac.in, Academic Branch <academicbranch@cuh.ac.in>, rambux.jnu@gmail.com, Raj Kumar <bedamatiraj@gmail.com>, sukhbir singh <ssukhbir@hotmail.com>, "Ms. Rinu" <rinueng@cuh.ac.in>, Arvind Singh Tejawat <arvindtejawat@cuh.ac.in>, vikasmohan@cuh.ac.in, "Dr. Sanjiv Kumar" <sanjivkumar@cuh.ac.in>, rameshkgautamkgautam.du@gmail.com
> **Subject: Fwd: Approval of Course Structure and Syllabus from School Board**
>
> [Quoted text hidden]

2 attachments

School Board-SLLCH.pdf
350K

BOS Approved MTTM Syllabus For School Board.pdf
8941K

Raj Kumar <bedamatiraj@gmail.com> Fri, Oct 11, 2019 at 8:22 PM
To: "School of Language, Linguistics, Culture and Heritage" <deansllch@cuh.ac.in>
Cc: drashishdahiya@gmail.com, hodthm@cuh.ac.in, Academic Branch <academicbranch@cuh.ac.in>, rambux.jnu@gmail.com, sukhbir singh <ssukhbir@hotmail.com>, "Ms. Rinu" <rinueng@cuh.ac.in>, Arvind Singh Tejawat <arvindtejawat@cuh.ac.in>, vikasmohan@cuh.ac.in, "Dr. Sanjiv Kumar" <sanjivkumar@cuh.ac.in>, rameshkgautamkgautam.du@gmail.com

Approved.

[Quoted text hidden]

--
Prof. Raj Kumar
Head, Department of English
University of Delhi
Delhi - 110007 (PIN)
Phone: 011-27666757 (O)
Fax: 011-27666343 (O)

Prof. Ashish Dahiya <drashishdahiya@gmail.com> Sat, Oct 12, 2019 at 10:08 AM
To: "School of Language, Linguistics, Culture and Heritage" <deansllch@cuh.ac.in>
Cc: Head- Tourism & Hotel Mgmt <hodthm@cuh.ac.in>, Academic Branch <academicbranch@cuh.ac.in>, rambux.jnu@gmail.com, Raj Kumar <bedamatiraj@gmail.com>, sukhbir singh <ssukhbir@hotmail.com>, "Ms. Rinu" <rinueng@cuh.ac.in>, Arvind Singh Tejawat <arvindtejawat@cuh.ac.in>, Vikas Mohan <vikasmohan@cuh.ac.in>, "Dr. Sanjiv Kumar" <sanjivkumar@cuh.ac.in>, rameshkgautamkgautam.du@gmail.com

Approved as Proposed

Ashish

--
Ashish Dahiya (Ph.D)
Professor & Ex. Director - Institute of Hotel & Tourism Management,
Maharshi Dayanand University (MDU) Rohtak, Haryana, India 124001
(NAAC Accredited Grade 'A+' University with CGPA 3.44 out of 4)
Founder Professor (Tourism & Hotel Mgmt) - Central University of Haryana
Cell- +919992015656 web:- http://www.mdurohtak.ac.in
www.facebook.com/drashishdahiya e- ashish@mdurohtak.ac.in
Founder Editor - JOHAR Journal of Hospitality Application & Research
Associate Editor - International Journal of Hospitality & Tourism Systems http://www.publishingindia.com/ijhts/
Managing Editor- Journal of Tourism - An International Journal
Member Editorial Review Board -Journal of Tourism, Hospitality & Culinary Arts Malaysia
Member Editorial Board - Journal of Tourism & Hospitality - Las Vegas - USA
Member International Board: Journal of Tourism Laws - Australia
Jt. Secretary - Indian Hospitality Congress http://www.hospitalitycongress.in/

[Quoted text hidden]

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sukhbir singh <ssukhbir@hotmail.com> Sat, Oct 12, 2019 at 5:30 PM
To: "School of Language, Linguistics, Culture and Heritage" <deansllch@cuh.ac.in>

Approved.

But be sure you are CUH and not Kurukshetra University (Minutes?).

Sukhbir Singh
Prof. & Dean
School of Buddhist Studies, Philosophy, and Comparative Religions
Nalanda University, Rajgir (Bihar)

From: School of Language, Linguistics, Culture and Heritage <deansllch@cuh.ac.in>
Sent: Friday, October 11, 2019 7:52 PM
To: drashishdahiya@gmail.com <drashishdahiya@gmail.com>; hodthm@cuh.ac.in <hodthm@cuh.ac.in>; Academic Branch <academicbranch@cuh.ac.in>; rambux.jnu@gmail.com <rambux.jnu@gmail.com>; Raj Kumar <bedamatiraj@gmail.com>; sukhbir singh <ssukhbir@hotmail.com>; Ms. Rinu <rinueng@cuh.ac.in>; Arvind Singh Tejawat <arvindtejawat@cuh.ac.in>; vikasmohan@cuh.ac.in <vikasmohan@cuh.ac.in>; Dr. Sanjiv Kumar <sanjivkumar@cuh.ac.in>; rameshkgautamkgautam.du@gmail.com <rameshkgautamkgautam.du@gmail.com>
Subject: Fwd: Approval of Course Structure and Syllabus from School Board

[Quoted text hidden]

School of Language, Linguistics, Culture and Heritage <deansllch@cuh.ac.in> Thu, Oct 17, 2019 at 10:29 AM
To: sukhbir singh <ssukhbir@hotmail.com>

Thanks a lot, Sir!

Dr Sanjiv Kumar, Professor,
Department of English and Foreign Languages, Dean (Academic) and Director, IQAC
Central University of Haryana, 123031

On 12-Oct-2019, at 5:30 PM, sukhbir singh <ssukhbir@hotmail.com> wrote:

[Quoted text hidden]

School of Language, Linguistics, Culture and Heritage <deansllch@cuh.ac.in> Thu, Oct 17, 2019 at 10:29 AM
To: "Prof. Ashish Dahiya" <drashishdahiya@gmail.com>

Thanks a lot, Sir

Dr Sanjiv Kumar, Professor,
Department of English and Foreign Languages, Dean (Academic) and Director, IQAC
Central University of Haryana, 123031

On 12-Oct-2019, at 10:08 AM, Prof. Ashish Dahiya <drashishdahiya@gmail.com> wrote:

[Quoted text hidden]

School of Language, Linguistics, Culture and Heritage <deansllch@cuh.ac.in> Thu, Oct 17, 2019 at 10:30 AM
To: Raj Kumar <bedamatiraj@gmail.com>

Thanks a lot, respected Sir

Dr Sanjiv Kumar, Professor,
Department of English and Foreign Languages, Dean (Academic) and Director, IQAC
Central University of Haryana, 123031

On 11-Oct-2019, at 8:23 PM, Raj Kumar <bedamatiraj@gmail.com> wrote:

[Quoted text hidden]

Vikas Mohan <vikasmohan@cuh.ac.in> Wed, Oct 23, 2019 at 4:05 PM
To: "School of Language, Linguistics, Culture and Heritage" <deansllch@cuh.ac.in>
Cc: drashishdahiya@gmail.com, Head- Tourism & Hotel Mgmt <hodthm@cuh.ac.in>, Academic Branch <academicbranch@cuh.ac.in>, rambux.jnu@gmail.com, Raj Kumar <bedamatiraj@gmail.com>, sukhbir singh <ssukhbir@hotmail.com>, "Ms. Rinu" <rinueng@cuh.ac.in>, Arvind Singh Tejawat <arvindtejawat@cuh.ac.in>, "Dr. Sanjiv Kumar" <sanjivkumar@cuh.ac.in>, rameshkgautamkgautam.du@gmail.com

Dear Sir,

Approved as proposed.

Regards,
Vikas Mohan

[Quoted text hidden]

Dr. Sanjiv Kumar <sanjivkumar@cuh.ac.in> Wed, Oct 23, 2019 at 4:04 PM
To: "School of Language, Linguistics, Culture and Heritage" <deansllch@cuh.ac.in>
Cc: "Dr. Ashish Dahiya" <drashishdahiya@gmail.com>, Head- Tourism & Hotel Mgmt <hodthm@cuh.ac.in>, Academic Branch <academicbranch@cuh.ac.in>, rambux.jnu@gmail.com, Raj Kumar <bedamatiraj@gmail.com>, sukhbir singh <ssukhbir@hotmail.com>, "Ms. Rinu" <rinueng@cuh.ac.in>, Arvind Singh Tejawat <arvindtejawat@cuh.ac.in>, vikasmohan@cuh.ac.in, rameshkgautamkgautam.du@gmail.com

Approved as recommended by BoS. Regards
[Quoted text hidden]

--

Dr. Sanjiv Kumar, Professor
Department of English & Foreign Languages
Central University of Haryana, 123031
9416132765

Head- Tourism & Hotel Mgmt <hodthm@cuh.ac.in> Wed, Oct 23, 2019 at 4:06 PM
To: "Prof. Ashish Dahiya" <drashishdahiya@gmail.com>
Cc: deansllch@cuh.ac.in, Academic Branch <academicbranch@cuh.ac.in>, rambux.jnu@gmail.com, Raj Kumar <bedamatiraj@gmail.com>, sukhbir singh <ssukhbir@hotmail.com>, "Ms. Rinu" <rinueng@cuh.ac.in>, Arvind Singh Tejawat <arvindtejawat@cuh.ac.in>, Vikas Mohan <vikasmohan@cuh.ac.in>, "Dr. Sanjiv Kumar" <sanjivkumar@cuh.ac.in>, rameshkgautamkgautam.du@gmail.com

Approved as Proposed
[Quoted text hidden]

Final-Recipient: rfc822; rameshkgautamkgautam.du@gmail.com
Action: failed
Status: 5.1.1
Diagnostic-Code: smtp; 550-5.1.1 The email account that you tried to reach does not exist. Please try
550-5.1.1 double-checking the recipient's email address for typos or
550-5.1.1 unnecessary spaces. Learn more at
550 5.1.1 https://support.google.com/mail/?p=NoSuchUser x75sor11693168vsx.82 - gsmtp
Last-Attempt-Date: Wed, 23 Oct 2019 03:36:50 -0700 (PDT)

---------- Forwarded message ----------
From: "Head- Tourism & Hotel Mgmt" <hodthm@cuh.ac.in>
To: "Prof. Ashish Dahiya" <drashishdahiya@gmail.com>
Cc: deansllch@cuh.ac.in, Academic Branch <academicbranch@cuh.ac.in>, rambux.jnu@gmail.com, Raj Kumar <bedamatiraj@gmail.com>, sukhbir singh <ssukhbir@hotmail.com>, "Ms. Rinu" <rinueng@cuh.ac.in>, Arvind Singh Tejawat <arvindtejawat@cuh.ac.in>, Vikas Mohan <vikasmohan@cuh.ac.in>, "Dr. Sanjiv Kumar" <sanjivkumar@cuh.ac.in>, rameshkgautamkgautam.du@gmail.com
Bcc:
Date: Wed, 23 Oct 2019 16:06:37 +0530
Subject: Re: Approval of Course Structure and Syllabus from School Board
Approved as Proposed

On Sat, Oct 12, 2019, 10:08 AM Prof. Ashish Dahiya <drashishdahiya@gmail.com> wrote:
<blockquote class="gmai ----- Message truncated -----

Arvind Singh Tejawat <arvindtejawat@cuh.ac.in> Wed, Oct 23, 2019 at 5:01 PM
To: Head- Tourism & Hotel Mgmt <hodthm@cuh.ac.in>
Cc: "Prof. Ashish Dahiya" <drashishdahiya@gmail.com>, deansllch@cuh.ac.in, Academic Branch <academicbranch@cuh.ac.in>, rambux.jnu@gmail.com, Raj Kumar <bedamatiraj@gmail.com>, sukhbir singh <ssukhbir@hotmail.com>, "Ms. Rinu" <rinueng@cuh.ac.in>, Vikas Mohan <vikasmohan@cuh.ac.in>, "Dr. Sanjiv Kumar" <sanjivkumar@cuh.ac.in>, rameshkgautamkgautam.du@gmail.com

Approved as proposed
[Quoted text hidden]

Dr. Rinu Yadav <rinueng@cuh.ac.in> Wed, Oct 23, 2019 at 5:27 PM
To: Arvind Singh Tejawat <arvindtejawat@cuh.ac.in>
Cc: Head- Tourism & Hotel Mgmt <hodthm@cuh.ac.in>, "Prof. Ashish Dahiya" <drashishdahiya@gmail.com>, deansllch@cuh.ac.in, Academic Branch <academicbranch@cuh.ac.in>, rambux.jnu@gmail.com, Raj Kumar <bedamatiraj@gmail.com>, sukhbir singh <ssukhbir@hotmail.com>, Vikas Mohan <vikasmohan@cuh.ac.in>, "Dr. Sanjiv Kumar" <sanjivkumar@cuh.ac.in>, rameshkgautamkgautam.du@gmail.com

Respected Sir, I approve the same as recommended by BOS.
Thanks & Regards
Dr. Rinu Yadav
Assistant Professor
Department of English & Foreign Languages
School of Language, Linguistics, Culture & Heritage
Central University of Haryana
Contact no. 8222888271

[Quoted text hidden]

CENTRAL UNIVERSITY OF HARYANA
DEPARTMENT OF TOURISM AND HOTEL MANAGEMENT
KURUKSHETRA UNIVERSITY

Minutes of the Board of Studies meeting held on 01.10.2019 at 11.00 AM in the office of the HOD, Department of Tourism and Hotel Management, Central University of Haryana.

MEMEBERS PRESENT
Dr. Ankush Ambardar
Mr. Vikas Mohan
Ms. Shikha
Mr. Amandeep

The following agenda was taken-up in the meeting:

ITEM NO I: CONFIRMATION OF PROGRESS OF DEPARTMENT SINCE PREVIOUS MEETING:

The members were appraised of the developments of the department since previous meeting.

ITEM NO II: TO DISCUSS AND APPROVE THE COURSE STRUCTURE AND SYLLABUS FOR MTTM PROGRAM DESIGNED UNDER CHOICE BASED CREDIT SYSTEM (CBCS) OFFERED BY DEPARTMENT OF TOURISM AND HOTEL MANAGEMENT FROM THE SESSION JULY-2019-21:

The members discussed and approved the course structure and syllabus of the MTTM program under CBCS offered by the department from session July-2019.

ITEM NO III: TO PROPOSE THE NAME OF THEORY PAPER SETTERS (PANEL) FOR SUBJECTS OF MHMCT PROGRAM (ALL SEMESTERS) AND MTTM PROGRAM (SEMESTER I & II) OFFERED BY DEPARTMENT OF TOURISM AND HOTEL MANAGEMENT FOR END SEMESTER EXAMINATION TO BE HELD IN DECEMBER-2019 AND MAY -2020.

The members proposed and approved the names of theory paper setters for the subject of MHMCT program (all semesters) and MTTM program (1st & 2nd semesters) to be held in December-2019 and May-2020 respectively. {Annexure-I (H) & Annexure-I (T)}

ITEM NO IV: TO APPROVE PROPOSED PANEL OF INTERNAL AND EXTERNAL EXAMINERS FOR PRACTICAL EXAMINATION OF MHMCT (ALL SEMESTERS) FOR END TERM EXAMINATION DECEMBER-2019 AND MAY 2020:

The members proposed and approved the panel of internal and external examiners for practical examinations of MHMCT (all semesters) for end term examinations to be held in December-2019 and May-2020 respectively. {Annexure – III (H-P)}

ITEM NO V: TO REVIEW THE SYLLABUS FOR MHMCT PROGRAMME OF DEPARTMENT OF TOURISM AND HOTEL MANAGEMENT FOR PAPER SETTING PURPOSES.

The members reviewed the syllabus of MHMCT program for paper setting purposes.

ITEM NO VI: TO PROPOSE AND APPROVE MODERATORS FOR THE PAPER SETTING OF BOTH PROGRAMS MHM&CT/MTTM.
The members proposed and approved the names of three experts to act as moderators in each courses of the department respectively. {Annexure-III (H) Annexure-III (T)}

ITEM NO V: ANY OTHER ITEM:

1. GETTING APPROVAL FROM EXTERNAL MEMEBERS OF BOARD FOR ABOVE AGENDAS TAKEN UP:
   The internal members decided to e.mail the agenda to External members of the board for kind approval of the agenda taken up in this meeting.

No other item was discussed in the meeting.

The meeting ended with a vote of thanks to the Chair.

Mr. Vikas Mohan

Ms. Shikha

Mr. Amandeep

(Ankush Ambardar)
HOD

Endst,.No. DTHM/2019/172
Copy to: A.R. (Academic), CUH
All the members of Board

Dated: 10/10/2019

Tourism & Hotel Management <hodthm@cuh.ac.in>

Approval of Course Structure and Syllabus from School Board

School of Language, Linguistics, Culture and Heritage <deansllch@cuh.ac.in> Fri, Oct 11, 2019 at 7:52 PM
To: drashishdahiya@gmail.com, hodthm@cuh.ac.in, Academic Branch <academicbranch@cuh.ac.in>, rambux.jnu@gmail.com, Raj Kumar <bedamatiraj@gmail.com>, sukhbir singh <ssukhbir@hotmail.com>, "Ms. Rinu" <rinueng@cuh.ac.in>, Arvind Singh Tejawat <arvindtejawat@cuh.ac.in>, vikasmohan@cuh.ac.in, "Dr. Sanjiv Kumar" <sanjivkumar@cuh.ac.in>, rameshkgautamkgautam.du@gmail.com

Respected Sir/Madam
Kindly find attached the pattern and syllabi of MTTM as approved by the Board of Studies for your kind consideration and concurrence. The esteemed members of School Board are requested to suggest the changes, if required.
In this regard, I would make a special request to Prof. Ashish Dahiya who is an expert in the concerned discipline to share his valuable inputs and observations.
The department shall incorporate the changes suggested by you, if any.
Kindly email your inputs and concurrence at your earliest and oblige.
Best regards and thanks.
Yours Sincerely

Dr Sanjiv Kumar, Dean, School of Language, Linguistics, Culture and Heritage and Dean (Academic)
Central University of Haryana, 123031

Begin forwarded message:

From: Head- Tourism & Hotel Mgmt <hodthm@cuh.ac.in>
Date: 10 October 2019 at 7:14:12 PM IST
To: deansllch@cuh.ac.in, sanjeevkumar@cuh.ac.in
Subject: Approval of Course Structure and Syllabus from School Board

[Quoted text hidden]

2 attachments

School Board-SLLCH.pdf
350K

BOS Approved MTTM Syllabus For School Board.pdf
8941K

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Tourism &

No recent chats
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Approval of Course Structure and Syllab

Head- Tourism & Hotel Mgmt
Dear Sir, The Department of Tourism & Hotel Management recent

School of Language, Linguistics, Culture and Heritage
Respected Sir/MadamKindly find attached the pattern and syllabi

Raj Kumar
Approved.

Prof. Ashish Dahiya
to Linguistics,, me, Academic, rambux.jnu, Raj, sukhbir, Rinu, Arvind, V

Approved as Proposed

Ashish
--
Ashish Dahiya (Ph.D)
Professor & Ex. Director - Institute of Hotel & Tourism Management,
Maharshi Dayanand University (MDU) Rohtak, Haryana, India 124001
(NAAC Accredited Grade 'A+' University with CGPA 3.44 out of 4)
Founder Professor (Tourism & Hotel Mgmt) - Central University of Haryana
Cell- +919992015656 web:- http://www.mdurohtak.ac.in

Board of Studies, DTHM-CUH

Inbox

Head- Tourism & Hotel Mgmt <hodthm@cuh.ac.in> Oct 5, 2019, 9:07 PM (5 days ago)
to Manjula, Academic

Respected Prof. Chaudhary

Greetings!!

First of all, I wish to thank for your continuous support in academic assignments with DTHM-CUH. It would have been pleasure, if you could have visited our premises for scheduled BOS-01/10/2019.
We can understand your busy schedule and would request you to kindly go through the BOS agendas that had to be discussed on the scheduled date. The internal members of the BOS have gone through all items/agendas of the meeting on 01.10.2019 and have confirmed the same. The agenda were:

1. To discuss and approve the course structure and syllabus for MTTM program designed under choice based credit system (CBCS) from the session July-2019-21.
2. To propose the name of theory paper setters (Panel) for subjects of MHMCT program (All Semesters) and MTTM program (Semester I & II) for end semester examination to be held in December-2019 and May -2020.
3. To approve proposed panel of Internal and External Examiners for Practical Examination of MHMCT (All Semesters) for end term examination December-2019 and May 2020.
4. To approve moderators for theory papers in both MHM&CT and MTTM courses respectively.

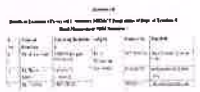
Hereby I am attaching the detailed course structure/syllabus of MTTM and list of examiners for both MHM&&CT/MTTM courses and is requested that you may amend or give your recommendations, if any and further approve the same.

Approval form your side in short time would be appreciated.

Warm Regards

Dr. Ankush Ambardar
Head of Department
Department of Tourism & Hotel Management
Central University of Haryana - Mahendergarh.
(M)-9466942556
www.cuh.ac.in

3 Attachments



W Theory & Practic...



W Theory External ...



W Tourism Syllabus...



Manjula Chaudhary Oct 9, 2019, 6:39 PM (14 hours ago)
to me

Approved as proposed

Manjula Chaudhary
Professor
Department of Tourism and Hotel Management, Kurukshetra University
Dean Academic Affairs, Kurukshetra University
Former Dean, Faculty of Commerce and Management
Kurukshetra University Kurukshetra
Ex Director, Indian Institute of Tourism and Travel Management, Ministry of Tourism, Govt of India



Programme Structure

Master of Tourism & Travel Management (MTTM)

(Two Year Programme)

Under Choice Based Credit System

Academic Session 2019-2021

Central University of Haryana

MAHENDERGARH

Central University of Haryana

Department of Tourism and Hotel Management

Programme- MTTM

Session: 2019-2021

Semester: First

Sl. No.	Course Code	Course Title	Core/GEC /DCEC	L	T	P	C
1	SLLCH THM 02 01 01 C 5005	Introduction to Tourism	Core	5	0	0	5
2	SLLCH THM 02 01 02 C 5005	Tourism Products of India	Core	5	0	0	5
3	SLLCH THM 02 01 03 C 4004	Travel Agency and Tour Operations	Core	4	0	0	4
4	SLLCH THM 02 01 04 C 4004	Fundamentals of Management in Tourism	Core	4	0	0	4
Discipline Centric Elective Course (opt at least one)							
5	SLLCH THM 02 01 01 DCEC 4004	Soft Skills in Tourism Industry	DCEC	4	0	0	4
6	SLLCH THM 02 01 02 DCEC 4004	Understanding Tourism Ethics	DCEC	4	0	0	4
7	**To be taken as per requirement of the ordinance**		GEC	-	-	-	4
General Elective Course offered to students of other Departments							
8	SLLCH THM 02 01 01 GEC 4004	Dynamics of Tourism	GEC	4	0	0	4

L- Lecture, T-Theory, P- Practical, C-Credits, S- Seminar, Core GEC- General Elective Course, DCEC- Discipline Centric Elective Course,

Semester: Second

Sl. No.	Course Code	Course Title	Core/GEC/ DCEC	L	T	P	C
1	SLLCH THM 02 02 01 C 5005	Itinerary Preparation and Tour Packaging	Core	5	0	0	5
2	SLLCH THM 02 02 02 C 5005	Tourism Economics	Core	5	0	0	5
3	SLLCH THM 02 02 03 C 4004	Emerging Trends In Tourism	Core	4	0	0	4
4	SLLCH THM 02 02 04 C 4004	Human Resource Management in Tourism	Core	4	0	0	4
Discipline Centric Elective Course (opt at least one)							
5	SLLCH THM 02 02 01 DCEC 4004	Adventure Tourism	DCEC	4	0	0	4
6	SLLCH THM 02 02 02 DCEC 4004	Hospitality Management In Tourism	DCEC	4	0	0	4
7	**To be taken as per requirement of the ordinance**		GEC	-	-	-	4
General Elective course offered to students of other Departments							
8	SLLCH THM 02 02 01 GEC 4004	Tourism Attractions	GEC	4	0	0	4

L- Lecture, T- Theory, P- Practical, C- Credits, S- Seminar, GEC- General Elective Course , DCEC- Discipline Centric Elective Course, SEEC- Skill Enhancement Elective Course

Semester: Third

Sl. No.	Course Code	Course Title	Core/GEC/DCEC	L	T	P	C
1	SLLCH THM 02 03 01 C 5005	Tourism Geography	Core	5	0	0	5
2	SLLCH THM 02 03 02 C 5005	Destination Planning and Development	Core	5	0	0	5
3	SLLCH THM 02 03 03 C 4004	Research In Tourism	Core	4	0	0	4
4	SLLCH THM 02 03 04 C 4004	Tourism Marketing	Core	4	0	0	4
Discipline Centric Elective Course (opt at least one)							
5	SLLCH THM 02 03 01 DCEC 4004	ICT For Tourism	DCEC	4	0	0	4
6	SLLCH THM 02 03 02 DCEC 4004	Sustainable Tourism	DCEC	4	0	0	4
7	**To be taken as per requirement of the ordinance**		GEC	-	-	-	4
General Elective course offered to students of other Departments							
8	SLLCH THM 02 03 01 GEC 4004	Tour Planning and Management	GEC	4	0	0	4

L- Lecture, T- Theory, P- Practical, C-Credits, S- Seminar, GEC- General Elective Course , DCEC- Discipline Centric Elective Course,

Semester: Fourth

Sl. No.	Course Code	Course Title	Core/GEC/DCEC	L	T	P	C
1	SLLCH THM 02 04 01 C 00022	Industrial Training/Job Training and Project/ Dissertation	Core	0	0	0	20
2	SLLCH THM 02 04 02 C 1012	Tourism Entrepreneurship and Careers	Core	1	0	1	2
Discipline Centric Elective Course (opt any one)							
3	SLLCH THM 02 04 02 DCEC 2114	Ticketing in Tourism	DCEC	2	1	1	4
4	SLLCH THM 02 04 03 DCEC 2114	MICE Tourism	DCEC	2	1	1	4
General Elective Course offered to other Departments							
5	SLLCH THM 02 04 01 GEC 2024	Exploring Tourism In Haryana	GEC	2	0	2	4

L- Lecture, T- Theory, P- Practical, C-Credits, S- Seminar, GEC- General Elective Course , DCEC- Discipline Centric Elective Course, SEEC- Skill Enhancement Elective Course, CC- Common Core

Semester: First

Sl. No.	Course Code	Course Title	Core/GEC /DCEC	L	T	P	C
1	SLLCH THM 02 01 01 C 5005	Introduction to Tourism	Core	5	0	0	5
2	SLLCH THM 02 01 02 C 5005	Tourism Products of India	Core	5	0	0	5
3	SLLCH THM 02 01 03 C 4004	Travel Agency and Tour Operations	Core	4	0	0	4
4	SLLCH THM 02 01 04 C 4004	Fundamentals of Management in Tourism	Core	4	0	0	4
Discipline Centric Elective Course (opt at least one)							
5	SLLCH THM 02 01 01 DCEC 4004	Soft Skills in Tourism Industry	DCEC	4	0	0	4
6	SLLCH THM 02 01 02 DCEC 4004	Understanding Tourism Ethics	DCEC	4	0	0	4
7	**To be taken as per requirement of the ordinance**		GEC	-	-	-	4
General Elective Course offered to students of other Departments							
8	SLLCH THM 02 01 01 GEC 4004	Dynamics of Tourism	GEC	4	0	0	4

L- Lecture, T-Theory, P- Practical, C-Credits, S- Seminar, Core GEC- General Elective Course ,DCEC- Discipline Centric Elective Course,

INTRODUCTION TO TOURISM

Course Code - SLLCH THM 02 01 01 C 5005 **Credit - 5**

Unit -1

Tourism and its Concept

4.1 Definition, Historical development of Tourism and Tourism Terminologies
4.2 Forms of Tourism – Inbound, Outbound, National, International
4.3 Nature, Scope and Characteristics of Tourism, Travel Motivations
4.4 Need for Measurement of Tourism, Interdisciplinary Approaches

Unit-2

Impacts of Tourism

2.1 Different Tourism Systems- Leiper's Geo-spatial Model, Mill-Morrison, Mathieson & Wall, Butler's Tourism Area Life Cycle (TALC) - Doxey'sIrridex Index – Demonstration Effect – Crompton's Push and Pull Theory, Stanley Plog's Model, Gunn's Model
2.2 Tourism Impacts: Economic Social, Cultural, and Environmental
2.3 Positive & Negative Impacts of Tourism
2.4 Factors Affecting the Future of Tourism Business, Seasonality, Sociology of Tourism,

Unit-3

Transport Management

3.1Historical Development of Transportation
3.2 Role of Transportation in Tourism
3.3 Major transport systems in India – Rail, Road, Air and Water transport
3.4 Indian Railway Network, Luxury Trains of India, Planning itineraries on Indian Railways

Unit-4

Tourism Organizations

2.5 Tourism Organizations and their significance in tourism growth.
4.2 Objectives and role of tourism organizations UNWTO, Pacific Asia Travel Association (PATA), International Air Transport Association (IATA)
4.3 Travel Agents Association of India (TAAI), Indian Association of Tour Operators (IATO)
4.4 ITDC, STDC, FHRAI, Civil Aviation of Government of India, Ministry of Tourism.

Suggested Readings:

- Anand. M.M. (1976). Tourism and hotel Industry in India. New Delhi. Prentice Hall
- Bhatia. A. K. (1986). Tourism development: Principles, Practices and Philosophies. New Delhi. Sterling Publishers.
- Bhatia. A. K. (1994). International Tourism. New Delhi. Sterling Publishers.
- McIntosh, Robert, W. Goldner. Charles. (1990). Tourism: Principles, Practices and Philosophies. (9th). New York. John Wiley and Sons Inc.
- Mill. Robert Christie and Alastair M. Morrison. (1985). The Tourism System, Englewood Cliffs.N.J. Prentice Hall
- Negi, J.M.S. (1998). Tourism and Travel- Concepts and principles.New Delhi. Gitanjali Publishing House
- Robinson. H.A. (1976) Geography of Tourism. London. Me Donald and Evans.

TOURISM PRODUCTS OF INDIA

Course Code - SLLCH THM 02 01 02 C 5005 Credit: 5

Unit-1

Concepts, Characteristics & Types of Tourism Product

1.1 Introduction, Meaning and Importance
1.2 Nature and Characteristic of Tourism Products of India
1.3 Types of Tourism Product, Seasonality and Diversities
1.4 Historical monuments of India – Ancient temples, Caves, Stupas, Monasteries, forts, palaces, Islamic and colonial art and architecture, Indian rituals, Dresses

Unit-2

Wild Life Sanctuaries and National Parks

2.1 Major National Parks
2.2 Wildlife Sanctuaries and Biosphere reserves of India and their Locations - Accessibility, Facilities, Amenities Accommodation
2.3 Beach Resorts of India - Locations, Accessibility, Facilities, Amenities
2.4 Indian Architecture, Fairs and Festivals

Unit-3

Historical and Religious Tourist Places

3.1 Meaning, Heritage Sitesof India ,Preservation Of Heritage Sites
3.2 Indian Museums, Art Galleries
3.3 Major religious centers of India
3.4 Tourist Places associated with the work and life of legendry figures

Unit-4

Tourism Product Development

4.1 Factors Affecting the Development of Tourism Products, Tourism Product Creation
4.2 Product Development – Product Life Cycle & Its Various Stages
4.3 Tourism Development Policies
4.4 Tourism Product Pricing

Suggested Readings

- Abid Hussain, S. (2003). The National Culture of India. New Delhi. National Book Trust
- Acharya, Ram, (1980). Tourism and Cultural Heritage of India. Jaipur. R.B.S.A.
- Ahmad, Aizaz: General Geography of India, NCERT, New Delhi
- Boniface, P. (1993). Heritage and Tourism in "the Global Village" .London. Rutledge. London.
- Gupta I.C. and Susharna Kasbekar. (1995).Tourism Products India. Indore. GA Publications.
- Hill Stations of India - Gillan Wright, Penguin Books, New Delhi
- National Atlas of India. (1997). Calcutta. Govt. of India Publication.
- Report 2009-2010, Ministry of Tourism, Government of India



TRAVEL AGENCY AND TOUR OPERATIONS

Course Code - SLLCH THM 02 01 03 C 4004 Credit - 4

Unit -1:
Introduction

1.1 Travel Agencies and Tour Operators- meaning, concept, types and importance
1.2 Historical growth and development of travel agency
1.3 Tour operation Business, Linkages and Integrations in Travel Agency and Tour Operation
1.4 The future Role of Travel Intermediaries

Unit-2:
Tour Operators

2.1 Passport, VISA, Health Certificate for International Travel, TIM
2.2 Tour operator-Role and Responsibilities
2.3 Types of Tour Operators
2.4 Tours Package& Types

Unit -3:
Travel Agency Set Up

3.1 Permission for Travel Agents
3.2 Infrastructure, Location , Finance
3.3 Tour Operators by Department of Tourism
3.4 Government of India and IATA Ownership Procedure

Unit:- 4:
Travel Agency

4.1 The Travel Agencies of India
4.2 Profile of Modern Travel Agencies
4.3 Travel Documentation
4.4 Sources of earning : commissions, service charges etc

Suggested Readings:

- Gee, Chuck and Y. Makens. (1990). Professional Travel Agency Management. New York. Prentice Hall
- Holloway, J. c.(1983). The Business of Tourism. Polymouth. London. Mac Donald and Evan.
- Mohinder Chand.(2007). Travel Agency Management: An Introductory Text. New Delhi. Anmol Publications Pvt. Ltd.
- Stevens Laurence (1990). Guide to Starting and Operating Successful Travel Agency. New York. Delmar Publishers Inc.
- Syratt Gwenda. (1995). Manual of Travel Agency Practice. London. Butterworth Heinmann

FUNDAMENTALS OF MANGEMENT IN TOURISM

Course Code - SLLCH THM 02 01 04 C 4004 Credit: 4

Unit-1

1.1 Definition, nature, purpose and scope of management in Tourism Business
1.2 Managerial functions, levels of management, qualities of successful manager.
1.3 Skills of manager, roles of manager, emerging challenges of management
1.4 Managerial processes, functions, skills, and roles in Tourism organizations, Systems, contingency and operational approaches to management, CSR in Tourism

Unit-2

2.1 Nature and purpose of planning, types and process of planning Tourism Organizations
2.2 External and internal environment affecting managerial decisions – social responsibilities of business – evolution of management thought
2.3 functions of planning, organizing, staffing, directing and controlling in Tourism Management
2.4 Decision making- nature, importance, steps and techniques in decision- making.

Unit- 3

3.1 Significance, process, formal and informal organization in Tourism Industry
3.2 Organization structure- considerations in designing an organizing structure& Types
3.3 Understanding & Managing Individual & Group Behavior – Personality, Perception, Learning, Values & attitudes, persuasion, Theories of Motivation, Factors affecting group behavior
3.4 Staffing- objectives, elements/ steps in staffing, group & individual dimensions, understanding work team in Tourism Industry

Unit-4

4.1 Directing- Nature, importance, techniques/elements of directing, supervision- functions and qualities of supervisor in Tourism Industry
4.2 Communication, Leadership & influence process, Organization structure, centralization vs decentralization, strategy & structure, flat & tall structures, work specialization, departmentalization.
4.3 Leadership- Importance, qualities of leadership in Tourism Industry, factor influencing performance of leader, leadership styles. Chain of command, span of control and formalization, Common organizational designs – Simple
4.4 Organization as an open system & influence of environment over organizational dynamics with reference to technological innovations in Tourism

Suggested Readings:

- Bruece M. Whitehead. (2012).The principle: Leadership for a Globule Society. New York. Sage Publications
- Meenakshi Gupta. (2009). Principles of Management. New Delhi. Phi Learning Publication
- Meson Carpenter. (2013). Principles of Management.Version-2. Boston. Flat World Knowledge.
- R.K.Singla. (2008). Principles of Management. New Delhi. V.K. Publications.
- Radhakrishnan, Chanakya. (2014). Seven Secrets of Leadership. New Delhi. Jaico publication House.
- Rudani. (2013). Principle of Management, New York. Tata McGrawhill.
- T. N. Chabra. (2012). Management; Principle and Application. New Delhi. Sun India Publication.

SOFT SKILLS IN TOURISM INDUSTRY

Course Code - SLLCH THM 02 01 01 DCEC 4004 Credits: 4

UNIT- 1

Understanding Communication

1.1 Nature & scope of communication, functions of communication, communication networks, and types of communication, their forms, merits - de merits.

1.2 Miscommunication- barriers, how to overcome barriers.

1.3 Communicating for tourism business, grooming up for tourism business.

1.4 Professionalism, business conversations.

UNIT-2

Personality & Personal Grooming

2.1 Personality and self-concept, element of personality, determinants of personality, personality analysis.
2.2 Grooming, personal hygiene, social and business and dining etiquettes.
2.3 Knowing body language.
2.4 Art of good conversation, art of intelligent listening.

UNIT-3

Soft Skills and Tourism Business

3.1 Extempore, group discussions, introducing oneself.
3.2 Resumes & resume writing.
3.3 Interviews, types & forms, the mock interview and role play of telephonic interviews and online interviews.
3.4 Managing stress, anger, time, emotion.

UNIT-4

Personality Enrichment

4.1 Self Esteem- self-concept, advantages of high self-esteem, steps to building positive self-esteem.
4.2 Attitude- meaning and factors that determine attitude, benefits of positive attitude, steps to building a positive attitude.
4.3 Motivation-The difference between inspiration and motivation, external motivation vs internal motivation.
4.4 Team work-how to work efficiently in a team, do's and don'ts in team work.

Suggested Reading:

- Allan Pease. (2000). Body Language By Sheldon Press Wagen. Canada. Lynn Vander.
- Amitabh Devendra. (2000). Soft Skills for Hospitality. New Delhi. Oxford University Press.
- Amy Newman. (2007). Cornell University, Business Communication in Person. Boston. Cengage Learning.
- Barun K Mitra. (2002). Personality Development & Soft Skills. New Delhi. Oxford University Press
- Lesikar&Flatley. (2005). Basic Business Communication. New York. Tata Mc Graw Hill.
- Lynn Van Der Wagen. (2001). Communications in Tourism & Hospitality- Hospitality Press.
- Marey Ellen Guffey. (2000). Essentials of Business Communication. New Delhi. Thompson Press.
- Meenakshi Raman & Prakash Singh. (2002). Business Communication. Noida. Oxford University Press.
- Murphy and Hildebrandt. (2005). Effective Business Communication. New York. McGraw Hill Education.
- Sharma, R.C. and Mohan K.(1998). Business Correspondence and Report Writing. New York. Tata Mc Graw Hill.



UNDERSTANDING TOURISM ETHICS

Course Code -SLLCH THM 02 01 02 DCEC 4004 Credit: 4

Unit-1

1.1 The nature of Business Ethics.
1.2 Moral versus non moral standards. Ethics and law.
1.3 Ethics and religion. Ethical relativism.
1.4 Ethical issues in tourism business. Social responsibility of tourism business.

Unit-2

2.1 Ethical Theories and principles. Consequentialist and non- consequentialist theories of Ethics, Egoism, Utilitarism
2.2 Kants Ethics, Rights and duties.
2.3 Justice and fairness.
2.4 The Ethics of care, Virtue Ethics, Implications for Tourism industry.

Unit-3

3.1 Tourism Legislation, Sources of Tourism Law
3.2 The Indian Scenario Laws related to Ancient Monuments The Ancient Monuments Act .
3.3 Regulations made by the Archaeological Survey of India
3.4 Guidelines issued by the Ministry of Culture, Legislation for hospitality and catering

Unit-4

4.1 Regulatory Laws for Tourism Business in India:
4.2 Inbound and outbound travel. Transport industry and Airlines.
4.3 Accommodation and Hotel Industry, Foreign Exchange Regulation Act.
4.4 Tourist related Laws: Citizenship, Passport, Visa, Foreigners, Foreigners Registration, Customs Acts

Suggested Readings:-

- David A. Fennell.(2006). Tourism Ethics.USA. Kindle Publishing House.
- Glen Cohen. (2014).Patients with Passports: Medical Tourism Law and Ethics. USA. Oxford University Press.
- Gupta S.K. (1989). Foreign Exchange Laws and Practice. New Delhi. Taxman Publications
- Malik.S.S . (1997). Ethical Legal & Regulatory Aspects of Tourism Business. New Delhi. Rahul Publishing House.
- Manuel G. Velasquez. (2011) Business Ethics Concepts and Cases. New Delhi. Phi Learning Pvt Ltd.
- Shrivastava. (2010). Tourism ethics. New Delhi. Centrum Press.

Dynamics of Tourism

Course Code - SLLCH THM 02 01 01 GEC 4004 Credit: 4

Unit -1

Tourism and its Concept

1.1 Introduction to Tourism
1.2 Characteristics and types of Tourism
1.3 5 A's of Tourism
1.4 Tourism Industry.

Unit-2

Tourism Industry and its Linkages

2.1 Origin and Concept of Travel Intermediary Business
2.2 Meaning and Nature of Tourism Industry
2.3 Positive and Negative Impacts of Tourism
2.4 Push and Pull factors of Tourism

Unit-3

Transport Management

3.1 Historical Development of Transportation
3.2 Role of Transportation in Tourism
3.3 Major transport systems – Rail, Road, Air and Water transport
3.4 Indian Railway Contribution in Tourism

Unit-4

Emerging Tourism Trends

4.1 Concept and Relation with Tourism
4.2 Medical Tourism
4.3 Rural Tourism- concept and its relation with other types of tourism.
4.4 MICE- Meaning and concept of MICE

Suggested Readings:

- Anand, M.M. (1976). Tourism and hotel Industry in India. New Delhi. Prentice Hall.
- Bhatia. A. K.(1986). Tourism development: Principles, Practices and Philosophies. New Delhi. Sterling Publishers.
- Bhatia. A. K.(1994). International Tourism. New Delhi. Sterling Publishers
- McIntosh, Robert, W. Goldner. Charles. (1990). Tourism: Principles, Practices and Philosophies. (9th).New York. John Wiley and Sons Inc
- Mill, Robert Christie and Alastair M. Morrison. (1985). The Tourism System, Englewood Cliffs, N.J., Prentice Hall.
- Negi, J.M.S. (1990). Tourism and Travel- Concepts and principles. New Delhi. Gitanjali Publishing House
- Robinson, H.A. (1976).Geography of Tourism. London. Me Donald and Evans

Semester: Second

Sl. No.	Course Code	Course Title	Core/GEC/DCEC	L	T	P	C
1	SLLCH THM 02 02 01 C 5005	Itinerary Preparation and Tour Packaging	Core	5	0	0	5
2	SLLCH THM 02 02 02 C 5005	Tourism Economics	Core	5	0	0	5
3	SLLCH THM 02 02 03 C 4004	Emerging Trends In Tourism	Core	4	0	0	4
4	SLLCH THM 02 02 04 C 4004	Human Resource Management in Tourism	Core	4	0	0	4
Discipline Centric Elective Course (opt at least one)							
5	SLLCH THM 02 02 01 DCEC 4004	Adventure Tourism	DCEC	4	0	0	4
6	SLLCH THM 02 02 02 DCEC 4004	Hospitality Management In Tourism	DCEC	4	0	0	4
7	**To be taken as per requirement of the ordinance**		GEC	-	-	-	4
General Elective course offered to students of other Departments							
8	SLLCH THM 02 02 01 GEC 4004	Tourism Attractions	GEC	4	0	0	4

L- Lecture, T- Theory, P- Practical, C- Credits, S- Seminar, GEC- General Elective Course , DCEC- Discipline Centric Elective Course, SEEC- Skill Enhancement Elective Course

ITINERARY PREPARATION AND TOUR PACKAGING

Course Code - SLLCH THM 02 02 01 C 5005 Credit: 4

Unit- 1

Itinerary Planning & Development

1.1 Meaning, Importance
1.2 Types of Itinerary
1.3 Resources and Steps for Itinerary Planning
1.4 Do's and Don'ts of Itinerary Preparation

Unit -2

Developing& Innovating Package Tour

2.1Tour Formulation and Designing Process
2.2 FITs & Group– Special Interest Tours (SITs),
2.3 Tour Packaging: Importance of Tour Packaging – Classifications of Tour Packages - Components of Package Tours
2.4 Pre-Tour Management, Tour Operation, Post Tour Management

Unit- 3

Concept of Costing

3.1Types of Costs,
3.2 Components of Tour Cost - Preparation of Cost Sheet
3.3 Tour Pricing - Calculation of Tour Price – Pricing Strategies
3.4 Tour Packages of Thomas Cook, SOTC, Cox & Kings and TCI.

Unit -4

Operation of Tour Package

4.1Confirmation of Tour, Creation of Docket/ File, Issue of Tour Vouchers, Reconfirmation with Airlines, Hotel & Ground Service Providers
4.2 Distributing Customized Itinerary to Tour Leader, Guide, Driver & Transporter, Standard Procedures for Pickup and Drop, Check-in and Check-out in the Hotel,
4.3 Sightseeing, Do's and Don'ts of Sightseeing, Crisis Management in tour, Preparation of Feedback or Guest Comment Sheet, Filling the Guest Comment Sheet,
4.4 Analysis of Comments of Guest, Service providers, Tour Escorts

Suggested Readings:

- Chand, M. (2002). Travel Agency Management: An Introductory Text. New Delhi. Anmol Publications Pvt. Ltd.
- Holloway, J.C. (2002). The Business of Tourism. London. Prentice Hall, London, pp.220-279.
- Negi. J (2005), Travel Agency Operations: Concepts and Principles. New Delhi. Kanishka.
- Swain, S.K. & Mishra, J.M. (2012). Tourism Principles & Practices. New Delhi. Oxford University Press.

TOURISM ECONOMICS

Course Code - SLLCH THM 02 02 02 C 5005 Credit: 5

Unit-1

Concept of Economics in Tourism

1.1 Economics of Tourism
1.2 Opportunity and Challenges Tourism Economy,
1.3 Market Potential for Tourism products.
1.4 Tourism and economic development- Indian perspective.

Unit-2

Economics of Consumer Analysis

2.1 Law of Diminishing Marginal utility, Law of substitution & Consumer Surplus.
2.2 Concepts and definitions of demand for tourism, determinants of tourism demand.
2.3 Tourism demand and elasticity- price, total revenue,
2.4 Income and cross elasticity of Tourism demand

Unit-3

The Economic impacts of Tourism

3.1 Impact of Tourism- Direct, indirect, Induced and negative
3.2 The measurementof economic impact, multiplier –meaning and types (investment,employment and tourismmultiplier)
3.3 Linkage and leakages.
3.4 Tourism impact on balance of payments and exchangerates.

Unit-4:

Financial Accounting

4.1 Meaning, Need, Objectives, Concepts, Conventions and Assumptions,
4.2 Nature and Scope of Management Accounting
4.3 Branches of Accounting, Internal and External Users of Accounting
4.4 Advantages and Limitations of Financial Accounting, Accounting Standards.

Suggested Reading:

- Bhattacharya/financial Accounting for business Managers, Prentic Hall of India
- Goeldner, R & Ritchie. B .(2010). Tourism, Principles, Practices and Philosophies. London. John Wiley & Sons.
- Maheshwari & Maheshwari – An Introduction To Accountancy 5th – Vikas Publishing House.
- Mithani, D. M.. (1990). Economic theory (Macro Analysis) Himalaya publishing house,1990
- Roday. S, Biwal. A & Joshi. V. (2009). Tourism Operations and Management. New Delhi. Oxford University Press.
- Sheela. A.M.(2002). Economics of Hotel Management. New Delhi. New Age International Publication (P) Ltd.
- Witt, Stephe, F., Moutinho, Luiz (eds.). (1994). Tourism Marketing and Management Handbook. London. Prentice Hall International Ltd.

EMERGING TRENDS IN TOURISM

Course Code - SLLCH THM 02 02 03 C 4004 Credit: 4

Unit – 1

1.1 Tourism Industry and Current Changes
1.2 New trends and emerging patterns; current initiatives of Ministry of Tourism, Govt. Of India
1.3 Climate change and environmental issues: Community Based Tourism; Concept of Homestays
1.4 Responsible tourism; Tourism and poverty alleviation; Social media for tourism promotion, Social responsibility and ethical concerns; Special Tourism Zones

Unit – 2

2.1 Background, concept and definition; Dimensions of sustainability
2.2 Medial Tourism, concept and its relation with other types of Tourism
2.3 Major markets of Indian medical tourism Resource available in India medical Tourism
2.4 Rural Tourism: Aims and objectives behind promoting rural tourism. Resource available in India for rural tourism

Unit -3

3.1 Eco-Tourism: Definition of Ecotourism, Ecotourism resource: identifying, listing and understanding
3.2 Ecotourism resource categories (Natural, built and events)
3.3 Protected areas: definition, categories and roles
3.4 Identifying and describing eco-tourism products.

Unit – 4

4.1 Casino, Sound and Light Shows, Man Made Attractions, Underwater, Perpetual, Virtual, Dark
4.2 SMRFs, Tourism for Special Need People, Disaster, Adventure
4.3 Cruise Tourism, Floating Hotel, Heritage Walks, Spiritual, Space
4.4 Various Types of Niche Tourism

Suggested Readings:-

- Anand, M.M. (1976). Tourism and hotel Industry in India. New Delhi. Prentice Hall.
- Bhatia, A. K. (1986). Tourism development: Principles, Practices and Philosophies. New Delhi. Sterling Publishers
- McIntosh, Robert, W. Goldner, Charles. (1990). Tourism: Principles, Practices and Philosophies. (9th Edition). New York. John Wiley and Sons Inc.
- Mill, Robert Christie and Alastair M. Morrison, The Tourism System, Englewood Cliffs, N.J., Prentice Hall, 1985
- Negi, J.M.S. (1990). Tourism and Travel- Concepts and principles. New Delhi. Gitanjali Publishing House.
- Robinson. H.A. (1976) Geography of Tourism. London. Me Donald and Evans.
- Sevlam, M. (1989). Tourism Industry in India. Bombay. Himalaya Publishing House.
- Seth, P.N. (1997). Successful Tourism Planning and Management. New Delhi. Cross Section Publications

HUMAN RESOURCE MANAGEMENT IN TOURISM

Course Code - SLLCH THM 02 02 04 C 4004 Credit: 4

Unit-1

Human Resource Management in Tourism Industry

1.1 Definition, nature, characteristics, need and importance of HRM in the Tourism industry,
1.2 Approaches to managing HRs in hotels, emerging role of HR manager in Tourism Sector,
1.3 Human resource planning in Tourism industry – meaning, process, factors and need for HRs planning.
1.4 Job analysis, job description & job specification.

Unit-2

Acquisition of Human Resources in Tourism Industry

2.1 Recruitment: meaning, process and methods of recruitment in Tourism industry.
2.2 Selection procedure, essentials and steps in selection process.
2.3 Interview: meaning and types.
2.4 Employee promotion: meaning, purpose and types.

Unit-3

Maintenance of Human Resources in Tourism Industry

3.1 Employee training: need, methods of training in Tourism industry.
3.2 Development of employee – concept, purpose and process,
3.3 Components of employee's development.
3.4 Techniques of employee's development.

Unit-4

Appraising and Rewarding Human resources in Tourism Industry

4.1 Performance appraisal – need, importance and techniques.
4.2 Rewards and benefits – compensation (wages and salary).
4.3 Incentives.
4.4 Grievances handling: identifying causes and developing grievance handling system

Suggested Readings:-

- Aswathappa, K .(2005). Human Resource Management. New Delhi. McGraw Hill Publication
- Edwin B Flippo. (1999). Personnel Management. New York. McGraw Hill.
- Goldsmith, A., Nickson, D., Sloan, D., & Wood, R.C. (1997). Human Resource Management for Hospitality Services. London. UK: International Thomson Business Press.
- Ian Beardwell & Len Holden. (2004). Human Resource Management.(4th Edition). England. Pearson Education
- Stone R. (1997). Readings in Human Resource Management. Birsbane. John Wiley & Sons
- Torrington, D. & Hall, T. (1995) Personnel Management: HRM in Action. London. Prentice Hall.

ADVENTURE TOURISM

Course Code - SLLCH THM 02 02 01 DCEC 4004 Credit: 4

Unit-1

1.1 Definition, Scope and Nature of adventure tourism;
1.2 Popular tourist destinations for Land based (soft/hard trekking, Skiing, mountaineering, desert safaris, car rallies etc.).
1.3 Water based (rafting, kayaking, canoeing, surfing, water skiing, scuba diving)
1.4 Air based (parasailing, paragliding, ballooning, hand gliding and micro lighting etc.)

Unit-2

2.1 Basic minimum standards for adventure tourism related activities- Land based; Mountaineering, Trekking,
2.2 Water Based; River running; Aerial Based; Parasailing, Paragliding, Bungee Jumping. Peak booking formalities,
2.3 IMF rules for mountain expeditions
2.4 Cancellation of permits and bookings.

Unit-3

3.1History of mountaineering, map symbols, contour line identification, landmark and landform identification
3.2 Basic use of a compass and altimeter Altitude illness,
3.3 HAPE, HACE, AMS
3.4 basic first aid, freezing and non-freezing cold injuries

Unit-4

4.1 Equipment, mountain weather, objective and subjective hazards Equipment, Mountain Weather,
4.2 Objective and subjective hazards Parts of an ice axe, use of an ice axe,
4.3 Four positions of self-arrest, self-belay, rope team travel Building snow anchors, bollards, pickets, dead men,
4.4 Flukes and ice screws, descending by ropes and glissading techniques

Suggested Readings:

- Ball, S. (2012). Encyclopedia of Tourism Resources in India. New Delhi. Butterworth –Heinemann.
- Bose, S.C. (1976). Geography of the Himalayas, New Delhi. National Book trust.
- Chand Gian and Manohar Puri. (1989). Trekking. India. International publisher.
- Dixit, M. (2002). Tourism Products. Lucknow. New Royal Book Co.
- Douglas. N. Ed. (2001). Special Interest Tourism. Australia. John Wiley & Sons.
- Gamma, Karl. 1985). The Handbook of Skiing. London. Pelham Books.
- Jacob,R. (2012). Indian Tourism Products. New Delhi. Abhijeet Publications.
- Lozawa, Tomoya. (1980). Trekking in the Himalayas. New Delhi. Allied published Pvt. Ltd.
- Negi, Sharad Singh. (2002). Handbook of National Parks, Wildlife Sanctuaries, and Biosphere Reserves in India. New Delhi. Indus Publishing Co.
- Pletcher. Kenneth. (2011).The Geography of India: Sacred and Historic Places. New York. Britannica Educational Publication.
- Robinet Jacob. (2013). Places of Touristic Interest in India. New Delhi. Abhijeet Publications.
- Rowe, Ray. (1987). White in Water Kayaking. London. Salamander Books.

HOSPITALITY MANAGEMENT IN TOURISM

Course Code - SLLCH THM 02 02 02 DCEC 4004

Unit- 1

1.1 Hotel departments; classification of hotels; chain operations; E- Hospitality.
1.2 Types of accommodation; Activities in Accommodation Management – Front office – Housekeeping – Bar and Restaurant
1.3 Various Hotel Chains
1.4 Supporting services; ethical and regulatory aspects in a hotel, international hotel regulations.

Unit -2

2.1 Duties and responsibilities of front office staff; Reservation & registration- Types of Room
2.2 Meal Plans, Room assignments, check-in, methods of payment
2.3 Factors affecting the price of accommodation
2.4 Front Office - Hierarchy, duties & responsibilities

Unit- 3

3.1 Food Production Organization, Kitchen, Buffets, Beverages Operation, Functions
3.2 Outlets of F & B, Types of Meal Plans, Types of Restaurant-Menu, Room Service, Catering Services-Food Service for the Airlines,
3.3 Banquette, Corporate, MICE, Retail Food Market, Business/Industrial Food Service, Healthcare Food Service, club food services - Trends in lodging and food services.
3.4 Food & Beverage Department of a hotel

Unit -4

4.1 Fiscal and non-fiscal incentives offered to hotel industry in India
4.2 Hierarchy, duties & responsibilities of hotel staff
4.3 Type of guests in Hospitality Industry
4.4 Concepts of Atithi Devo Bhavah

Suggested Readings:

- Amrik Singh Sudan. (2002). House Keeping Management. New Delhi. Anmol Publication Ltd.
- D.R. Lillicrap. (1983). Food Beverage Service. London. Edward Arnold Publishers Ltd.
- Praveen Sethi. (2004). Hand Book of Hospitality and Tourism. New Delhi. Anmol Publication.
- R.K. Malhotra. (2002). Food Service and Catering Management. New Delhi. Anmol Publication Pvt. Ltd.
- Rajendran Singh. (2001). Hotel and Hospitality Management. New Delhi. Kalpaz Publication.
- S. Kannan.(2003). Hotel Industry in India. New Delhi. Deep and Deep Publications, Pvt. Ltd.
- Sudhir Andrew. (1994). Food Beverage Service Training Manual. New Delhi. Tata McGraw Hill Publishing
- Vijay Dhawan. (2004). Food Beverage Service. New Delhi. Frank Bros and Co.
- Y.P. Singh. (2001). Effective Hotel Management. New Delhi. Anmol Publication Pvt. Ltd.
- Yogendra K. Sharma. (2003). Hotel Management. New Delhi. Kanishka Publishers



TOURISM ATTRACTIONS
Course Code - SLLCH THM 02 02 01 GEC 4004 Credit: 4

Unit –1

1.1 Historical, Monumental, Architectural Tourism Attractions
1.2 Delhi – Agra- Jaipur
1.3 Khajuraho, Nalanda, Ajanta- Ellora,
1.4 Hampi- Halebid, Lucknow.

Unit – 2

2.1 Religious Places, Cultural Centers Meaning
2.2 Haridwar- BadriNath- Kedarnath, Bodh Gaya,
3.3 Bhuvaneswar – Puri- Konark, Rameshwaram, Dwarka, Amritsar.
3.4 Ajmer Sharif Dargah, Goa Churches

Unit –3

3.1Leh, SriNagar, Manali, Darjeeling, Shimla
3.2 Ooty, Mahabaleshwar, Rishikesh
3.3 Jim Corbett, Sariska,
3.4 Kanha, Gir

Unit-4

4.1Puri, Mumbai, Goa,
4.2 Lakshadweep, Cochin,
4.3 Kanyakumari, Chennai, Pondicherry,
4.4 Andman & Nicobar, Kolkata

Suggested Readings:-

- Acharya, R (1980). Tourism and Cultural Heritage of India. Jaipur. RBSA Publication.
- Ball, S. (2007). Encyclopedia of Tourism Resources in India. New Delhi. B/H.
- Basham, A.L (2002). Cultural History of India. New Delhi. Oxford University Press.
- Dixit, M (2002). Tourism products. Lucknow. New Royal Book Co.
- DouglaS, E (2001).Special Interest Tourism. Australia. John Wiley & Sons
- Grover, S (1981. The Architecture of India: Islam. New Delhi. Vikas Publishing House, Pvt. Ltd.
- Gupta, S.P. (2002). Cultural Tourism in India. New Delhi. Indraprastha Museum of Art and Archaeology.
- Jacob, R. (2007). Indian Tourism Products. New Delhi. Abhijeet Publications, Delhi.
- Rajkumar. (2003).Essays in Indian Art and Architecture. New Delhi. Discovery Publishing House, Pvt. Ltd.

Semester: Third

Sl. No.	Course Code	Course Title	Core/GEC/DCEC	L	T	P	C
1	SLLCH THM 02 03 01 C 5005	Tourism Geography	Core	5	0	0	5
2	SLLCH THM 02 03 02 C 5005	Destination Planning and Development	Core	5	0	0	5
3	SLLCH THM 02 03 03 C 4004	Research In Tourism	Core	4	0	0	4
4	SLLCH THM 02 03 04 C 4004	Tourism Marketing	Core	4	0	0	4
Discipline Centric Elective Course (opt at least one)							
5	SLLCH THM 02 03 01 DCEC 4004	ICT For Tourism	DCEC	4	0	0	4
6	SLLCH THM 02 03 02 DCEC 4004	Sustainable Tourism	DCEC	4	0	0	4
7	**To be taken as per requirement of the ordinance**		GEC	-	-	-	4
General Elective course offered to students of other Departments							
8	SLLCH THM 02 03 01 GEC 4004	Tour Planning and Management	GEC	4	0	0	4

L- Lecture, T- Theory, P- Practical, C-Credits, S- Seminar, GEC- General Elective Course , DCEC- Discipline Centric Elective Course,

TOURISM GEOGRAPHY

Course Code - SLLCH THM 02 03 01 C 5005 Credit: 5

Unit-1

Introduction to Geography:

1.1 Understanding Tourism Geography
1.2 Elements of Geography
1.3 Branches of Geography, Importance of Geography in Tourism,
1.4 World's Climatic Zones, Latitude & Longitude

Unit-2

IATA Areas, Code and GMT Time:

2.1 Areas, Sub Areas and Sub Regions As per International Air Transport Organization (IATA),
2.2 IATA Three Letter City Code, Two Letter Airlines and Airport Code,
2.3 International Date Line
2.4 Time Zones, Greenwich Mean Time, Calculation of Local Time, Flying Time, Grounding Time, Elapsed Time, Daylight Saving Time

Unit-3

North & South America, Europe & Africa

3.1 Physical Geography, Topography,
3.2 Climatic Regions,
3.3 Transport Network,
3.4 Countries in the Continent,

Unit-4:

Tourism Potential in Asia

4.1 Physical Geography, Topography,
4.2 Climatic Regions,
4.3 Transport Network,
4.4 Countries in the Continent

Suggested Readings:

- Boniface B. & Cooper, C. (2009). Worldwide Destinations: The Geography of Travel & Tourism. London. Oxford Butterworth Heinemann.
- Burton, R. (1995). Travel Geography. Marlow Essex. Pitman Publishing
- C. Michael Hall & Stephen J. Page (2006). The Geography of Tourism and Recreation- Environment, Place and Space. Third Edition. London. Routledge,
- Hall, M .(1999). Geography of Travel and Tourism. London. Routledge.
- Robinson. H.A.(1976) Geography of Tourism. London. Me Donald and Evans.
- Travel Information Manual. (2012). IATA. Netherlands.
- World Atlas.

DESTINATION PLANNING AND DEVELOPMENT

Course Code - SLLCH THM 02 03 02 C 5005 Credit: 5

Unit-1

Destination Development

1.1 Defining "Destination", Types , characteristics, Destinations and products,
1.2 Development ,meaning and function, goals for development,
1.3 Tourism and linkage between destination and development,
1.4 Destination Management Systems, Destination planning guidelines

Unit-2

Destination Planning

2.1 Definitions of planning, outlines the key elements of the planning process and analysis,
2.2 National and Regional Tourism Planning and development hierarchy, Assessment of Tourism Potential, Coordination and Control of Tourism Development,
2.3 Tourism Planning and Conservation ,Policies and Procedures,
2.4 Planning for Sustainable Tourism Development

Unit-3

Destination Image Development

3.1 Tangible and intangible attributes of Destination,
3.2 Person's determined image, destination determined image, measurement of destination
3.3 Destination image place branding and destination image, formation process, Unstructured image,
3.4 Destination appraisal. Strategy development and planning of destinations and tourism products.

Unit-4

Destination Promotion and Publicity

4.1 Amalgamation of destination services, Six _A's framework for tourism destinations,
4.2 The dynamic wheel of tourism stakeholders, strategic marketing for destinations and strengthening their competitiveness, destination marketing mix,
4.3 formulating the destination Product 8Ps in Destination Marketing
4.4 Destination distribution channels, Destination competitiveness.

Suggested Reading:

- Butler, R.W. (2006).Tourism Area Life Cycle: Applications and Modifications, Channel View Publications.
- Crouch, D.I. J.R. Ritchie, B. & Kossatz, H.G. (2003). Competitive Destination: A Sustainable Tourism Perspective, CABI Publishing,
- Gunn, C. (2002).Tourism Planning: Basic, Concepts and Cases, Cognizant Publication.
- Inskeep, E. (1991). Tourism Planning: An Integrated and Sustainable Development Approach. New York. Van Nostrand Reinhold.
- Morgan, N, Pritchard, A &Pride, R. (2011). Destination Branding: Creating the Unique Proposition, Butterworth and Heinemann,
- Murphy, P. E. (1986).Tourism: A Community Approach. Methuen, New York.
- Singh,S. Timothy, D.J. & Dowling, R.K. (2003). Tourism in Destination Communities, CABI Publishing,
- Swain, S.K. & Mishra, J.M. (2012). Tourism Principles & Practices. New Delhi. Oxford University Press, New Delhi.
- Tang, C.H. & Jones, E.E. (2005). Tourism SMEs, Service Quality and Destination Competitiveness, CABI Publishing,

RESEARCH IN TOURISM

Course Code - SLLCH THM 02 03 03 C 4004 Credit: 4

Unit -1

Introduction to Research

1.1. Meaning of research, Types of research, characteristics of a good research.
1.2. Process of research, application of research in various functions of hospitality and tourism.
1.3. Attributes of a good researcher, limitation of research.
1.4. Recent trends of research in hospitality and tourism industry.

Unit -2

Research Process

2.1 Research problem, problem identification process.
2.2 Formulation of research hypothesis, types of hypothesis.
2.3 Research design, formulation of research design, Classification of research design.
2.4 Data collection, types of data collection, methods of data collection, literature review.

UNIT-3

Questionnaire

3.1 Questionnaire criteria for questionnaire designing, types of questionnaire.
3.2 Questionnaire design procedure, physical characteristics of a questionnaire.
3.3 Pilot testing of the questionnaire.
3.4 Data feeding, data editing, data analysis.

UNIT-4
Interpretation and Report Writing

4.1 Introduction, meaning, techniques and precautions in interpretation.
4.2 Meaning, types and steps involved in writing for research, writing review articles.
4.3 Writing research report, layout of the research report, the cover page, abstract, acknowledgement and contents, literature review chapter, the research design chapter.
4.4 Presentations & discussions chapter, conclusion & implications, the final touches, bibliography & References, referencing styles: APA and MLA.

Suggested Reading:-

- C. Rajendar Kumar. (2010). Research Methodology. New Delhi. APH Publishing
- Deepak Chawla. (2011). Research Methodology, Concepts and Cases. New Delhi. Vikas Publication House Private Limited.
- Gupta Hitesh and Gupta S. L. (2011). Research Methodology. New Delhi. International Book House.
- J. R. Brent Ritchie, Charles R. Goeldner. (1994).Travel, Tourism, and Hospitality Research: A handbook for Managers. New York. John Wiley & Sons.
- Kothari C.R. (2011). Research Methodology. New Delhi. New Age International.
- Kumar Ranjit. (2005). Research Methodology: A Step by Step Guide for Beginners. 2nd Edition. New Delhi. Peason Publications
- Naresh, K, Malhotra, Marketting. (2014). Research, AN Applied Orientation. New Delhi. Pearson Publication.
- Paraskevas. (2008). Planning research in hospitality & tourism.UK. Butterworth Heinemann.
- Shajahan S. (2004). Research Methods for Management. India. Jaico Publishing House

MARKETING FOR TOURISM

Course Code - SLLCH THM 02 03 04 C 4004

Credit: 4

Unit-1

Introduction to Marketing

1.1 Tourist Needs, Wants and Demands; Products and Services;
1.2 Markets; Marketing; The Production Concept, The Product Concept, The Selling Concept,
1.3 The Marketing Concept, The Societal Marketing Concept; The Marketing Process, 7 p's of Tourism
1.4 Marketing Mix, The Tourism Marketing Environment; Destination Marketing; Managing Capacity and Demand.

Unit-2

Tourist Behaviour

2.1 Understanding Tourist Behaviour: Factors affecting Tourist Behaviour
2.2 Tourist Buying-Decision Process, Tourist decision making process for new products and services;
2.3 Market Segmentation (Concepts & Types),
2.4 Targeting, and Positioning; Competitive Advantage and its strategies.

Unit-3

Product Pricing and Services Strategy

3.1 What is a Tourism Product, Product Classification,
3.2 Tourism Product Mix, Product Line, Tourism Product life cycle & strategies, New Product
3.3 Development Process; Services Marketing (Concept & Characteristics), Approaches to Tourism Service Pricing;
3.4 Marketing Intermediates in Tourism Business; Branding; Competitive Differentiation and its strategies for Tourism Businesses.

Unit-4

Tourism Marketing Communication

4.1 Mix: Advertising, Sales Promotion, Public Relations ,
4.2 Personnel Selling, Direct Marketing; Socially Responsible Tourism Marketing :
4.3 The changing face of TMC; Emerging Trends and application of marketing in different areas – Rural Marketing, Green Marketing,
4.4 Cyber Marketing, Ethics in Marketing and Consumerism.

Suggested Readings:

- Bennett J. A., Strydom J. Wilhelm (2001). Introduction to Travel and Tourism Marketing. Lansdown. Juta Education.
- Chaudhary, Manjula. (2011). Tourism Marketing. New Delhi. Oxford University Press.
- Kotler P. (2012). Marketing Management, Pearson Education, New Delhi.
- Neelamegham. S. (1998).Marketing in India: Cases & Readings. New Delhi. Vikas Publications.
- Ramasamy V.S. &Namakumar. S. (1990).Marketing Management: Planning & Control. New Delhi. Macmillan.
- Stanton W. J. (1999). Fundamentals of Marketing. NewYork. McGraw Hill.
- Stone, Marilyn A., Desmond, John. (2007). Fundamentals of Marketing. New York. Routledge.

ICT IN TOURISM

Course Code - SLLCH THM 02 03 02 DCEC 4004 Credit: 4

Unit-1

Introduction to Computers

1.1 Introduction to Computer
1.2 Classification, Hardware, Software, Storage, Processing
1.3 Capabilities Characteristics & Limitations,
1.4 Application and use of Computers in Tourism.

Unit-2

Social Sites

2.1 LinkedIn Twitter , Facebook and Other Social Media Application
2.2 Impact of Social Media in Tourism
2.3 Internet Factor in Choosing Tourism Destination
2.4 Various Online Reservation Portals

Unit-3

Introduction to Computer Software's & MIS

3.1 Types of Software, System Software, Application Software, Utility Software's,
3.2 Use of MS-Office: Basics of MS-Word. MS-Excel and MS-Power Point, Concept and definitions of MIS, Role of MIS, Characteristics of MIS, Limitations of MIS,
3.3 Travel Recommender Systems (TRS),
3.4 Geographic Information Systems (GIS).

Unit-4

Introduction to Internet & E-Commerce

4.1 Introduction to Internet: Definition of networks, concepts of web page,
4.2 website and web searching (browsing).Benefits,
4.3 Hardware and Software requirements,
4.4 Web Browser, Search Engines, E-Commerce, advantages, Electronic Ticketing (e-ticketing).

Suggested Readings:

- Buhalis D. (2004). E-tourism: Information Technology for Strategic Tourism Management. New Delhi. Prentice Hall India.
- Inkpen G. (2000). Information technology for Travel and Tourism. USA. Addison Wesley.
- Malvino A.P (1995). Electronic Principles. New York. McGraw-Hill.
- Poon A. (1998). Tourism, Technology and Competitive Strategies. USA.CABI.
- Rayport J.F. & Jaworski B.J. (2002), Introduction to Ecommerce. New York. McGraw-Hill.
- Sheldon P. (2002). Tourism Information Technology. USA. CABI.

SUSTAINABLE TOURISM

Course Code - SLLCH THM 02 03 02 DCEC 4004 Credit: 4

Unit - 1

1.1 Sustainable Tourism & its Dimensions: Historical Background,
1.2 Nature and Scope of Sustainable Tourism, Critiques of Current Thinking in Sustainable Management,
1.3 New Approaches to Sustainable Tourism Management, Sustainable Tourism three Dimensions,
1.4 Environmental Dimension, Economic Dimension, Social Dimension

Unit – 2

2.1 Role of different agencies in Sustainable Tourism: Public Sector,
2.2 Tourism Industry, Voluntary Sector, Host Community, Media, Tourist In Coastal Areas and Sea,
2.3 Rural Area, Urban Areas, Mountainous Regions, Islands, Developing Countries.
2.4 Role of Marketing in promotion of sustainable Tourism

Unit -3

3.1 Sustainable Tourism & Responsible Tourism: Sustainable Tourism Development-Guiding Principles for Planning and Management,.
3.2 Responsible Tourism, Key Characteristics of Responsible Tourism,
3.3 Empowering Community through Tourism
3.4 Community based Tourism and Global Climate change-issues and challenges

Unit -4

4.1 Sustainable Tourism Infrastructure and instruments for more sustainable Tourism: Tourist Destinations,
4.2 Visitor Attractions, Tour Operations, Transport, Hospitality, Cultural, Tourism, Eco-tourism, Business Tourism
4.3 Future of Sustainable Tourism, sustainable tourism instruments-measurement,
4.4 command and control, economic, voluntary and supporting instruments

Suggested Readings:

- Baker, S. (2006). Sustainable Development. London and New York. Routledge.
- Crouch, D.I. J.R. Ritchie, B.&Kossatz, H.G. (2003). Competitive Destination: A Sustainable Tourism Perspective. USA. CABI Publishing,
- Goodwin, H. (2011). Taking responsibility for tourism. Oxford. Goodfellow Publishers Ltd.
- Holden, A. (2000) Environment and tourism. London & New York. Routledge.
- Inskeep, E. (1991). Tourism Planning: An Integrated and Sustainable Development Approach. Van Nostrand Reinhold, New York.
- Miller, G. And Twinin-Ward, L. (2005). Monitoring for a sustainable tourism transition.
- Page, S.J. and Connell, J. (2006). Tourism a modern synthesis. Second edition. London: Strange,
- Swarbrooke, J. (2005). Sustainable Tourism Management. Cambridge. CABI Publishing.
- T. and Bayley, A. (2008). Sustainable Development. Linking Economy Society, Environment. Paris. OECD.
- The challenge of developing and using indicators. Cambridge: CABI Publishing.
- Thomson. Weaver, D. (2006). Sustainable tourism. Oxford. Elsevier.
- Zeppe, H.D. (2006). Indigenous Ecotourism: Sustainable Development and Management. Australia. CABI

Tour Planning and Management

Course Code - SLLCH THM 02 03 01 GEC 4004 Credit: 5

Unit- 1

1.1 Tour Planning Importance
1.2 Itinerary, Types of Itinerary
1.3 Resources and Steps for Itinerary Planning
1.4 Do's and Don'ts of Itinerary Preparation

Unit -2

2.1Tour Formulation and Designing Process
2.2 FITs & Group– Special Interest Tours (SITs),
2.3 Tour Packaging, Classifications of Tour Packages, Components of Package Tours
2.4 Pre-Tour Management, Tour Operation, Post Tour Management

Unit- 3

3.1Definitionof Cost, Types of Costs
3.2 Components of Tour Cost - Preparation of Cost Sheet
3.3 Tour Pricing - Calculation of Tour Price – Pricing Strategies
3.4 Tour Packages of Thomas Cook, SOTC, Cox & Kings and TCI.

Unit -4

4.1Confirmation of Travel Agency, Hotel, Railways, Airlines
4.2 Distributing Customized Itinerary to Tour Leader, Guide, Driver & Transporter, Standard Procedures for Pickup and Drop, Check-in and Check-out in the Hotel,
4.3 Sightseeing, Do's and Don'ts of Sightseeing, Crisis Management in Tour, Preparation of Feedback or Guest Comment Sheet, Filling the Guest Comment Sheet,
4.4 Analysis of Comments of Guest, Service providers, Tour Escorts.

Suggested Readings:

- Chand, M. (2002). *Travel Agency Management: An Introductory Text*. New Delhi. Anmol Publications Pvt. Ltd.
- Goeldner, R & Ritchie. B. (2010). *Tourism, Principles, Practices and Philosophies*. London. John Wiley & Sons.
- Holloway, J.C. (2002). *The Business of Tourism*. London. Prentice Hall.
- Negi. J. (2005). *Travel Agency Operations: Concepts and Principles*. New Delhi. Kanishka.
- Roday. S, Biwal. A & Joshi. V. (2009). *Tourism Operations and Management*. New Delhi. Oxford University Press.
- Swain, S.K. & Mishra, J.M. (2012). *Tourism Principles & Practices*. New Delhi. Oxford University Press.

Semester: Fourth

Sl. No.	Course Code	Course Title	Core/GEC/DCEC	L	T	P	C
1	SLLCH THM 02 04 01 C 00022	Industrial Training/Job Training and Project/ Dissertation	Core	0	0	0	20
2	SLLCH THM 02 04 02 C 1012	Tourism Entrepreneurship and Careers	Core	1	0	1	2
Discipline Centric Elective Course (opt any one)							
3	SLLCH THM 02 04 02 DCEC 2114	Ticketing in Tourism	DCEC	2	1	1	4
4	SLLCH THM 02 04 03 DCEC 2114	MICE Tourism	DCEC	2	1	1	4
General Elective Course offered to other Departments							
5	SLLCH THM 02 04 01 GEC 2024	Exploring Tourism In Haryana	GEC	2	0	2	4

L- Lecture, T- Theory, P- Practical, C-Credits, S- Seminar, GEC- General Elective Course , DCEC- Discipline Centric Elective Course, SEEC- Skill Enhancement Elective Course, CC- Common Core

Tourism Entrepreneurship and Career

Course Code - SLLCH THM 02 04 02 C 1012 Credits: 4

Unit - 1

1.1 Entrepreneur: Meaning, Functions, Types of Entrepreneurs, Entrepreneur Factors influencing the development of entrepreneurs.
1.2 Entrepreneurship: concept, meaning, definition, importance, characteristics, Development of Entrepreneurship, Stages in Entrepreneurship Process, Functions, Classification.
1.3 Stages of Evolution of the Concept of Entrepreneur and & Entrepreneurship
1.4 Theories of Entrepreneurship: Schumpeter's Theory, Peter Duckers Theory and Mc. Clelland's Theories

Unit -2

2.1 Communities promoted entrepreneurship in India,
2.2 Role of entrepreneurs in economics development of a country,
2.3 Entrepreneurship & its barriers in India, Impact of Liberalization, Privatization, and Globalization, Effect of WTO/GATT.
2.4 Small Scale Industry (SSI), Definitions, Characteristics, Need and Rationale: Objectives,Scope, Role of SSI, Advantages of SSI, Different Policy of SSI, Government Supports for SSI during Five-Year Plans,

Unit – 3

3.1 Opportunity in Universities, Schools and Skill Industry
3.2 Event Coordinator, Ground Staff, Cabin Crew
3.2 Sales and Marketing Staff
3.3 Foreign Exchange, Ticketing Department

Unit -4

4.1Travel Consultant, Ticketing & Reservations Consultant, Tour Escorts
4.2 Tour Guide-Marine, Heritage, Mountaineering
4.3 Adventure Sports Organizer, Travel Desk Manager
4.4Passport and Visa Executive, Tour Manager

Suggested Readings:

- Bird B.J. (1989). Entrepreneurial Behavior. New York: John Wiley & Sons
- Chowdhary, Nimit and Prakash, Monika. (2010). Managing Small Tourism Business. New Delhi. Matrix Publishers.
- https://www.msde.gov.in/
- https://www.thsc.in/
- Portal of MSME, Government of India (www.smallindustryindia.com)
- Prakash, Monika and Chowdhary, Nimit (2010). Starting Tourism Company. New Delhi. Matrix Publishers.
- Richard Duncombe, Richard Heeks and Sunil Abraham. (2005). A Handbooks for Entrepreneurs in India. UK. Institute for Development Policy and Management (IDPM)

Tourism Ticketing

Course Code - SLLCH THM 02 04 02 DCEC 2114 Credit: 4

Unit- 1

1.1 Meet & Greet Customer, welcome the walk-in customers with a smile ,Handle Telephonic or online queries
1.2 Attend Customer, Understand the Query , Travel Plan, Provide Information, Suggest Plan, Special Request by Guest
1.3 Travel Documentation & rules regarding Passport, VISA, Foreign Exchange, Health regulations
1.4 Special Permits, Rules and Regulation for Various Transportation Modes

Unit -2

2.1Bus Ticket, Train Ticket, Air Lines, Cruise
2.2 Manual & E-ticket, International Sale Indicators, Currency regulations
2.3 Basic steps of fare calculation, Various Websites and Platform to book the Travel Tickets
2.4 Time Zones, International Date Line, Day Light Saving Time, Cancellation policy and Procedure

Unit – 3

3.1 Be informed about latest flight/ train/ bus schedules, rules regulations
3.2 Liaise with the railways to know their status and schedules, update on the latest promotional offers
3.3 Have updated information on laws, procedures and policies of the various railways, airlines and other modes of travel
3.4 Coordinate with the various airlines and railways to ensure accurate details of the passenger is included in the schedule.

Unit – 4

4.1 Transport schedule and timings
4.2 Statutory rules and procedures to be followed for every type of travel mode
4.3 Seat request, Queues & Fares
4.4 Travel advisory of destinations, ways of handling customers for satisfaction

Suggested Reading:

- D. Timothy. (2007).Tourism and Transport: Modes, Networks and Flows. New York. Channel view Publications
- Hannel, Christine, Robert Harshman and Graham Draper. (1992). Travel and Tourism: A World Regional Geography. New York. John Wiley & Sons.
- JagmohanNegi (2005) Air travel Ticketing and Fare construction, Kanishka, New Delhi.
- Page Stephen. (2005). Transport and Tourism: Global Perspectives. New Delhi. Pearson Prentice Hall.
- Ratandeep Singh. (2008). Handbook of Global Aviation Industry and Hospitality services. New Delhi. Kanishka Publishers.
- Trooboff, S.K. Robert Schwartz and D.J. Mac Neil. (1995). Travel, sales and Customer Services. Boston. Irwin Mirror Press.

MICE TOURISM

Course Code - SLLCH THM 02 04 03 DCEC 2114 Credit: 4

Unit – 1

1.1 Introduction to business tourism, meaning, definition & significance
1.2 Nature of business tourism & types, Structure of business tourism
1.3 Reasons for the growth of business tourism, stages of development
1.4 Incentive travel, demand & supply side of business tourism

Unit – 2

2.1 MICE Tourism, features, criteria's required for a mice destination
2.2 Major MICE destinations in the world & in India, Players in event business – ICPB, ICCA.
2.3 Event – Meaning & definition, classification of events, tourism events, religious associations & events,
2.4 Characteristics, Impacts & Limitations of events.

Unit – 3

3.1 Event managers and their qualities, resources & logistics required for conducting events
3.2 Individual events & Corporate events, conference & convention centers,
3.3 types of venues for conducting events, selection, location, theme, layout of events, application of management principles in event management
3.4 steps required to conduct an a successful event, event budget, legal issues related with events

Unit – 4

4.1 Event as a tourism product, relationship between events & tourism industry
4.2 relevance & applications of Information technology in events – Video Conferencing
4.3 Tele conferencing, LCD projectors, Internet, Fax, E-mail
4.4 Event Manager Qualities

Suggested Readings:-

- Avrieh Barry. (1994). Event and Entertainment Marketing. New Delhi. Vikas Publications.
- Diwakar Sharma. (2005). Event Planning & Management. New Delhi. Deep publications.
- Fenich. (2010). Meetings, Exposition, Events and Convention. London. Pearson.
- Lynn Van Der Wagen, Carlos. (2011). Event Management. New Delhi. Pearson.
- Tony Roggers. (2008). Conferences and Conventions – A global industry. Oxford. Butter Worth Heinman.

EXPLORING TOURISM IN HARYANA

Course Code - SLLCH THM 02 04 01 GEC 2024 Credit: 4

Unit-1

Tourist Resources of Haryana

1.1 Monuments of touristic significance and museums
1.2 Religious and pilgrimage centers (Kurukshetra, Pehowa, Jyotisar, Kapal Mochan, Beri, Mansa Devi, Agroha, Pindara)
1.3 Music, Dance, fairs and Festivals with special reference to Surajkund. Kartik and Gita festivals.
1.4 National Tourist Resources

Unit-2

Tourism Infrastructure

2.1 Tourism Organizations: Department of Tourism and Haryana Tourism Corporation.
2.2 Transports and accommodation – Motels
2.3 Recreation and entertainments
2.4 Farm House, Highway Tourism

Unit-3:

Planning and Policies

3.1Haryana Tourism Corporation and other Govt. agencies
3.2 Role of Department of Tourism;
3.3 Role of private sector Haryana Tourism policy-2008
3.4 Marketing and HRD policies

Unit-4

Tourism and Tourist Trends

4.1 Types of tourism – pilgrimage, Highway, Adventure
4.2 Rural and Health Tourist Trends
4.3 Important tourist destinations – Surajkund, Injure, Shone Morni Hills, Sultanpur, Tajewala, Kurukshetra
4.4 Problems and prospects of Tourism Development in Haryana.

Suggested Readings:-

- Acharya, Ram. (1980). Tourism and Cultural Heritage of India. Jaipur. R.B.S.A.
- Anand, Mulkraj. (1974). Haryana Heritage. Bombay. in Marg, Vol XXVII No.4 Sept. Bombay
- Beal Samuel, 1960, Buddhist Records of Western world , Delhi
- Bhardwaj, O.P.(1991). Ancient Kuruksherta: Studies in Historical and Cultural Geography. New Delhi. Human Publishing House.
- Government of Haryana Reports, Chandigarh
- Haryana Reviews – all volumes
- Haryana Samvad – all volumes
- Journal of Haryana Studies, Kurukshetra University, Kurukshetra all relevant volumes.
- Punia B, 1992. Problems and Prospects of Tourism in Haryana
- Sen., S.P. Sources of History of India, Calcutta
- Sharma, Y.D,. 1964 Delhi and its neighborhood
- Yadav, K.C. (ed). (1968). Haryana: Studies in History and Culture. KUK. Kurukshetra University

Central University of Haryana, Mahendergarh
School of Engineering and Technology

Proceedings/ Minutes of the Meeting of School Board Held on 03/07/2019

The meeting of the School Board of School of Engineering and Technology was held on 03/07/2019. The following were present:

1. Dr.Rajesh Kumar Dubey, Dean, SoET- Chairman
2. Prof. D.V.S. Verma (Retd.), NIT, Kurukshetra- Member
3. Prof. Anjan Kumar Baral, Professor, GJUST, Hisar- Member
4. Dr Vikas Garg, HOD, Civil Engg.- CUH- Member
5. Dr. Munish Manas, Assistant Professor, CUH- Member
6. Ms. Eakta Kumari, Assistant Professor, CUH- Member
7. Mr. Tarun Singh, Assistant Professor, CUH- Member
8. Dr. Phool Singh, Associate Professor, CUH- Special Invitee

Dr. J.S. Saini subject expert- Member will give his acceptance on mail and he could not attend the meeting due to prior engagements.

After deliberations, it was resolved/ recommended by the School Board as follows, as approved by board of studies of civil engineering in the meeting of 11/06/209.

1. Project cost analysis subject to be added in the DCEC in the 7th semester for the civil engineering students of 2016-20, 2017-21 batch which
2. Syllabi for building construction (BTCE-409) is revised for the 4th semester. This subject is general elective for other branches which is offered by our department for the 2016-20, 2017-21 batch.

03/07/19 — 3/7/19 — 03-07-19

Dr.Rajesh Kumar Dubey — Prof. D.V.S. Verma — Prof. Anjan Kumar Baral

03/07/19 — 03/07/19 — 03/07/19

Dr. Vikas Garg — Dr. Munish Manas — Ms. Eakta Kumari

03/07/19 — 3/7/19

Mr. Tarun Singh — Dr. Phool Singh

Central University of Haryana, Mahendergarh

Civil Engineering Department

Minutes of Meeting for Board of Studies on 11 June, 2019

Date	Time	Venue
11/6/2019	10:00 AM-02:30 PM	Head Civil Engg Deptt, Central University
Meeting called by	Dr. Vikas Garg, HoD Civil Engineering Department	
Attendees	Dr D V S Verma,(Ex Professor, NIT, Kurukshetra), Dr Dhirendra Singhal Professor & Head, Civil Engg. Deptt, DCRUST, Murthal), Dr. Vikas Garg; Er Deepak Rana, Er Ayush Vasisht	
Modification in present scheme and syllabi for the batch 2016- 20 & 2017-21		

Recommendations

1	Project cost analysis subject to be added in the DCEC in the 7th Semester
2	Syllabi for Building construction(BTCE - 409) is revised for the forth semester. This subject is General elective for other branches which is offered by our deptt

11/6/19
Dr D V S Verma

Dr Dhirendra Singhal

Vikas Garg 11/06/19
Dr Vikas Garg

Er Deepak Rana 11/06/19

Er Ayush Vashisth 11/06/19

* Departmental Core Elective Course (DCEC)

BTCE -714	PROJECT COST ANALYSIS	L T P 3 1 0

UNITI: INTRODUCTION:

Various types of Estimate, their relative importance. factors to be considered, complete set of Estimate. Approximate estimates: importance, purpose, different methods, Use of CBRI Equations for the same. Methods of preparation of estimates for projects such as i) Building R.C.C., Load bearing ii) Road , Culvert iii) Irrigation and iv) Water supply and sewerage: miscellaneous works like Manhole, water storage tank, septic tanks vi) Earthwork Calculations

UNITII: SPECIFICATIONS &MEASUREMENT:

Importance, types of specifications, detailed specifications for the buildings, roads, minor bridges and industrial structures, Use of relevant Indian Standard Specifications for the same, taking out quantities from the given requirements of the work, Bar bending schedules, measurement book

UNITIII: RATE ANALYSIS& ACCOUNTS:

Purpose of Rate analysis, importance and necessity, factors affecting, task work, daily output of various resources, Rate analysis for various Items, overhead charges, contingencies and work charge establishment, various percentages for different services in building, percentage breakup of the cost, market survey of basic materials, cash book, materials at site account, imprest account, tools and plants, various types of running bills, secured advance, final bill.

UNITIV: VALUATION:

Different terms used, the role of a valuer, purpose and necessity of the same. Capitalized Value, Years purchase, sinking fund, depreciation, types of values, Purpose of valuation Different methods of valuation for i. open plots. ii. open plots with existing residential & commercial structures iii. Lease hold properties Use of valuation tables and formulae

APPLICATION OF SOFTWARE IN QUANTITY SURVEYING: calculation on excel sheet

Books:

1 B.N. Dutta Estimating & Costing in Civil engineering, UBS Publishers' Distributors Pvt Ltd (2016)

2. M Chakravarty, Estimating, Costing Specifications & Valuation, Chakraborti (2010)

Reference books

1. B.S. Patil and S.P. Woolhouse , Building & Engineering Contracts, CRC Press (2019)

2. Work Manual (2019)

3 CPWD, Scheduled rates (2018)

4 P K Joy, Handbook of Construction Management, Macmillan (2015)

Building Construction	LTP310

UNIT – I

Components of a building and building specifications. Site preparation and setting out of works. Building layout. Building bye-laws. Masonry, stone masonry, basic terms, materials for stone masonry, classification, dressing of stones, joints in stone

Masonry. Brick Masonry, laying tools, basic terms, bonding of bricks, tools, inspection of brickwork, strength of brick work, Cavity walls, features, wall ties, construction of cavity wall. Lintels, classifications, Arches, classification and construction, Temporary works: Formwork and Scaffolding.

UNIT - II

Doors & windows: Introduction, location in buildings, basic terms, standard sizes of doors, size of timber, types of doors, fittings for doors, door frames, types of doors, types of windows, standard sizes of windows.

Floor & Roof: Types of floors, Construction of various types of floors, Damp proof construction of floors. Types of roof & roof covering, tiles, ACC, Tin & G.I. Sheets with details at joints bearings and ridges flat roof & its drainage, water proofing, false ceiling & method of fixing, Introduction to various types of trusses

UNIT - III

Earthwork, Damp proof course: Points of its requirement in buildings. D.P.C. at Plinth level, in basement and roof tops etc., Anti-termite treatment, Basement & Retaining walls:

Foundation types and suitability, spread, combined, cantilevered, Raft, Grillage, Piles & wells, Footings in block cotton soil,

UNIT – IV

Housing: Introduction, definitions, Acoustics and sound proofing, Ventilation and air-conditioning, Fire hazards, fire fighting system means of escape alarms system, Fire prevention measures, maintenance standards, Maintenance of floorings, doors, windows, sanitary appliances, electrical systems and septic tanks .

Text Books

1. S.K. Duggal, Building Construction, New Age Publishers (2019)
2. B. C. Punima, Building Construction, Laxmi Publisher House (2016)
3. Sushil Kumar, Building Construction, Standard Publisher and Distributors (2014)

F.No. 3-4/2017-NER
Government of India
Ministry of Human Resource Development
Department of Higher Education
Economic Administration Division
*****

Shastri Bhawan, New Delhi
Dated: 15th October, 2019

Central University of Haryana
Receipt No. 30477
Dated 30/10/19

To

1. The Chairman, UGC
2. The Chairman, AICTE
3. The Vice Chancellor of all Universities
4. The Principal Secretaries of Higher Education & Technical Education of all State Govts./UTs

Subject: Concession for the wards of Kashmiri Migrants and Kashmiri Pandit / Kashmiri Hindu Families (Non-Migrants) living in Kashmir valley for admission in Higher Educational Institutions - Regarding.

.....

Sir/Madam,

Attention is invited to this Ministry's letters No. 3-1/2012-NER dated 12.03.2015 and 22.07.2016 regarding certain concessions for the wards of Kashmiri migrants for their admission in Higher Education institutions in other parts of the country.

2. In this connection, representations have been received from Kashmiri Pandits (Non-Migrants) living in the Kashmir Valley to extend the existing concessions being provided to Kashmiri Migrants for them also.

3. The matter has been considered in this Department in consultation with Ministry of Home Affairs and State Government of Jammu & Kashmir. Now, it has been decided to allow the following concessions to the wards of Kashmiri Migrants as well as Kashmiri Pandits/ Kashmiri Hindu Families (Non-Migrants) who are living in the Kashmir Valley, in the matter of their admission in the educational institutions in other parts of the country from the academic year 2020-21 and onwards till further orders:

(i) Relaxation in cut-off percentage upto 10% subject to minimum eligibility requirement.
(ii) Increase in intake capacity upto 5% course-wise.
(iii) Reservation of at least one seat in merit quota in technical/professional institutions.
(iv) Waiving off domicile requirements for Kashmiri Migrants only. Kashmiri Pandits/Kashmiri Hindu Families (Non-Migrants) living in the Kashmiri Valley need domicile certificate.

4. This issues with the approval of Hon'ble HRM.

Yours faithfully,

(V.L.V.S.S. SubbaRao)
Sr. Economic Advisor (Higher Education)
Tel. No. 011-23384245

Copy for necessary action:-

1. The Secretary, Ministry of Health and Family Welfare.
2. The Secretary, Department of Agricultural Research & Education, Ministry of Agriculture & Farmers Welfare.
3. The Secretary, Department of Legal Affairs, Ministry of Law & Justice.
4. The Secretary, Ministry of Science and Technology.

Lubba Rao

(V.L.V.S.S. SubbaRao)
Sr. Economic Advisor (Higher Education)
Tel. No. 011-23384245

Copy for Information:-

1. The Secretary, Ministry of Home Affairs, North Block
2. The Chief Secretary (Jammu & Kashmir)
3. PS to Hon'ble HRM/PS to Hon'ble MoS (HRD)/ PSO Secretary (HE)

Lubba Rao

(V.L.V.S.S. SubbaRao)
Sr. Economic Advisor (Higher Education)
Tel. No. 011-23384245

ज्ञान-विज्ञान विमुक्तये

डॉ. जितेन्द्र कुमार त्रिपाठी
संयुक्त सचिव
Dr. Jitendra K. Tripathi
Joint Secretary

सत्यमेव जयते

विश्वविद्यालय अनुदान आयोग
University Grants Commission
(मानव संसाधन विकास मंत्रालय, भारत सरकार)
(Ministry of Human Resource Development, Govt. of India)
बहादुर शाह जफ़र मार्ग, नई दिल्ली-110002
Bahadur Shah Zafar Marg, New Delhi-110002
दूरभाष Ph : 011-23239200
E-mail : jitendratripathi.ugc@nic.in

By Speed Post

F.No.1-1/2013 (CU) Vol-XVII

March, 2019

06 MAR 2019

The Vice-Chancellor,
Central University of Haryana,
Jant-Pali Villages,
Mahendergarh- 123029,
Haryana

Subject: Approval of teaching posts– reg.

Sir,

This is in reference to your office letter No. CUH/Reg./2018/781 (A) dated 06.12.2018, CUH/2019/A&C/175 dated 12.02.2019 and CUH/2019/A&C dated 14.02.2019 regarding the requirement of additional/new teaching positions and presentation made by the university before the Committee constituted for this purpose on 15.02.2019. The proposal of the university was considered by the Committee. The recommendations of the Committee were placed before the Commission in its 539th meeting held on 26th February, 2019. The Commission considered and approved the recommendations of the Committee. Accordingly, the undersigned is directed to convey the approval of UGC for creation of **28 (Twenty Eight)** teaching positions in respect of **Central University of Haryana** as per details below:

Sl. No.	Name of Department(s)	Teaching positions approved by UGC			
		Professor	Associate Professor	Assistant Professor	Total
	Existing Departments				
1	Department of Law	0	2	3	5
2	Department of Tourism & Hotel Management	0	0	1	1
3	Department of Civil Engineering Under SOET	0	0	1	1
4	Department of Electrical Engineering under SOET	0	0	1	1
5	Department of Physics under SOET	0	0	1	1
6	Department of Computer Science and Engineering under SOET	0	0	1	1

V. Tabreja

	Total (Existing Departments)	**0**	**2**	**8**	**10**
	New Departments				
1	Department of Pharmaceutical Sciences	1	2	4	7
2	Department of Physical Education & Sports	1	2	4	7
3	Department of Yoga	0	0	2	2
4	Department of Sanskrit	0	0	2	2
	Total (New Departments)	**2**	**4**	**12**	**18**
	Total (Existing & New Departments)	**2**	**6**	**20**	**28**

The expenditure on teaching positions approved for above mentioned departments may be incurred out of the funds provided under salary head (36) of Annual allocation of 2019-20.

The above approval is subject to the fulfillment of the following conditions:-

(i) University may fill up the teaching positions at the earliest and explore the possibility to allocate the vacant teaching positions in the new areas where the requirement of teaching positions in a particular department is more needed.

(ii) The University should strictly adhere the reservation policy for SC/ST/OBC/PH/EWS as per Government of India/UGC guidelines while filling up the teaching positions.

(iii) The UGC Regulations of 2018 relating to Minimum Qualification for appointment of Teaches and other Academic Staff in University and Colleges and measures for the maintenance of Standards in Higher Education and as amended from time to time should be strictly followed.

Yours faithfully,

(Jitendra K. Tripathi)

Copy to :

1. F. No.28-1/2018 (CU)
2. Section Officer (Meeting Cell), UGC New Delhi in r/o item No. 2.06 of the 539th Commission Meeting held on 26th February, 2019.

(Jitendra K. Tripathi)

V. Taneja

F.No.58-6/2018-CU-III
Government of India
Ministry of Human Resource Development
Department of Higher Education
*****

New Delhi, the 4th December, 2019

To

The Registrar,
Central University of Haryana,
Jant-Pali, Mahendergarh,
Haryana-123029.

Subject: Amendment of Statutes/Ordinances proposed by Central University of Haryana.

.....

Sir,

Reference:- (i) Letter No. CUH/2018/A&C/110 dated 6.12.2018.
(ii) Letter No. CUH/2018/A&C/86 dated 5.9.2018.
(iii) Letter No. CUH/Reg./2019/A&C/224 dated 21.8.2019.
(iv)Letter No. CUH/2019/A&C/222 dated 19.8.2019.
(v) Letter No. CUH/2019/A&C/191 dated 4.4.2019.
(vi) Letter No. CUH/2019/A&C/192 dated 4.4.2019.

2. I am directed to refer to your letters mentioned above and to say that the President in his capacity as the Visitor of the Central University of Haryana, is pleased to approve the amendments proposed by the University as under:-

S. No.	Ordinance/ Statute	Subject
1	Statute 2	Re-appointment of the VC
2	Ordinance IV A	Qualification for appointment to the teaching and other posts.
3	Statute 18	Selection Committee
4	Statute 15(i)	Schools of Studies and Departments.
5	Statute 11	Constitution of the EC and the term of office of its members.
6	Ordinance XIV	Leave Rules for teaching staff.
7	Ordinance XV	Programme leading to the Award of Postgraduate Degrees/Diplomas.
8	Ordinance XXIX	Programme leading to the Award of Bachelor of Technology (B.Tech) Degree.
9	Ordinance XXX	Programme leading to the Award of the Certificate/Diploma/Advanced Diploma/Degree of Bachelor of Vocation (B.Voc)
10	Ordinance XX	Convocation
11	Ordinance II	Degree of Master of Philosophy (M.Phil)
12	Ordinance II A	Degree of Doctor of Philosophy (Ph.D)

3. It is requested that the above amendments may please be got published in the official Gazette and sufficient number of copies of the Gazette notification may be sent to this Department for laying them in the Parliament.

Yours faithfully,

(C.P. Ratnakaran)
Under Secretary to the Government of India

Annexure-XVI

Gmail

Sandeep Kumar Sharma <sandeepgaur026@gmail.com>

Fwd: Urgent Agenda for the BOS

1 message

Chanchal Kumar Sharma <chanchalsharma1@gmail.com> Tue, Jan 14, 2020 at 11:53 AM
To: Sandeep Sharma <sandeepgaur026@gmail.com>

---------- Forwarded message ---------
From: **Chanchal Kumar Sharma** <chanchalsharma1@gmail.com>
Date: Mon, Jan 13, 2020, 2:39 PM
Subject: Re: Urgent Agenda for the BOS
To: Ashok Acharya <aacharya.du@gmail.com>
Cc: Ashutosh Kumar <ashutoshchd@gmail.com>

Dear Prof. Ashok Acharya and Prof. Ashutosh Kumar,

Many thanks for your observations and recommendations.

Yours sincerely,
Chanchal

On Mon, 13 Jan 2020 at 13:33, Ashok Acharya <aacharya.du@gmail.com> wrote:
Dear Prof Sharma,

Many thanks for seeking me out.

I'm in agreement with Prof Kumar's opinion and in my view too Mr Chaube deserves a second chance given that the margin by which he did not qualify the coursework is not so significant.

Best regards,
Ashok Acharya

On Mon, Jan 13, 2020, 11:01 AM Ashutosh Kumar <ashutoshchd@gmail.com> wrote:
Dear Sir

In my considered opinion based on the observations given below Mr Sidhakar Chaube should be given one more chance to appear in the examination under the heading "Course Work".

I leave it to the final decision by the competent authority.

Regards,
Ashutosh kumar
Professor
Panjab University

On Mon, 13 Jan 2020, 10:01 am Chanchal Kumar Sharma, <chanchalsharma1@gmail.com> wrote:
The Esteemed Members of the Board of Studies,

This is to bring to your kind notice that Mr. Sudhakar Choubey, s/o Sh Vinod Kumar Chaubey registered with the Department of Political Science under PhD programme (registration/Roll number 180204) has failed to qualify 'Course Work' by a narrow margin of only 1.42 marks in his second attempt. The student, in his letter dated 05/12/2019 has requested for one more chance on mercy ground (letter attached). His request was forwarded, through proper channel, to the Examination Section. The Controller of Examination has clarified that a mercy chance can be allowed by the Vice Chancellor on the recommendations of the Board of Studies (comment of the COE attached).

Thus, the Agenda item as stated above is being placed before the Board of Studies with a request for favourable consideration.

The item and the recommendation will be placed before the Academic Council for approval on 14 January 2020.

Dr. Chanchal Kumar Sharma
Head, Department of Political Science
Central University of Haryana

प्राप्ति सं./Diary No.....8614.....
दिनांक/Dated.....05/12/19.....

Date 05/12/2019

कुलपति कार्यालय, ह.के.वि.
Vice-Chancellor's Office, C.U.H.

Honorable Vice Chancellor
Central University of Haryana
Mahendragarh,Haryana

प्राप्ति सं./ Receipt No. 31035
दिनांक / Dated 6/12/19

Sub- Request for a mercy chance.

Honorable sir,

I am student of PhD program in department of political science. I get admitted in the department in july 2018. I appeared for the mandatory Course work examination in December 2018 and the declared result show me reappear for the paper 'Theory and Methods of Research in social science SSHPOSO2(201)C6006'. I again appear for the examination and the declared result shows my marks 53.42 CGPA, which is below passing mark 55.

Sir, as a student following are my brief credentials.

I, Sudhakar Chaubey UGC JRF NOV 2017 having roll no 85030546 was the all India topper of public administration subject code (014). I have cleared my research methodology paper of M.A. with 80% marks and passed my master's degree with 7.44 CGPA.

Sir it's a question of career. After this I will have no other way. I beg to sir with folded hands to give a mercy chance to re appear in course work.

I have always been a bright student academically.I will be thankful to you all my life.

Thanking you

Your sincerely

Sudhakar chaubey

SUDHAKAR CHAUBEY
Roll No - 180204
PhD (political science)
Central University of Haryana

Sudhakar chaubey

Recommended & forwarded
Chauchal 5/12/2019

Examine and put up for further action. Need be view of LA betalem.
6/12/19
for m/a
C.O.E.

05/12

Scanned by CamScanner

As per Ordinance-11(A) [Amended in accordance with the University Grants Commission (Minimum Standards and Procedure for Award of M.phil/Ph.D Degrees) (2nd Amendment) Regulations, 2018]

Clause 7.9, It clearly states that (1) "The candidates failing to obtain a minimum CGPA of 5.5 may be allowed to continue with provisional registration for a maximum period of one more semester during which the candidate would be required to fulfill the minimum required CGPA. He/she shall be allowed to reappear in the next end-semester examination. No furthur chance will be given to the candidate.

(2) Note:- Notwithstanding what is contained in the ordinance, the Academic Council or the Vice Chancellor may, in exceptional circumstances, and on the recommendations of the Board of Studies/School Board, as well as on the merits of each individual case, consider, at its discretion and for the reasons to be recorded in writing, relaxation of any of the provisions except those related to CGPA requirements for qualifying the course work. In view of above it can be referred back to respective BOS/School Board.

07/12/19

Registrar

Dean (Acs)

Dean, School of Arts & Hum. & SS to do the needful.

Dean / Dr. Chanchal

CUH/Dean (Acad)/101(R)
10-12-19

Registrar Officer, Central University of Haryana
प्राप्ति सं/ Receipt No. 31014
दिनांक / Dated 9/12/19

Dean CUH/Dean 7/12
Date - 9-12-19

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Annexure-XVII

ज्ञान-विज्ञान विमुक्तये

डॉ. अजय कुमार खण्डूड़ी
संयुक्त सचिव
Dr. Ajay Kumar Khanduri
Joint Secretary

सत्यमेव जयते

विश्वविद्यालय अनुदान आयोग
University Grants Commission
(मानव संसाधन विकास मंत्रालय, भारत सरकार)
(Ministry of Human Resource Development, Govt. of India)
बहादुरशाह जफ़र मार्ग, नई दिल्ली-110002
Bahadur Shah Zafar Marg, New Delhi-110002
दूरभाष Tele : कार्यालय Off : 011-23232568
e-mail : khanduri.ugc@nic.in | khanduriajay27@gmail.com

मि0 सं0 16–1/2018 (राजभाषा)

दिसम्बर, 2019

कुलपति,

सेन्ट्रल युनिवर्सिटी ऑफ हरियाणा,
ग्राम– जन्तपाली, महेन्द्रगढ़– 123 031
(हरियाणा)

20 DEC 2019

विषयः विश्वविद्यालयों में शोध प्रबंध (विशेषतः वैज्ञानिक और तकनीकी विषयों से संबंधित) हिंदी में लिखे जाने के प्रोत्साहन हेतु विशेष योजना आरम्भ करना।

महोदय,

मानव संसाधन विकास मंत्रालय की हिन्दी सलाहकार समिति की दिनांक **14 मई, 2018** की बैठक में निर्णय लिया गया है कि **"विश्वविद्यालयों में शोध प्रबंध (विशेषतः वैज्ञानिक और तकनीकी विषयों से संबंधित) हिन्दी में लिखे जाने के प्रोत्साहन हेतु विशेष योजना आरम्भ"** की जाए। उक्त विषय के सन्दर्भ में आपसे अनुरोध है कि **विश्वविद्यालय में शोध प्रबंध (विशेषतः वैज्ञानिक और तकनीकी विषयों से संबंधित) हिन्दी में लिखे जाने के प्रोत्साहन हेतु विशेष योजना आरम्भ** की जाए। विश्वविद्यालय द्वारा उक्त के सन्दर्भ में की गई कार्यवाही की जानकारी आयोग के ई–मेल **rajbhasha.ugc@gmail.com** तथा डाक द्वारा उपलब्ध कराई जाए जिससे सूचना मानव संसाधन विकास मंत्रालय की सलाहकार समिति की बैठक हेतु मंत्रालय को प्रेषित की जा सके।

भवदीय,

(डॉ0 अजय कुमार खण्डूड़ी)

Scheme

B.Ed.

(Bachelor of Education)

School of Education

Academic Session : 2019-21

Course Structure of Bachelor of Education (B.Ed.) under Choice Based Credit System for the Session 2019-21

Total No. of Credits in Four Semesters = 96 (88 + 8) (B.Ed. Course +Course offered by other Department)

B.Ed. Semester-I

Sl. No.	Course Code	Total Credits	Paper Title	Total Marks	Credits (Theory/Tutorial/Practicum)	Class Teaching Hours per week	Internal Assessment Weightage	External Assessment Weightage
1	SOE020101C3104	4	Childhood and Growing Up	100	4	4	30%	70%
2	SOE020102C3104	4	Contemporary India and Education	100	4	4	30%	70%
3	SOE020103C3104	4	Assessment for learning	100	4	4	30%	70%
4	SOE020104C3104	4	Value and Peace Education	100	4	4	30%	70%
5	SOE020105C1102	2	Language Across the Curriculum	50	2	2	30%	70%
6	SOE020106C1102	2	Understanding Discipline and Subjects	50	2	2	30%	70%
7	SOE020107C1102	2	Reading and Reflection on Text	50	2	2	30%	70%
8		**4**	**To be taken from other Department/MOOC**	100	4	4	30%	70%
	Total	**26**		**650**	**26**	**26**		
	Practicum/Hands on/ Students Activity /Seminar/Workshop/etc; during Practicum hours							
●	● **1 Credit Theory = 16 hours in a semester** ● **1 Credit = 25 Marks**							
●	● **Course Code offered to other Department in Semester I is presented in Table-1**							

Table-1: List of Courses offered by the School of Education to other Departments in Semester-I and III

Sl. No.	Course Code	Course Title	
1	SOE020134GEC3104	Value Based Education	Semester I
2	SOE020135GEC2024	Art in Education	Semester I

B.Ed. Semester-II

Sl. No.	Course Code	Total Credits	Paper Title	Total Marks	Credits (Theory/Tutorial/ Practicum)	Practical	Class Teaching/ Field Based Activity Hours per week	Internal Assessment Weightage	External Assessment Weightage
1	SOE020208C3104	4	Learning and Teaching	100	4	0	4	30%	70%
2	SOE020209C3104	4	Knowledge and Curriculum	100	4	0	4	30%	70%
3	SOE020210C3104 -- SOE020217C3104	4	Pedagogy of School Subject-1*	100	4	0	4	30%	70%
4	SOE020210C3104 -- SOE020217C3104	4	Pedagogy of School Subject-2*	100	4	0	4	30%	70%
5	SOE020218C2024	4	Art in Education (Visual & Performing Arts)	100	2	2	6	30%	70%
6	SOE020219C0022	2	ICT in Education	50	0	2	4	30%	70%
7	SOE020220C0044	4	School Internship**	100	0	4	8	60%	40%*
	Total	**26**		**650**	**18**	**8**	**34**		

Practicum/Hands on/ Students Activity /Seminar/Workshop etc. during Practicum hours

- **1Credit Theory = 16 hours in a semester**
- **1 Credit = 25 Marks**
- ***Pedagogy of School Subject-1* & Subject-2* may choose from List given below in Table-2.**
- ****Students will be engaged with school for the four weeks during the Semester.**

Course Code offered to other Department in Semester II is presented in Table-3

Table-2: List of Pedagogical Courses* offered by the School of Education in Ist Year (Semester II)

Sl. No.	Course Code	Course Title
1	SOE020210C3104	Pedagogy of Hindi
2	SOE020211C3104	Pedagogy of English
3	SOE020212C3104	Pedagogy of Social Sciences
4	SOE020213C3104	Pedagogy of Mathematics
5	SOE020214C3104	Pedagogy of Life Science
6	SOE020215C3104	Pedagogy of Physical Science
7	SOE020216C3104	Pedagogy of Economics
8	SOE020217C3104	Pedagogy of Commerce

Table-3: List of Courses offered by the School of Education to other Departments in Semester-II

Sl. No.	Course Code	Course Title	Semester
1	SOE020236GEC2024	ICT in Education	Semester II
2	SOE020237GEC2024	Essentials of Guidance and Counseling	Semester II
3	SOE020238GEC2024	Performing and Visual Arts	Semester II

B.Ed. Semester-III

Sl.No.	Course Code	Total Credits	Paper Title	Total Marks	Credits (Theory/Tutorial/ Practicum)	Practical	Class Teaching/ Field Based Activity Hours per week	Internal Assessment Weightage	External Assessment Weightage
1	SOE020321C001616	16	**School Internship***	400	0	32	32	60%	40%
2		**4**	***To be taken from other Department/MOOC**	100	4	0	4	30%	70%
	Total	**20**		**500**	**4**	**32**	**36**		

Practicum includes lesson planning/ Engagement with the field/ Hands-on experience/activities/seminars/workshops etc.
courses for advanced level pedagogy (senior secondary level) can be offered to post graduates in a school subject.
@ internship + school and community-based activities (credits 14+2) = Marks 350+50=400

Note: During School Internship School and Community-Based Activities may be arranged in terms of resources available in the teacher education institutions/university.

***School Internship will be treated as Practicum Course.**
1Credit Theory = 16 hours in a semester
1 Credit = 25 Marks
*** Students will be engaged with school for 16 weeks during the Semester.**
***Courses offered by the other Department: maximum-4 Credits**

B.Ed. Semester-IV

Sl.No.	Course Code	Total Credits	Paper Title	Total Marks	Credits (Theory/Tutorial/ Practicum)	Practical	Class Teaching/ Field Based Activity Hours per week	Internal Assessment Weightage	External Assessment Weightage
1	SOE020422C3104	4	Gender, School and Society	100	4	0	4	30%	70%
2	SOE020423C3104	4	Curriculum Transaction	100	4	0	4	30%	70%
3	SOE020424C3104	4	Creating an Inclusive School	100	4	0	4	30%	70%
4	SOE020425C1102	2	Understanding the Self	50	2	0	2	30%	70%
5	SOE020426C1102	2	Environmental Education	50	2	0	2	30%	70%
6	SOE020427C2024	4	Yoga Education	100	2	2	6	30%	70%
7	SOE020428DCEC1102-SOE020433DCEC1102	2	Optional Course*-1	50	2	0	2	30%	70%
8	SOE020428DCEC1102-SOE020433DCEC1102	2	Optional Course*-2	50	2	0	2	30%	70%
	Total	**24**		**600**	**22**	**2**	**24**		

Practicum/Hands on/ Students Activity /Seminar/Workshop/etc; during Practicum hours

- **1Credit Theory = 16 hours in a semester**
- **1 Credit = 25 Marks*Optional Course may choose from Table-4.**

Course Code offered to other Department in Semester IV is presented in Table-5

Table-4: List of Optional Courses offered by the School of Education in 2nd Year (Semester IV)
Choose any two from the following List

Sl. No.	Course Code	Course Title
1	SOE020428DCEC1102	Educational Administration and Management
2	SOE020429DCEC1102	Life Skills Education
3	SOE020430DCEC1102	Guidance and Counselling
4	SOE020431DCEC1102	Health &Physical Education
5	SOE020432DCEC1102	Education in Indian Constitution
6	SOE020433DCEC1102	Comparative Education

Table-5: List of Courses offered by the School of Education to other Departments in Semester-IV

Sl. No.	Course Code	Course Title	Semester
1	SOE020439GEC3104	Educational management and Leadership	Semester IV
2	SOE020440GEC3104	Peace education	Semester IV

ABOUT INTERNSHIP

4 weeks of internship preparation and exposure to school life spread through different courses in First year and 16 weeks of internship in Second year which shall include two weeks of community based activities.

Marking Scheme:

	Examination Scheme		
	Internal Assessment	**External Assessment**	**Total Marks**
School Based Internship Programme	**60 Marks**	**40 Marks**	**100 Marks**

Evaluation Strategies:

S. No.	Activity	Mode	Weightage of Marks
1	Skills in teaching (10 micro teaching lessons in both pedagogy Papers)	Presentation	10+10
2	School observation/Class room observation (both Teaching Subject)	-	10+10
3	Internal Viva	Viva-Voce	10+10
Total Marks			**30+30=60**

SEMESTER II

LEARNING AND TEACHING
COURSE CODE -SOE020208C3104

Year: I **Credit: 4**
Semester: II **Max Marks: 100**

Essence of the Course

This course focuses on developing understanding of concept of teaching along with phases, levels and maxims of teaching. It also focuses on theories of learning and their educational implications. The course aims to develop conceptual understanding of the process of creativity and intelligence along with its various theories. The course also highlights about the teaching as a profession, skills of teachers for effective teaching and approaches to teaching.

Objectives: After completing this course, the pupil-teachers will be able to:

- relate variables of teaching process with the concept of teaching
- identify the relationship between teaching style & learning styles
- apply the maxims of teaching and approaches to teaching
- estimate the use of Phases of Teaching and Levels of Teaching
- explain the educational implications of different theories of learning
- identify the creative potentiality of learners
- comprehend the concept, nature and various theories of intelligence
- identify and suggest various skills & competencies in classroom teaching & management
- critically evaluate the role of a teacher as transmitter and facilitator of knowledge

Teaching Scheme (session)*

Teaching Scheme (session)*			**Total (L+T+P)**	**Examination Scheme**		
				Internal Assessment	**External Assessment**	**Total Marks**
Unit	**L**	**T/P**	**C**	**30 Marks**	**70 Marks**	**100 Marks**
I	10	4	14			
II	14	4	18			
III	12	4	16			
IV	12	4	16			
Total	48	16	64	**30 Marks**	**70 Marks**	**100 Marks**
L=Lecture, T=Tutorial, P=Practicum						

Course Content:

Unit I: Understanding the Teaching

- Teaching : Concept, Nature & Characteristics
- Phases and Levels of Teaching
- Maxims of Teaching
- Learning Styles **:** Concept, Meaning, & implications for classroom environment, **(**VARK Model & Kolb's Model of Learning **style)**

Unit II: Learning and It's Theories

- Learning: Concept, Characteristics and Factors affecting learning
- Learning Theories and their Educational Implications
    - Behaviourist Theories: Classical & Operant Conditioning
    - Learning by Trial and Error (Thorndike)
    - Gestalt theory – Learning by insight
    - Cognitive theories -Bruner and Ausubel
    - Social Cognitive theory – Vygotsky

Unit III: Creativity & Intelligence

- Creativity: Concept, nature, process
- Identification & Techniques of fostering creativity in classroom
- Intelligence: concept, meaning and nature
- Theories of Intelligence
    - Spearman's Two Factor Theory
    - Thurston's Group Factor Theory
    - Gardner's Theory of Multiple Intelligence

Unit IV: Teaching as a Profession

- Teaching as Profession
- Role of a teacher in teaching-learning process (as Transmitter of knowledge and Facilitator of Knowledge)
- Professional Ethics of Teachers
- Skills & Competencies of 21st Century teachers

Transactional Strategies:
Interactive development of concerned topics and theories with the help of various multimedia applications like; Google Classroom, Google Group, Google Drive, related Articles and other materials from various reputed online resources, Lecture cum discussion, Use of PPT, Assignments on various topics. Debate on various factors affecting teaching learning process & panel discussion, Brainstorming Session and in-depth analysis of various theories of learning by the pupil teachers.

Internal Assessment Strategies: A total of thirty marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows:

S. No.	Activity	Mode	Weightage of Marks
1	Three Sessional tests will be conducted.(Better Two will be counted)	Written	**20**
2	Preparation of an assignment on various topics	Assignment & Presentation (PPT)	**5**
3	Percentage of attendance	---	05
	Total Marks		**30**

Practicum: Suggestive List:

1) Presentation on the comparative analysis of the various learning theories through multimedia approach.
2) Analysis of influential factors affecting learning to the same class and students on the basis of regular visit (one week) to school.
3) Report on effective teacher behaviour or classroom instruction strategies of effective teacher.

Suggested Readings:

- Bigge, M. L. (1982). *Learning theories for teachers* (4th edition). New York: Harper and Row Publishers.
- Chauhan, S.S. (2007). *Advanced educational psychology*(7th edition). New Delhi: Vikas Publishing House Pvt. Ltd.
- Chauhan, S.S. (2014). *Innovations in teaching learning process*. Noida: Vikas Publishing House Pvt. Ltd.
- Dececco, J.P. (1988). *The psychology of learning and instruction*. New Delhi: Prentice Hall.
- Wheldall, K. (2006). *Developments in educational psychology*. New York: Routledge.
- Hergerhahn, B.R. (1976). *An introduction to theories of learning*. Englewood Cliffs, NJ: Prentice Hall.
- Kumar, S. (2016). *Child development and pedagogy*. Delhi: Pearson Education (Singapore) Pvt. Ltd.
- Lefrancois, G.R. (1999). *Psychology for teaching* (10th edition). London: Woodsworth Publishing.
- Ohles, J.F. (1970). *Introduction to teaching*. New York: Random House, INC.
- Ormrod. J.E. (2000).E*ducational psychology*: *Developing learners* (3rd edition). New Jersey: Prentice Hall.
- Pandey, K.P.(1983). *Dynamics of teaching behaviour.* Ghaziabad: Amitash Parkashan.

- Rinehart, Winston, & Bhatia, K.K. (2008). *Basis of educational psychology.* Ludhiana: Kalyani Publishers.
- Santrock, J.W. (2018). *Educational psychology* (6th Edition). McGraw Hill Education.
- Siddiqui, M. H. (2005). *Techniques of classroom teaching.* Delhi:APH Publishing Corporation.
- Skinner, E.C. (1984). *Educational psychology* (4th edition).New Delhi: Prentice Hall of India Pvt. Ltd.
- Snowman., & Baihler. (2006). *Psychology applied to teaching*. Boston: Houghton Mifflin Company.
- Snowman., J., & Biehler, R. (2002). *Psychology applied to teaching*. New York : Houghton Mifflin.
- Stephens, L.M., & Evans, E.D. (1973). *Development and classroom learning: An introduction to educational psychology*. New York: Holt, Rinehart and Winston, Inc.
- Tanner, L.N., & Lindgren, H.C. (1971). *Classroom teaching and learning*. New York: Holt, Rinehart and Winston, Inc.
- Upadhya,B.,& Singh Y.K.(2011). *Encyclopaedia of education psychology* (Vol. I to II).Delhi: APH Publishing Corporation.
- Woolfolk, A. (2017). *Educational psychology* (13th edition). Delhi: Pearson Education (Singapore) Pvt. Ltd., Indian Branch.

Web Resources:

Jane Ciumwari Gatumu, Reflective Teaching, http://oer.avu.org/bitstream/handle/123456789/155/REFLECTIVE-TEACHING.pdf?sequence=1

https://www.ibo.org/globalassets/digital.../approaches-to-teaching-learning-dp-en.pdf

KNOWLEDGE AND CURRICULUM
COURSE CODE -SOE020209C3104

Year: I **Credit: 4**
Semester: II **Max Marks: 100**

Essence of the Course

Every teacher deals with creation of congenial environment for curriculum transaction. Teacher's job is primarily concerned with operationalizing various curricular practices. Teacher's understanding of the nature of knowledge in the context of school subjects is considered most essential. It aims to provide knowledge and skills to student teachers relating to curriculum development, implementation and evaluation. Different concepts like types & sources of knowledge, methods of acquiring knowledge and their interrelations with education have been covered in this course. The nature of school curriculum and its foundations, transaction process etc. have also been highlighted in this course.

Objectives: After completing this course, the student-teachers will be able to:

- describe epistemological bases of knowledge.
- list the source of knowledge and various methods of acquiring knowledge.
- compare the Indian and Western views about knowledge
- acquaint with the meaning and concepts of curriculum.
- differentiate curriculum and syllabus
- identify factors affecting curriculum
- familiar with the types of curriculum
- develop activity based curriculum
- elaborate the concepts and approaches of curriculum development.
- apply the various models of curriculum development
- acquaint with the curriculum reforms in the Indian context.

Teaching Scheme

Teaching Scheme (Session)*			**Total (L+T+P)**	**Examination Scheme**		
				Internal Assessment	**External Assessment**	**Total Marks**
Unit	**L**	**T/P**	**C**	**30 Marks**	**70 Marks**	**100 Marks**
I	12	4	16			
II	12	4	16			
III	12	4	16			
IV	12	4	16			
Total	48	16	64	**30 Marks**	**70 Marks**	**100 Marks**
L=Lecture, T=Tutorial, P=Practicum						

Course Content:

Unit I: Epistemological Bases of Knowledge

- Concept of Knowledge: Meaning of information, knowledge and wisdom.
- Types & Sources of Knowledge
- Methods of Acquiring Knowledge
- Structures and Forms of Knowledge

Unit II:Knowledge: Indian and Western Views

- Indian Views:
    - Shankhya
    - Vedanta
    - Buddhism
- Western Views:
    - Idealism
    - Naturalism
    - Pragmatism

Unit III: Conceptual understanding of Curriculum

- Meaning and concept of curriculum; Difference between Curriculum and Syllabus
- Characteristics of curriculum
- Factors affecting curriculum i.e. Philosophical, Sociological, Psychological, Historical
- Types of curriculum: Core, Hidden, Null, Differentiated curriculum and Activity -based curriculum

Unit IV: Basics of Curriculum Development

- Meaning of Curriculum development
- Need, Importance and Process of Curriculum development
- Principles of curriculum development
- Models of curriculum development
    - Grass Root Model
    - Administrative Model
    - System Analysis Model

Transactional Strategies:

Lecture cum discussion, Use of PPT, Assignments on various topics, presentation and discussion, Lecture cum demonstration, Preparation of activity based curriculum in groups and discussion, Debate on various factors affecting curriculum, chart preparation on various models and process, In depth analysis of various models of curriculum development by the student teachers and presentations will be encouraged.

Internal Assessment Strategies:

A total of thirty marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of marks
1	Three Sessional tests will be conducted.(Better Two will be counted)	Written	**20**
2	Preparation of an assignment on various topics	Assignment & Presentation (PPT)	**5**
3	Percentage of attendance		**05**
Total Marks			**30**

Practicum:

- Preparation of activity based curriculum in groups and discussion.
- Chart preparation on various models of curriculum
- Visit to DIET, Schools to find out the role personnel in curriculum development process.

Suggested Readings:

· Aggrawal, J.C., & Gupta, S. (2005). *Curriculum development*. New Delhi: Shipra Publisher.
· Alaxander, W.M., & Saylor, J.G. (1966). *Curriculum planning for modern schools*. New York: Holt, Rinhart and Winston Inc.
· Balrara, M. (1999). *Principles of curriculum renewal*. New Delhi: Kanishka Publishers.
· Bhatia, S.K., & Jindal, S. (2016). *A textbook of curriculum, pedagogy and evaluation*(1st Edition). Paragon Publishers.
· Candra, A. (1977). *Curriculum development and evaluation in education.* New Delhi: Sterling Publishers.
· Darji, D.R., & Lulla, B.P. (1967). *Curriculum development in secondary schools of Baroda.* Baroda: Sadhana Press.
· Erickson, H.L. (2007). Concept based curriculum and instruction for the thinking classroom California: Corwin Press.
· Hassrin, M. (2004). *Curriculum Planning for elementary education.* New Delhi: Anmol Publishers.
· Jenkins, D. & Shifrnan, D.M. (1976). *Curriculum an introduction*. London: Pitman Publishing House.
· Khan, M.I. & Nigam, B.K. (2007). *Curriculum reform change and continuity*. New Delhi: Kanishka Publication.
· Kumari, S. & Srivastava, D.S. (2005). *Curriculum and Instruction*. New Delhi: Shipra Publishers.

· Madan, P. (2017). *Curriculum development and assessment* (1st Edition) (Hindi). Agarwal Publisher.
· Musgrave, P.W. (1974). *Contemporary studies in the Curriculum*. Australia: Angus and Roberston Publishers.
· Nigam, B.K. & Khan, M.I. (1993). *Evaluation and research in Curriculum Construction*. New Delhi: Kanishka Publishers.
· Ornsttein, A.C. & Hunkins, F. (1988). *Curriculum foundations, principles and issues.* New Jersey: Prentice Hall.
· Panday, M. (2007). *Principles of curriculum development*. New Delhi: Rajat Publications.
· Rajput, J.S. (2004). *Encyclopedia of Indian Education*. New Delhi: NCERT.
· Satyanarayan, P.V. (2004). *Curriculum development and management*. New Delhi: DPH.
· Sharma, R. (2002). *Modern methods of curriculum organisation*. Jaipur: Book Enclave.
· Sharma, S.R. (1999). *Issues in curriculum administration*. New Delhi: Pearl Publishing House.
· Sockett, H. (1976). *Designing the curriculum*. Britain: Pitman Press.
· Srivastava, H.S. (2006). *Curriculum and methods of teaching*. New Delhi: Shipra Publishers.
· Tata, H. (1962). *Curriculum development theory & practice*. New York: Harcourt, Brace & World Inc.
· Yadav, Y.P. (2006). *Fundamentals of curriculum design*. New Delhi: Shri Sai Printographers.
Ainsworth, L. (2014). Rigorous curriculum design: How to create curricular units of study that align standards, instruction, and assessment. Houghtom Mifflin Harcourt Publishers.

Web Resources:

- Systemic Reforms for Curriculum Change, http://www.ncert.nic.in/new_ncert/ncert/rightside/links/pdf/focus_group/Systemic_reforms_final.pdf
- Curriculum, Syllabus and Textbooks, http://www.ncert.nic.in/new_ncert/ncert/rightside/links/pdf/focus_group/cst_final.pdf

PEDAGOGY OF HINDI
COURSE CODE -SOE020210C3104

Year: I **Credit: 4**
Semester: II **Max Marks : 100**

पाठ्यक्रम का सार

यह पाठ्यक्रम एक बहु सांस्कृतिक और बहुभाषी वातावरण में छात्र शिक्षकों की हिन्दी भाषा और संचार क्षमता के विकास पर केन्द्रित है। यह छात्र शिक्षकों के अलग–अलग हिन्दी भाषा के विकास को ध्यान में रखते हुए तैयार किया गया है और यह पाठ्यक्रम शिक्षक शिक्षकों को हिन्दी भाषा एवं हिन्दी भाषा शिक्षण की विधियों में निपुण बनायेगा।

उद्देश्यः

- भाषा की अलग–अलग भूमिकाओं को जानना
- स्कूल की भाषा, बच्चों की भाषा और समझ के बीच संबंध जानना
- पाठ्यचर्चा, पाठ्यक्रम का विश्लेषण कर कक्षा विशेष और बच्चों की समझ के अनुसार ढालना।
- हिन्दी भाषा के विविध रूपों की अभिव्यक्तियों को जानना
- भाषा के विभिन्न कौषलों का विकास करना
- भाषा के मूल्याकंन की प्रक्रिया को जानना।

Teaching Scheme (session)*			**Total (L+T+P)**	**Examination Scheme**		
				Internal Assessment	**External Assessment**	**Total Marks**
Unit	**L**	**T/P**	**C**	**30 Marks**	**70 Marks**	**100 Marks**
I	14	2	16			
II	14	2	16			
III	14	2	16			
IV	14	2	16			
Total	56	8	64	**30 Marks**	**70 Marks**	**100 Marks**
L=Lecture, T=Tutorial, P=Practicum						

पाठ्यक्रम की विषय वस्तु

इकाई–1: हिन्दी भाषा अधिगम की प्रक्रिया

- हिन्दी भाषा की भूमिका, प्रकृति एवं महत्व।
- हिन्दी भाषा अधिगम के सामान्य सिद्धान्त।
- हिन्दी शिक्षण के उद्देश्यः– ज्ञानात्मक उद्देश्य, कौशलात्मक उद्देश्य, सौन्दर्य बोधात्मक उद्देश्य, रचनात्मक उद्देश्य।
- मातृभाषा शिक्षण का अर्थ, स्वरूप, महत्व, सामान्य सिद्धान्त, लक्ष्य एंव उद्देश्य।

इकाई– 2: हिन्दी भाषा शिक्षण की विभिन्न विधाएँ

- हिन्दी शिक्षण में सूचना तकनीकी की उपयोगिता एवं गुण ।
- हिन्दी भाषा शिक्षण में क्रियात्मक अनुसंधान–अर्थ, महत्व एवं प्रक्रिया, हिन्दी में क्रियात्मक शोध योजना का प्रारूप।
- पद्य, गद्य एवं व्याकरण शिक्षण का अर्थ उद्देश्य, महत्व, विधियाँ एवं सोपान ।
- वाचन प्रक्रिया एवं प्रकार।

इकाई–3: हिन्दी भाषा शिक्षण के भाषाई कौशलों का विकास

- श्रवण कौशलः– अर्थ, प्रकार, शैक्षिक क्रियाकलाप।
- मौखिक अभिव्यक्ति कौशल के उद्देश्य, मौखिक अभिव्यक्ति विकास की क्रियाएं, मौखिक अभिव्यक्ति सम्बन्धी त्रुटियों का निवारण।
- पठन कौशल की प्रक्रिया, प्रकार, पठन अभिरूचि का विकास, पठन सम्बन्धी त्रुटियों का निवारण।
- लिखित अभिव्यक्ति कौशल का विकास, लेखन का महत्व, प्रक्रिया, लिखित रचना के प्रकार एवं उनका शिक्षण ।

इकाई–4: हिन्दी भाषा शिक्षण के लिए अनुदेषन योजना

- ब्लूम द्वारा निर्धारित अनुदेशनात्मक उद्देश्य।
- हिन्दी शिक्षण कौशलों का विकास : प्रस्तावना कौशल, व्याख्या कौशल, उदाहरण कौशल, उद्दीपन परिवर्तन कौशल और प्रश्न कौशल ।
- हिन्दी पाठ योजना (गद्य, पद्य एवं व्याकरण) का अर्थ, महत्व, एवं रूपरेखा।
- हिन्दी में मूल्याकंन– अर्थ, **महत्व**, विभिन्न विधियाँ एवं साधन।

कार्य सम्पादन रणनीतियाँ

इकाई–1 – व्याख्यान, समूह चर्चा, पावर प्वाइंट प्रस्तुतियाँ, एमओओसी और ई–लर्निंग का उपयोग
इकाई–2 व्याख्यान, चर्चा, स्कूल के अध्ययन के अध्यापन के भाषा के खेल, ऑडियों और वीडियों सामग्री आदि का उपयोग।

इकाई–3 व्याख्यान विधि– समूह चर्चा, प्रदर्शन विधि का प्रयोग एवं पावर प्वाईंट प्रस्तुति, ई–लर्निंग आदि का उपयोग।
इकाई–4 व्याख्यान विधि– समूह चर्चा, प्रदर्शन विधि का प्रयोग एवं पावर प्वाईंट प्रस्तुति, ई–लर्निंग, एमओओसी का उपयोग।

आन्तरिक मूल्याकंन रणनीतियाँ

आन्तरिक मूल्याकंन हेतु 30 अंक निर्धारित है। अंकों का निर्धारण इस प्रकार हैः–

S.No.	Activity	Mode	Weightage of Marks
1	Three Sessional tests will be conducted.(Better Two will be counted)	Written	20
2	Preparation of an assignment on various topics	Assignment & Presentation (PPT)	5
3	Percentage of attendance	---	05
Total Marks			30

व्यावहारिककार्य–

- छात्रों में संचार की समस्या/आशंका का पता लगाने के लिए बाहरी स्कूलों का दौरा।
- श्रवण, मौखिक, पठन और लेखन कौशल विकसित करने के लिए खेल और व्यायाम करना।
- श्रवण, मौखिक, पठन और लेखन कौशल विकसित करने पर गतिविधियाँ–मौखिक प्रस्तुतियाँ, बहस, भाषण, चर्चा एवं ब्रेन स्टार्मिंग, अनुच्छेद एवं निबंध लेखन।

इसके अतिरिक्त विद्यालय एवं समुदाय आधारित गतिविधियॉ भी आयोजित की जायेगी जिसके अन्तर्गत छात्रो को अधिगम एवं शिक्षक प्रशिक्षण संस्थाओ मे भ्रमण कराया जायेगा। शिक्षण प्रशिक्षण एवं स्कूल आधारित क्रियात्मक अनुसंधान भी कराये जायेगे।

संदर्भ ग्रन्थ सूची :

सक्सेना, के. (2017) *हिंदी शिक्षण,* आस्था प्रकाशन , जयपुर |

लाल, आर.बि.(2017) *हिंदी शिक्षण (हिंदी शिक्षण विज्ञान),* आर. लाल बुक डिपो, मेरठ |

पालीवाल, एस.(2017) *हिंदी शिक्षण शिक्षण और प्रवीणता,* राजस्थान प्रकाशन , जयपुर |

शर्मा, आर. (2016) *हिंदी भाषा शिक्षण और प्रवीणता,* राधा प्रकाशन मंदिर प्रा. लि. |

पांडेय, आर. (2014). *हिंदी शिक्षण,* अग्रवाल पब्लिकेशन्स |

औहरी, एन. (2014). *हिंदी शिक्षण,* ए. पी. एच्. पब्लिशिंग कार्पोरेशन, नई दिल्ली |

पाठक, आर. पी. (2013), *हिंदी भाषा शिक्षण,* कनिष्क पब्लिशर, डिस्ट्रीब्यूटर, नई दिल्ली|

मित्तल, एल. (2012). *हिंदी शिक्षण,* पियर्सन पब्लिकेशन |

पांडेय, एस. (2010). *हिंदी शिक्षण : अभिनव आयाम,* ऐक्सिस पब्लिकेशन, नई दिल्ली ।

बक्शी, एन.एस. (2007), *हिंदी शिक्षण,* प्रेरणा प्रकाशन , रोहिणी , दिल्ली|

शर्मा, आर.(2006), *हिंदी शिक्षण,* संजय प्रकाशन , दिल्ली|

गुप्ता ए. (2005). *मीडियम ऑफ इंस्ट्रक्शन इन ए बाइलिंगुएल कंटेस्ट*,ए, 4 नई दिल्लीः सेज पब्लिकेशंस, 201–211

राष्ट्रीय पाठ्यचर्चा की रूपरेखा 2005, प्रकाशन विभाग, राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्, नई दिल्ली।

समझ का माध्यम, राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद् नई दिल्ली।

आंकलन स्त्रोत पुस्तिका, राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्, नई दिल्ली।

अभिव्यक्ति और माध्यम, राष्ट्रीय अनुसंधान और प्रशिक्षण परिषद्, नई दिल्ली।

सृजन–1, राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्, नई दिल्ली।

बच्चे की भाषा और अध्यापक एवं निर्देशिका, कृष्ण कुमार, एनबीटी, नई दिल्ली।

श्रीवास्तव, आर. एन. 1984 (संपादक), *भाषाशास्त्र के सूत्रधार,* नई दिल्लीः नेशनल पब्लिशिंग हाउस।

शिक्षा मंत्रालय, शिक्षा आयोग ''कोठारी कमीशन'' 1964–1966, *शिक्षा एवं राष्ट्रीय विकास,* शिक्षा मंत्रालय, भारत सरकार 1966।

ईलिच, आई. (1981) *प्रीफेस टू पटनायक, मल्टीलिंगुएलिज्म एंड मदर टंग एजूकेशन,* ऑक्सफोर्ड यूनिवर्सिटी प्रेस।

वैब रिसोर्स :

https://hi.wikipedia.org/wiki/शिक्षण_विधियाँ

https://www.hindisahitv.com/hindi-teaching-methods/

https://samanyagyanedu.in/हिंदी-विधियां-शिक्षण-01/

www.manuu.ac.in/DDE.../BED%20215%20DST%20Hindi.pdf

https://www.scribd.com/.../हिनभाषा-दी-

https://www.amazon.in/हिन्दी/...शिक्षण-इसकी-भाषा-dp/8120350030

PEDAGOGY OF ENGLISH
COURSE CODE -SOE020211C3104

Year: I **Credits: 4**
Semester: II **Max Marks: 100**

Essence of the Course

This course is designed to enrich the prospective teachers in terms of their understanding of the functions, importance, linguistic principles and other important aspects of the English language and its teaching in India. It aims at, apart from enriching already existing knowledge of the students about the subject, developing their pedagogical competencies for teaching of English.

Objectives: Present course aims to develop among prospective teachers:

- an understanding of the Concept, Nature and Functions of Language.
- comprehension of the importance of English in a multilingual society.
- ability to critically explain and adopt various teaching methods and approaches as per their suitability to the content to be taught.
- skill to design and develop effective lesson-plans for various genres such as Poetry, Prose, Fiction etc.
- skill to develop and use teaching-aids in the classroom both in the print and audio-visual formats.
- ability to develop and incorporate teaching skills for effective teaching and learning
- efficiency of developing and using resources like the Language Lab and ICT-enabled Smart class-room
- ability to harness basic language skills among learners.
- a metacognitive awareness of teaching and learning of the English language.
- an understanding of the process of language-assessment
- ability to organize remedial teaching.

Teaching Scheme (session)*			**Total (L+T+P)**	**Examination Scheme**		
				Internal Assessment	**External Assessment**	**Total Marks**
Unit	**L**	**T/P**	**C**	**30 Marks**	**70 Marks**	**100 Marks**
I	12	1	13			
II	18	1	19			
III	18	2	20			
IV	12	1	13			
Total	**60**	**5**	**65**	**30 Marks**	**70 Marks**	**100 Marks**
L=Lecture, T=Tutorial, P=Pricticum						

Course Content:

Unit I: An Overview of specificities of the English Language and its importance

- Concept, Nature, Functions and Importance of English language.
- Linguistic characteristics of English- Features of English Pronunciation, Elementary knowledge of English sounds, Intonation and their Implications
- Basic Language Skills: Listening, Speaking, Reading and Writing.
- Aims and Objectives of Teaching English at the secondary level.

Unit II: Approaches and Methods to Teaching of English

- Difference between 'Approach' and 'Method'
- Inductive and Deductive Approach
- Multilingual Approach
- Whole Language Approach
- Structural Approach
- Communicative Approach,
- Constructivist Approach
- Grammar Translation Method,
- Direct Method,
- Bi-lingual method

Unit III: Materials of Teaching English, Lesson Planning and Evaluation

- Teaching of Prose, Poetry, Composition and Grammar.
- Lesson Plan for different genres based on Bloom's taxonomy.
- Teaching Learning Materials and Aids- Print media; other reading materials such as learner-chosen texts, newspapers, class libraries, ICT – audio-visual aids including CALL programmes.
- Concept of unit test, objective type test and online testing.
- Assessment formats (Formative assessment, Summative Assessment).

Unit IV: Basic Teaching Skills, Activities for Language Acquisition and Evaluation

- Basic Teaching Skills: Skills of Introduction, Explanation, Probing question, Illustration with examples, Stimulus Variation, Class-Room Management, Using Writing Board and Reinforcement.
- Importance of Planning co-curricular activities- Discussions, Debates, Speech, Language Games, Workshops, Seminars.
- Importance of Role Play, Simulations, Language Laboratories and Smart classrooms.

- Concept and importance of Action Research for effective teaching.
- Meaning and significance of Remedial Teaching.

Transactional Strategies:

Unit I: Lecture, Discussion, Debates, Games, Exercises, Use of audio-visual materials, Exposition, Reading demonstration, Games, Exercise, short and long lecture, e-learning etc.

Unit II: Lecture, Discussion, Discussion-cum-Demonstration, Multimedia lessons, Assignments, Reading practice, audio- feedback, listening etc.

Unit III: Lecture, Discussion, Excursion, Games, Exercises, Use of audio-visual materials, Exposition, Demonstration, Games, Exercise, pause short and long lecture, e-learning, Field visits etc.

Unit IV: Lecture, Discussion, Excursion, Discussion-cum-Demonstration, Multimedia lessons, Assignments, practice, audio- feedback, listening etc.

Evaluation Strategy: (70 External+ 30 Internal)

Term end exam will be of 70 marks. Division of 30 marks of internal assessment will be done as mentioned below.

Internal Assessment

S. No.	Activity	Mode	Weightage of Marks
1	Three Sessional tests will be conducted.(Better Two will be counted)	Written	**20**
2	Preparation of an assignment on various topics	Assignment & Presentation (PPT)	**5**
3	Percentage of attendance	-	**5**
Total Marks			**30**

Practicum – Suggestive List

1) Planning and presentation of lesson plan on any topic demonstrating all the major teaching skills.
2) Record of any event organized in schools to develop reading, writing, speaking and listening skills through extempore, declamation, discussion etc.
3) Construction of objective type test items of different types.
4) Presentation of Action Research on any problem encountered during English language teaching.

Suggested Readings:

- Agnihotri, R.K., Khanna, A.L. (1994). *Second language acquisition: Socio-cultural and linguistic aspects of english in India* (RAL1). New Delhi: Sage Publications.
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- Gattegno, C. (1976). *The common sense of teaching foreign languages*. New York: Educational Solutions.
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- Krashen, S.D. (1981). *Second language acquisition and second language learning*. Oxford: Pergamon
- Krashen, Stephen. (1989). *We acquire vocabulary and spelling by reading: additional evidence for the input hypothesis*. Modern Language Journal 73:4. Pp. 440-64.
- *Learning indicators till the elementary stage*, National Council of Educational Research and Training, New Delhi.
- Mennon, T.K.N., and M.S.Patel. (1957). *The teaching of English as a foreign language*. Baroda, India : Acharya
- Mukalel, J.C. (1998). *Approaches to English language teaching*. New Delhi: Discovery Publishing house.
- Mukalel, J.C. (1998). *Creative approaches to classroom teaching*. New Delhi: Discovery Publishing house.
- Mukalel, J.C. (1998). *Psychology of language teaching*. New Delhi: Discovery Publishing House.
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- National Curriculum Framework (2005). NCERT, December 2005.
- National Curriculum Framework (2005);
- *Position Paper, National Focus Group on Teaching of English*; NCERT (2006). New Delhi: Orient Longman,
- Prabhu, N.S. (1987). *Second language pedagogy*. Oxford: Oxford University Press.
- Raman, G. & Katyayani, R.K. (2016). *Pedagogy of English*. New Delhi: Bookman
- Richard, J., Theodore, S. and Rodgers, T.S. (1986). *Approaches and methods in language*, Cambridge University Press.
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- Sharma, R.A. & Chaturvedi, S. (2012). Pedagogy of School Subject English. New Delhi: R.Lal Publishers.
- Source Book on Assessment for Classed I-V, Language English, NCERT, October 2008.
- Spolsky,B. (1998). *Conditions for second language learning: Introduction to a general theory*. Oxford : Oxford University Press.

- Stern, H.H. (1983). *Fundamental concepts of language teaching*.Oxford : Oxford University Press.
- Thompson, G.B. (1997). *The teaching of reading.* In V. Edwards & D. Corson (eds) Encyclopedia of language and education (vol. 2, pp. 9–17). Dordrecht: Kluwer.
- Tickoo, M.L. (2004). *ELT in India.* New Delhi: Orient Longman.
- Underwood, G. &Batt, V. (1996). *Reading and understanding*. Oxford: Blackwell.
- Venkateswaran, S. (1995). *Principles of teaching English.* New Delhi: Vikas Publishing House.
- Wilkins, D.A. (1982). *Linguistics in language teaching*, Edward Arnold, London.
- Willis, J. (1981). *Teaching English through English ELBS.* England: Longman Ltd.
- Yule, G. (1985). *The study of language.* Cambridge: Cambridge University Press.

Web Resources :

- https://books.google.co.in/books?id=RIaeh-xeCzEC&pg=PR4&lpg=PR4&dq=The+Teaching+of+English+in+India+H.Wyatt&source=bl&ots=7rwEw3K6fa&sig=FYFStIr8GpLEgFNMU4UeRR9N0cs&hl=en&sa=X&ved=0ahUKEwjKj_m38J_UAhWLQY8KHTGJBrEQ6AEIKDAC#v=onepage&q=The%20Teaching%20of%20English%20in%20India%20H.Wyatt&f=false
- https://books.google.co.in/books?id=HrhkAwAAQBAJ&lpg=PR1&ots=_LeBso7khd&dq=latest%20approaches%20and%20methods%20of%20teaching%20english&lr&pg=PA3#v=onepage&q=latest%20approaches%20and%20methods%20of%20teaching%20english&f=false https://books.google.co.in/books?id=VxnGXusQlI8C&lpg=PR7&ots=qhsplbbygN&dq=latest%20approaches%20and%20methods%20of%20teaching%20english&lr&pg=PR7#v=onepage&q=latest%20approaches%20and%20methods%20of%20teaching%20english&f=false
- <iframeframeborder="0" scrolling="no" style="border:0px" src="https://books.google.co.in/books?id=VxnGXusQlI8C&lpg=PR7&ots=qhsplbbygN&dq=latest%20approaches%20and%20methods%20of%20teaching%20english&lr&pg=PR7&output=embed" width=500 height=500></iframe>
- https://www.cambridge.org/id/cambridgeenglish/catalog/teacher-training-development-and-research/cambridge-guide-learning-english-second-language/cambridge-guide-learning-english-second-language-apple-ibook-google-ebook-kindle-ebook-ebookscom-ebook?format=36&isbn=9781108408455
- https://www.cambridge.org/id/cambridgeenglish/catalog/teacher-training-development-and-research/teaching-and-developing-reading-skills?format=41&isbn=9781316647370
- https://www.cambridge.org/id/cambridgeenglish/catalog/teacher-training-development-and-research/teaching-and-developing-reading-skills?format=ET&isbn=9781316647349
- https://play.google.com/store/apps/details?id=com.gutenbergtechnology.cupcambridge.bookshelf
- https://www.cambridge.org/id/cambridgeenglish/catalog/grammar-vocabulary-and-pronunciation/english-grammar-use-4th-edition/product-details/cambridge-lms

PEDAGOGY OF SOCIAL SCIENCE
COURSE CODE: SOE020212C3104

Year: I **Credit: 4**
Semester: II **Max Marks: 100**

Essence of the Course

This course will enable the students to develop deeper understanding about the structure and functions of the society. Accordingly, they shall be in a position to appreciate the foundations on which societies have developed. Such an understanding will help a student teacher to organize one's teaching keeping in view the background of students. Also, he/she will be able to organize various programmes to develop a sense of appreciation about the rich cultural heritage among the students.

Objectives: This course will enable the student-teachers to :

- explain the concept, nature and importance of Social Science.
- appreciate the importance of teaching of Social Science at the Secondary School level.
- apply the methods and approaches for organizing Social Studies curriculum..
- develop skills to teach and evaluate Social Science.
- equip the student trainees with the skills of diagnostic and remedial teaching.
- equip the student trainees with the skills for teaching gifted and under average students.
- critically examine the Social Science syllabus and develop skills to periodically modify and update the text books.

Teaching Scheme (session)*

Teaching Scheme (session)*			**Total (L+T+P)**	**Examination Scheme**		
				Internal Assessment	**External Assessment**	**Total Marks**
Unit	**L**	**T/P**	**C**	30 Marks	70 Marks	100 Marks
I	12	4	16			
II	12	4	16			
III	12	4	16			
IV	12	4	16			
Total	48	16	64	**30 Marks**	**70 Marks**	**100 Marks**
L=Lecture, T=Tutorial, P=Practicum						

Course Content:

Unit I: Conceptual Understanding, Aims and Objectives of Social Science

- Concept, Need and Importance of Social Science
- Nature and Scope of Social Science and Place of Social Science in school curriculum
- Aims & Objectives Teaching of Social Science
- Bloom taxonomy

Unit II: Methods, Planning and Instructional Aids of Teaching Social Science

- Narration cum discussion, role-play, Project method, Problem solving, storytelling, Source method (meaning, uses and limitations)
- Unit Plan: objective, needs and importance
- Lesson plan : objective, needs and importance
- Teaching Aids: Audio, Visual and Audio-visual (meaning, use, merit and limitation)

Unit III: Basic teaching skills, Teacher, Resource Center and Text book of Teaching Social Science

- Teaching skills : introductory, reinforcement, writing board, stimulus variation, probing questioning and Illustration with example
- Characteristics and qualities of Social Science teacher
- Need, importance and arrangement of Social Science Resource centre
- Text book: Characteristics of good text book, analysis of text book in Social Science

Unit IV: Evaluation in Teaching Social Science

- Meaning of evaluation and examination
- Tools of evaluation in social science (Check list, observation, interview)
- Types of test (Meaning, Construction, Merit, Limitation)
- Concept, Need and importance of diagnostic and remedial work in social science

Transactional Strategies

Lecture-cum-discussion along with interactive group discussion, field trips, group discussions, brainstorming and simulation in the form of mock session, Bal Panchayat etc.

Internal Assessment Strategies

A total of thirty marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S.No.	Activity	Mode	Weightage of Marks
1	Three Sessional tests will be conducted.(Better Two will be counted)	Written	**20**
2	Preparation of an assignment on various topics	Assignment & Presentation (PPT)	**5**
3	Percentage of attendance		05
Total Marks			**30**

Practicum – Suggestive List

Arrange any two activity : each out of the following two groups:

1) **Educational visit:**

(i) Historical places
(ii) Ecological places
(iii) Political places

2) **Organisation of Programme**

(i) Social Awareness
(ii) Election Awareness
(iii) Exhibition
(iv) Preparation of Annual Plan, Unit Plan and Lesson Plan
(v) Scrapbook

Suggested Readings

- B.N. Dash, Dr. I.V. Radhakrishna Murthy. *Methods of teaching social studies.* New Delhi: Neelkamal Publication Pvt. Ltd.
- Binning, A.C.: *Teaching Social Studies in Secondary Schools*. New York: McGraw Hill and Co.
- Bhattacharya, S. & Darji, D.R. (1966). *Teaching of Social Studies in Indian Schools.* Baroda: Acharya Book Depot.
- Desai, D.B.: *Samaj Vidyana Shikhan*. Ahmedabad: Balgovind Prakashan.
- Konli, A.S. (1996). *Teaching of Social Studies*, New Delhi: Anmol Publications Pvt. Ltd.

- Mehlinger. Howard, D. (ed.) (1981). UNESCO, *Handbook for the Teaching of Social Studies*. London: Gareem Helm.
- Misra,S.&Ranjan, A. (2011). *Teaching of social science: History, context ,challenges in Contemporary Trends in Education*. Delhi: Pearson Publication.
- Mangal, S.K.,& Mangal, U. (2018). *Pedagogy of social sciences*. New Delhi: Phi learning Pvt. Ltd.
- Misra,S., & Ranjan, A. (2011). *Teaching of social science: history, context, challenges in Contemporary Trends in Education*. Delhi: Pearson Publication.
- Sharma, B.L., & Shukla, A.K. (2018). *Teaching of social science.* Meerut: R. Lal Publication.
- Webb, K. (1995). *An introduction to problems in the philosophy of social sciences*. London: Pinter.
- गुरूसरन दास त्यागी (2018). *सामाजिक अध्ययन शिक्षण,* विनोद पुस्तक मंदिर आगरा
- भंवर लाल गर्ग (2017). *सामाजिक अध्ययन शिक्षण.* विनोद पुस्तक मंदिर आगरा

Web Resources

- http://www.ncert.nic.in/new_ncert/ncert/rightside/links/pdf/focus_group/social_sciencel.pdf
- http://www.bdu.ac.in/cde/docs/ebooks/B-Ed/I/TEACHING%20%20OF%20SOCIAL%20SCIENCE.pdf
- http://www.ignouhelp.in/ignou-bes-142-study-material/
- http://www.ncert.nic.in/departments/nie/dess/publication/prin_material/ITPD%20Final%20june%2014.pdf
- Learning curves: special issue in social science in schools, (2010), by AzimPremji Foundation http://azimpremjifoundation.org/pdf/LCXV.pdf
- Learning Indicators and Learning Outcomes at the Elementary Stage, (2014), NCERT http://www.ncert.nic.in/departments/nie/dee/publication/pdf/LI_Final_Copy_Revised_29.12.14.pdf

PEDAGOGY OF MATHEMATICS
COURSE CODE -SOE020213C3104

Year: I **Credit: 4**
Semester: II **Max Marks: 100**

Essence of the Course

This course aims at developing advanced level understanding of mathematics subject and its pedagogy. This course focuses on preparing student-teachers in a manner that will help them to tackle day today mathematical problems. For providing students with pedagogical content knowledge different methods, approaches, strategies of teaching mathematics have been included. This course on teaching of mathematics will help student-teachers understand key concepts of mathematics as well as methods and procedures of teaching mathematics effectively and efficiently.

Objectives: After completing this course, the student-teachers will be able to:

- develop insight into the meaning, nature, scope and objective of mathematics education
- appreciate the role of mathematics in day-to-day life
- select appropriate methods of teaching mathematics at the elementary and secondary level
- select appropriate teaching strategies of teaching mathematics at the elementary and secondary level
- analyse the content scientifically
- explore new strategies to plan lesson
- plan their lessons to connect life outside the school
- construct appropriate tools for evaluating mathematics learning
- apply a variety of assessment techniques and practices by formal or informal ways

Teaching Scheme (session)*				**Total (L+T+P)**	**Examination Scheme**		
					Internal Assessment	**External Assessment**	**Total Marks**
Unit	**L**	**T**	**P**	**C**	**30 Marks**	**70 Marks**	**100 Marks**
I	12	4	0	16			
II	8	2	6	16			
III	10	2	4	16			
IV	10	2	4	16			
Total	**48**	**16**	**14**	**64**	**30 Marks**	**70 Marks**	**100 Marks**
L= Lecture, T=Tutorial, P=Practicum							

Course Content:

Unit I: Mathematics as a School subject

- Meaning, Nature, Scope and Significance of teaching mathematics
- Meaning and building blocks of mathematics-undefined terms, definitions, axioms, postulates
- Correlation of Mathematics with other school subjects
- Contribution of Great mathematicians(Aryabhatta, Bhaskaracharya, Ramanujan, Brahmgupta & Pythagores)
- Position Paper of National Focus Group on Mathematics(NCF,2005)

Unit II: Aims, Objectives and Skills of teaching Mathematics

- Aims and Objectives of teaching mathematics
- Bloom's Taxonomy of Instructional Objectives
- Approaches of Formulation of instructional objectives in Behavioural Term: Robert Mager's, Robert Miller's RCEM(Regional College of Education Mysore**)**
- Basic Skills of Teaching Mathematics: Introducing the Lesson, Probing Question, Explanation, Illustration with Examples. Stimulus Variation, Board Writing

Unit III: Methods, Techniques and Resources of Teaching of Mathematics

- Methods of Teaching Mathematics: Inductive- Deductive Method, Analytic –Synthetic Method, Laboratory Method, Activity Based Method, Project Method, Problem Solving Method
- Techniques of Teaching Mathematics: Oral, Written, Drill & Homework
- Mathematics Text Book, Mathematics Labs, Mathematics Club, Mathematics Library, ICT equipped classroom, Mathematics Learning Software, Audio- Visual Aids

Unit IV: Planning & Evaluation

- Planning: Yearly, Unit and Daily Lesson
- Meaning, Need and Importance of Lesson Plan
- Approaches of Lesson planning: Herbertian and Constructivist
- Evaluation: Formative and Summative
  : Continuous and Comprehensive
- Tools and Techniques of Evaluation
- Construction of an Achievement Test with Blue Print

Transactional Strategies:

Unit I: Lecture followed by discussion supplemented by power- point presentation.
Unit II: Lectures, discussions, Lecture cum demonstration
Unit III: Lecture cum Discussion should follow around readings. Students should be given hands on experiences and appropriate illustrations be made around methods and strategies. Visit to mathematics library and laboratory and hands on experience to students, e-platforms, library assignment. Critical analysis of the school textbook and syllabus will be made.
Unit IV: Lecture cum Discussion should follow around readings. Demonstration of lesson planning on innovative approaches. PowerPoint Presentation on different types of evaluation, hand on activity on Making Blue print of Achievement Test

Internal Assessment Strategies: A total of thirty marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of Marks
1	Three Sessional tests will be conducted.(Best Two will be counted)	Written	**20**
2	Preparation of an assignment on various topics	Assignment & Presentation (PPT)	**5**
3	Percentage of attendance	---	**05**
Total Marks			**30**

Practicum: Practical/Assignment Suggestive List:

- Content Analysis of Position paper of National Focus Group on Teaching of Mathematics
- Prepare a report about the contribution of Indian Mathematicians Mathematics.
- Prepare a report on the History of Mathematics(Number System & Measurement etc.)
- Critically Review of Mathematics Text book and make a report
- Observation of children doing everyday Maths, community numeracy practices and make a report.
- Development and trying out of Teaching-learning strategy for teaching of particular Mathematical concepts.
- Construction of Mathematical Working and Non-Working 2D and 3D Models
- Development and use of Mathematics laboratory.
- Organizing a 'Mathmela' in a school or a locality and write a report
- Lesson Plan on one topic from secondary school mathematics
- Construction of an achievement test with blue print
- PPT Presentation on give topic of syllabus

Suggested Readings:

- Anice, J. (2016). *Methods of teaching mathematics.* New Delhi: Neelkamal Publications.
- Ang. K.C.(2019).*Mathematical modelling for teachers.* London: Springer.
- Boston, M.L., Kendela, A.G. & dixon, K.J. (2019). *Making sense for teaching of mathematics.* Bloomington: Solution Tree Press.
- Butler, C.H., Wren, F.L. & Banks, J.H. (1971). *The teaching of Secondary Mathematics.* New York: McGraw Hill.
- Coney, T.J., Davis, G.J., & HenDerson, K.B. (1975). *Dynamics of teaching secondary school mathematics.* Boston: Houghton-Mifflin.
- Ediger, M., & Rao, B. (2000). *Teaching mathematics successfully.* New Delhi: Discovery Publishing House.
- Kadler, N., Larkin,K. & Sinclair, N.(2018). *Using mobile technologies in the teaching & learning of mathematics.* London: Springer.
- Kidd, P.K., Myers, S.S. & Cilley David, M. (1970). *The laboratory approach to mathematics.* Chicago: Science Research Associates Inc.
- Kothari, R.G., & Mistry, H.S. (2012). *Diagnosis of learning difficulties on fractions and decimals: A study on the students of upper primary schools.* Germany: Lambert Academic Publishers.
- Kothari, R.G., and Shelat, P.H. (2011). *Mathematical weaknesses among secondary school students.* Germany: VDM Verlag Publishers.
- Kulshrestha, A.K.(ed.) (2016). *Pedagogy of school subject mathematics.* Meerut: R.Lall Publishing house.
- Leonard, J. (2019). *Culturally specific pedagogy in the mathematics classroom: Strategies for teachers and students.* New York: Routledge.
- Mason. J. H.(2016). *Mathematics teaching practice*. New Delhi: Elsevier Science & Technology.
- Nathan, D. L. Raad & Robert, J. M.(2019).*The new art and science of teaching mathematics: (establish effective teaching strategies in mathematics instruction.*Bloomington:Solution Tree Press.
- NCERT (2006).*Position paper-National focus group on teaching of Mathematics.* New Delhi: NCERT.
- Raju, B.P.S. & CPS Chouhan, C.P.S.(2012). *Pedagogy of mathematics.New Delhi: NCERT.*
- Nickson, M. (2006). *Teaching and learning mathematics: A guide to recent research and its application.* London: Continuum.
- Oldridge, M. (2018). *Teaching mathematics through problem solving in K12.* Boulder:Rowman & Littlefield.
- Pandya, B. (2007). *Teaching of mathematics*. Agra: Radha Prakashan Mandir.
- Paul, C. (2008). *Teaching mathematics: Developing as a reflective secondary Teacher.* New Delhi: Sage Publication.
- Rao, N.M. (2014). *A manual of mathematics laboratory*. New Delhi: Neelkamal Publications.
- Rock, D. & Brambhaug, D.K.(2013). *Teaching secondary mathematics.* Revised ed. Noida: Vikas Publishing House Pvt. ltd.
- Reeve, W.D. (1954). *Mathematics for the secondary school.* New York: Holt, Rinehart and Winston, Inc.
- Russel, J. (2007). *Teaching of mathematics.* New Delhi: Campus Books International.
- Servais, W. & Varga, T. (ed.) (1971). *Teaching school mathematics. A UNESCO Source Book*. UNESCO, Penguin books.

- Shah G.B. (1964). *New dimensions in teaching of Mathematics.* Baroda: CASE.
- Sidhu, K.B. (1974). *The teaching of mathematics.* New Delhi: Sterling Pub. (p). Ltd. (LB 1646 14 54)
- Singh, H., Avtar, R. & Singh, V.P. (2008*). A handbook for designing Mathematics.* New Delhi: APH Publishing House.
- Siddiqui, M.H .(2009). *Teaching of mathematics.* New Delhi: APH Publishing House.
- Upadhyay, R. (2014).*Teaching of mathematics.* Meerut: R. Lal Publication.

Web Resources

- https://www.youtube.com/watch?v=2AqXZJD92Ig
- https://www.youtube.com/watch?v=oEMOEjQocgY
- https://www.youtube.com/watch?v=hbDkSaSnbVM
- https://www.youtube.com/watch?v=IO19-MTwThI
- https://www.youtube.com/watch?v=MrIdc-Hs-is
- https://www.youtube.com/watch?v=lhwAMhZQ6kU
- http://mathigon.org/resources/value-of-mathematics.pd
- http://mathedu.hbcse.tifr.res.in (Unit 3)
- http://www.ncert.nic.in/departments/nie/dee/publication/pdf/CCE_Math.pdf
- http://www.ncert.nic.in/departments/nie/niew/school_kits/kit_manuals.html
- http://nrich.maths.org
- http://www.slideshare.net/MiraculeDanielGavor/ict-tools-in-mathematics-instruction
- http://www.arvindguptatoys.com/math-magic.php
- http://karnatakaeducation.org.in/KOER/en/index.php/Portal:Mathematics
- http://www.mathcelebration.com/index.html
- http://map.mathshell.org
- http://www.cimt.plymouth.ac.uk/projects/mep/default.htm
- http://mathbits.com
- http://www.math-play.com
- http://www.geogebra.org
- http://classroom-aid.com/educational-resources/mathematics
- http://etc.usf.edu/math
- http://mathworld.wolfram.com
- https://www.merlot.org/merlot/materials.htm?category=2513
- https://www.khanacademy.org

PEDAGOGY OF LIFE SCIENCE
COURSE CODE: SOE020214C3104

Year: I **Credit: 4**
Semester: II **Max Marks: 100 Marks**

Essence of the Course Content

This course covers the content areas which develop comprehension and familiarity about different concepts like educational objectives, teaching methods, basic teaching skills, instructional aids, resources, life science laboratory and different co-curricular activities used in life science so that pupil teachers would be able to apply the knowledge to keep their students on task and engaged in their classroom. The role and responsibilities of life science teachers have also included in this course so that the pupil teachers would be able to develop necessary qualities to perform their duties during their internship and in their profession. This course will enable the student teachers in planning, organizing, managing the classroom interactive.

Objectives : after completing this course, the student teachers will be able to :

- develop a comprehensive understanding about the pedagogy of life science.
- describe the concept, nature, aims and objectives of teaching of life science.
- articulate various teaching methods and skills used in teaching of life science and they will apply them making their teaching effective.
- construct lesson plan based on various skills.
- write instructional objectives in behavioral terms
- acquire skill in constructing blueprint.
- familiarize with the learning resources and instructional aids.
- acquaint the importance of evaluation and assessment in pedagogy of life science.

Teaching Scheme (session)*			Total (L+T+P)	Examination Scheme		
				Internal Assessment	External Assessment	Total Marks
Unit	**L**	**T/P**	**C**	**30 Marks**	**70 Marks**	**100 Marks**
I	12	4	16			
II	12	4	16			
III	12	4	16			
IV	12	4	16			
Total	48	16	64	**30 Marks**	**70 Marks**	**100 Marks**
L=Lecture, T=Tutorial, P=Practicum						

Course Content

Unit I: Conceptual understanding of pedagogy of Life Science

- Concept, Nature, importance and Scope of Life Science.
- Various branches related to life Science: Mathematics, Geography, Chemistry, Physics, Statistics, Language, Social Science.
- Aims and Objectives of teaching of Life Science at Primary, Secondary and Senior Secondary.
- Bloom's Taxonomy of Educational Objectives: Traditional and Revised.
- Writing Instructional Objectives: RCEM approach, Robert Magar and Robert Miller.

Unit II: Basic Teaching Skills, Methods and Lesson Planning

- Basic Teaching skill: Meaning, and components of various teaching skills: (Introducing the Lesson, Reinforcement Skill, Questioning, Explaining, Illustration with Example, Board Writing, Stimulus Various Skill)
- Methods of Teaching: Lecture Method, Demonstration Method, Laboratory Method, Project Method, Heuristic Method, Constructivist Method: constructivism, 5 E's of Constructivism, Constructivist classroom and teacher.
- Lesson Plan: Meaning, Concept, importance and construction (Constructivist Approach)

Unit III: Co-curricular Activities, Learning Resources and Instructional Aids and life science teacher

- Co-curricular activities and Learning Resources: Science Club, Science Exhibition, Science fair, Science Museum, Field Trip, text book, internet, aquarium, vivarium and Herbarium,
- Instructional Aids: Meaning, Concept, Importance and types (Audio, Visual and Audio-Visuals).
- Science Laboratory and Practical Work: Planning, organization and Equipping, Safety measures and importance of practical work.
- Role, duties and qualities of life science teacher.

Unit IV: Assessment and Evaluation in Life science

- Assessment and Evaluation: Meaning, Concept, importance and types (Formative and Summative)
- Devices and Techniques of Evaluation in Life Science.
- Blueprint and Test: Definition, characteristics of good test, Types (Achievement Test, Teacher made & Diagnostic) of test and test items and importance.
- Assessment of Practical Work in life Science.
- Action Research: Meaning, steps and importance.

Transactional strategies: Lecture cum discussion, Lecture cum demonstration, Use of PPT, Assignments on various topics, Presentation and discussion, Debate and presentations by Pupil Teachers will be encouraged.

Internal Assessment: A total of thirty marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of Marks
1	Three Sessional tests will be conducted.(Better Two will be counted)	Test	20
2	Preparation of an assignment on various topics	Assignment & Presentation (PPT)	5
3	Percentage of attendance	---	05
Total Marks			**30**

Practicum – Suggestive List

1) Presentation of lesson plan using various basic teaching skills
2) Visit nearby 5 school and prepare a report on Science Laboratory.
3) Critical analysis of a test paper of Biological Science.
4) Critical review of a text book of science.
5) Planning and conducting experiments of science/Biology
6) Storage of chemicals and specimens.
7) Safety measures being taken in the science laboratories and steps taken by student teachers.
8) Construction of blueprint.

Suggestive Readings:

- Abraham, I., & Reiss, M. (2016). *Enhancing learning with effective practical science* (Ist ed.). London: Bloomsbury Publishing House.
- Agarwal, K. P., & Bain M. P. (2019). *Powerful teaching: unleash the science of learning.* New Jersey: Wiley publishing House.
- Ahmad, J. (2014). *Teaching of biological science*. Delhi: PHI Learning Private Limited
- Amit (2002). *Teaching of physical sciences*. New Delhi: Anmol Publications.
- Gupta, S.K. (1985). *Teaching of physical science in secondary schools*. New Delhi: Sterling Publications (Pvt.) Limited.
- Keith, S. T. (2018). *Master class in science teaching*(1st ed.). London: Bloomsbury Publishing House.
- Kootchar, S.K. (2003). *Methods and techniques of teaching*. Sterling Publishers Pvt Limited.
- Kohli, V.K. (1998): *How to teach science*. Ambala: Vivek Publishers.
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- Pahuja, S. & Ravikant. (2016). *Pedagogy of school subject biological science.* New Delhi: Neel Kamal Publication.
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- Position Paper on Teaching of Science. (2006). Retrieved from http://epathshala.nic.in/wp-content/doc/NCF/Pdf/science.pdf
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- Prasad Janardan. (1999). *Practical aspects in teaching of science*. New Delhi: R. Lall Publication
- R. vijaylatha, & Sunitha, D. (2016). *Pedagogy of Biological Science.* New Delhi: Kanishka Publication.
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- Teaching of Science(n.d.). Retrieved from http://www.ncert.nic.in/departments/nie/dse/activities/advisory_board/PDF/teaching_sc.pdf

Web Resources:

- http://www.ncert.nic.in/new_ncert/ncert/rightside/links/pdf/focus_group/science.pdf Retrieved November 16, 2018
- http://www.ncert.nic.in/rightside/links/pdf/h_focus_group/Vigyan%20Shikshan.pdf Retrieved November 16, 2018
- http://www.ncert.nic.in/new_ncert/ncert/rightside/links/pdf/focus_group/aims_of_education.pdf Retrieved November 16, 2018
- http://www.ncert.nic.in/departments/nie/desm/publication/pdf/basic_in_education.pdf Retrieved November 16, 2018
- http://www.ncert.nic.in/departments/nie/desm/publication/pdf/phy_sci_partI.pdf Retrieved November 16, 2018
- http://www.ncert.nic.in/departments/nie/desm/publication/pdf/phy_sci_PartII.pdf Retrieved November 16, 2018
- http://www.ncert.nic.in/departments/nie/niew/school_kits/secondary_level/pdf/Manual_Sci_KitClass%20IX%20&%20X.pdf Retrieved November 16, 2018
- http://www.ncert.nic.in/departments/nie/niew/school_kits/upper_prm_level/pdf/LMUPS_Science.pdf Retrieved November 16, 2018
- https://ignou.devsamaj.org/wp-content/uploads/2018/05/BES-141-BLOCK-23.pdf Retrieved November 20, 2018
- http://ddceutkal.ac.in/Syllabus/MA_Education/Education_Paper_5_SCIENCE.pdf Retrieved November 20, 2018

- http://www.ncert.nic.in/departments/nie/dse/deptt/activities/pdfs/Chapter_5.pdf Retrieved November 20, 2018
- http://www.cbse.nic.in/cce/cce-manual/CBSE-FA-Class-IX%20%28Science%29%20Final.pdf Retrieved November 20, 2018
- http://www.icbse.com/cce/formative-assessment Retrieved November 20, 2018
- http://cbse.nic.in/cenbosec/oct-dec-2009/31-40.pdf Retrieved November 20, 2018
- http://www.cbse.nic.in/publications/CCE_Manual_Class_VI_VII_2010.pdf Retrieved November 20, 2018
- http://www.cbse.nic.in/cce/cce-manual/chapter_1.pdf Retrieved November 20, 2018
- http://www.ncte.org/library/NCTEFiles/Resources/Positions/formative-assessment_single.pdf Retrieved November 20, 2018
- https://www.ucd.ie/t4cms/UCDTLT0029.pdf Retrieved November 20, 2018
- https://www.ijser.org/researchpaper/The-Use-of-Laboratory-Method-in-Teaching-Secondary-School-Students-a-key-to-Improving-the-Quality-of-Education.pdf Retrieved November 20, 2018

PEDAGOGY OF PHYSICAL SCIENCE
COURSE CODE: SOE020215C3104

Year: I **Credit: 4**
Semester: II **Max Marks: 100 Marks**

Essence of the Course

This course will enable the 'would be teachers' to know why and how to teach Physical Science to students. Pupil teachers will be able to know about the teaching methodology of physical Science. They will know the importance of teaching Physical Science with the help of different methods. Pupil teachers will know about the aims and objectives of teaching Physical Science. They will know the importance of teaching aids, micro-teaching skill and lesson plan for teaching Physical Science.

Objectives: After completing this course, the student teachers will be able to :

- familiarize with concept and nature of physical science.
- acquaint with the importance of teaching of physical science.
- develop scientific thinking in themselves, students and communities
- prepare a lesson plan
- familiarize with the learning resources and instructional aids
- describe the importance of educational technology for teaching physical science
- learn the methods and pedagogical analysis of teaching physical science.

Teaching Scheme (session)*			**Total (L+T+P)**	**Examination Scheme**		
				Internal Assessment	**External Assessment**	**Total Marks**
Unit	**L**	**T/P**	**C**	**30 Marks**	**70 Marks**	**100 Marks**
I	12	4	16			
II	12	4	16			
III	12	4	16			
IV	12	4	16			
Total	48	16	64	**30 Marks**	**70 Marks**	**100 Marks**
L=Lecture, T=Tutorial, P=Practicum/Practical						

Course Content:

Unit I: Conceptual Understanding and Objectives of Teaching Physical Science

- Concept, Nature, Scope and Value of Physical Science as a Subject of the School Curriculum
- Correlation of Science with subjects (Mathematics, Social Studies, Geography, Health & Physical Education).
- Aims and Objectives: Meaning and Difference between the terms, Aims of teaching Physical Sciences at Middle and Secondary level with special reference to NCF 2005
- Bloom's Taxonomy of Educational Objectives (Cognitive, Affective and Psychomotor): Traditional and Revised
- Approaches of writing objectives in behavioral terms: Robert Mager, Miller and RCEM approach

Unit II: Basic Teaching Skills, Methods and strategies of Teaching Physical Sciences

- Basic teaching skill: Meaning and Components of Skills (Skill of Introducing the Lesson, Skill of Reinforcement, Skill of Probing Questioning, Skill of Illustration with Example, Skill of Explanation, Skill of Stimulus Variation, Skill of Board Writing, Skill of Classroom Management)
- Methods of Teaching Physical Science: Lecture-Cum Demonstration, Project Method, Laboratory Method, Heuristic Method, Brainstorming
- Strategies of Teaching Physical Science: Team Teaching, Panel Discussion, Field Trips, Science Club, Science Fairs and Exhibition

Unit III: Pedagogical Analysis, Lesson Planning & Evaluation

- Pedagogical analysis: Utility, Principles, Steps in Pedagogical Analysis
- Pedagogical analysis of any one of the topic from Science text book from class 6th to 10th referred by NCERT
- Lesson Plan: Essential features, Advantages, Requirement, Approaches to Lesson Plan: Herbatian Approach, Constructivist Approach
- Evaluation**:** CCE, meaning and needs, Types, Qualities of a good test, Blue Print
- Action Research: Meaning, Steps and importance

Unit IV: Instructional material and Teacher of Physical Science

- Instructional Aids: Meaning, Need, Types (Charts, Models, Display Boards, and Black Board, Computer, Science Kit and their merits & demerits.)
- Improvisation: Meaning, need and importance
- Laboratory: Planning, equipping and organization
- Text book: Meaning, Qualities of a good Science Textbook, Critical Analysis of a Secondary School Physical Science Textbook, Procedure of Textbook selection
- Physical Science Teacher: Qualities and Duties

Transactional strategies: Lecture cum discussion, Lecture cum demonstration, Use of PPT, Assignments on various topics, Presentation and discussion, Debate and presentations by Pupil Teachers will be encouraged.

Internal Assessment: A total of 30 marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

Sr. No.	Activity	Mode	Weightage of Marks
1	Three Sessional tests will be conducted.(Best Two will be counted)	Test	**20**
2	Preparation of an assignment on various topics	Assignment + Lesson Plan Presentation	**5**
3	Percentage of attendance	---	**05**
Total Marks			**30**

Practicum – Suggestive List : Lesson plan presentation on any topic of Physical Science book from Class VIth-Xth by using all (mentioned in syllabus) basic teaching skills.

Suggestive Readings:

- Albert, Paul (2017). *Pedagogy of Physical science*. New Delhi: Blue Rose Publishers.
- Kochhar, S.K. (2003). *Methods and techniques of teaching*. New Delhi: Publishers Pvt. Ltd..
- Kohli, V.K. (1998). *How to teach science*. Ambala: Vivek Publishers.
- Kulshrestha, S.P., Singh, Gaya (2013). *Teaching of physical science*. Meerut: Raj Printers.
- Kumar, Pramod , Ramaiah, K. , Sreedharacharyulu,K. (2016). *Pedagogy of Physical Science*. Meerut: R.Lall.
- Mangal, S.K., Mangal, Shubhra (2018). *Pedagogy of Physical Sciences*. Meerut: International Publishing House.
- Nagaraju, M.T.V., Vanaja, M. (2015). *Methods of teaching of physical science*. New Delhi: NeelKamal Publications.
- NCF (2005). *National curriculum framework*. New Delhi: NCERT.
- NCERT. (2006). *Position paper on teaching of science*. New Delhi: NCERT.
- Pal, Sangeeta (2016).*Pedagogy of Physical Science*. Agra: Rakhi Prakashan.
- Pandey. (2003). *Major issues in science teaching*. New Delhi: Sumit Publications.
- Praveen, Manoj G.,Haseen, Koya. M. P.(2016). *Teaching Science Resource,Methods and Practices - (Physical Science & Natural Science*. New Delhi: Neelkamal Publishers.
- Radha Mohan. (2016). *Teaching of physical science*. New Delhi: Neelkamal Publishers.
- Rahi, Avtar Singh (2018). *Pedagogy of Physical Sciences and Teachers*. Colorado (U.S.A.): Create space Independent Publishing Platform.
- Rajasekar, S. (2016). *Methods of Teaching Physical Science*. New Delhi: Neelkamal Publishers.

- Rao, N. Venkat, Ramulu, Ch. A. (2016). *Pedagogy of Physical Sciences*. New Delhi: Neelkamal Publishers.
- Sharma, R.C. (2006). *Modern science teaching*. New Delhi: Dhanpat Rai Publishing Comp.
- Sharma, R.P. (2010). *Teaching of physical science*. Meerut: R.Lall.
- Sood, J.K. (1992). *New directions in science teaching*. Chandigarh: Kohli Publishers.
- Tolman, Marvin N. (2006). *Hands on Physical Science Activities*. United States: Jossey Bass (Wiley).

Web Resources:

- http://sprabhakngce.blogspot.com/
- http://www.ncert.nic.in/textbook/textbook.htm
- http://www.ncert.nic.in/ncert/textbook
- http://www.ncert.nic.in/rightside/links/pdf/framework/ncf_hindi_2005/ncf2005.pdf
- http://www.ncert.nic.in/rightside/links/pdf/framework/english/nf2005.pdf

PEDAGOGY OF ECONOMICS
Course Code: SOE020216C3104

Year: I **Credit :4**
Semester: II **Max Marks : 100 Marks**

Essence of the course:

Economics deals with the broad themes of state, market, and development. Market and state are interrelated as instruments of development. Economics introduces the learners to key economic concepts and issues that affect their everyday lives. After studying this course, Pupil Teachers will be able to organize various programmes to develop an understanding about the state, market, national income, development and other concepts of economics.

Objectives : After completing this course, the student teachers will be able to :

- familiarize the pupil teacher with various teaching resources and aids of teaching Economics at the senior secondary level.
- introduce various activities (micro teaching, lesson plan etc) for teaching economics.
- develop competence in use of instructional media in teaching economics
- promote reflection on issues pertaining to teaching of Economics.
- develop competence in designing effective instructional material to teach Economics.
- develop ability to design, develop; and use various tools & techniques of evaluation.
- develop awareness about syllabus prescribed by different State/Central Boards.
- develop competence in preparing Achievement Test Report of Students in Various forms.
- familiarize the pupil teacher with various strategies, methods, techniques and skills of teaching Economics at the senior secondary level.
- introduce various methods, strategies and techniques of teaching economics.
- develop competence in use of appropriate strategy in relation to teaching economics
- promote reflection on issues pertaining to teaching of Economics.
- develop competence in designing effective instructional material to teach Economics.
- develop awareness about syllabus prescribed by different State/Central Boards.
- develop awareness about recent advancements in teaching of Economics.

Teaching Scheme(session)*

Teaching Scheme (session)*			Total (L+T+P)	Examination Scheme		
				Internal Assessment	External Assessment	Total Marks
Unit	**L**	**T/P**	**C**	**30 Marks**	**70 Marks**	**100 Marks**
I	12	4	16			
II	12	4	16			
III	12	4	16			
IV	12	4	16			
Total	48	16	64	**30 Marks**	**70 Marks**	**100 Marks**
L=Lecture, T=Tutorial, P=Practicum						

Course content :

Unit 1 :Introduction to Economics as a Discipline

- Concept, nature and scope of Economics
- Economics as a Discipline
- Aims and objectives of teaching Economics at secondary and senior secondary school level
- Instructional objectives of teaching Economics.

Unit 2: Methods & Skills of teaching Economics

- Lecture, Discussion, Debate, Inquiry, Problem solving, Survey, Project method
- Innovative Practices in Economics Teaching – Brain Storming, workshop, Team teaching, Co-operative learning,
- Role and Characteristics of Economics teacher
- Challenges in teaching Economics

Unit 3: Instructional Media: Teaching Resources & Aids

- ICT : Use of economics Teaching
- Text Book , Map, Charts, Models, PowerPoint presentations
- Micro Teaching
- Unit Planning
- Lesson Planning

Unit 4 : Evaluation of learning outcomes

- Evaluation- Nature of educational evaluation, its need, role in education process
- Methods of Assessment: Formative, Summative, Diagnostic
- Preparation of Question paper and Achievement Test
- Diagnostic and Remedial teaching
- Achievement Test Report (ATR): meaning, concept and importance, Components of ATR in Economics

Transactional strategies: Lecture-cum-discussion along with interactive group discussion, field trips, group discussions, brain-storming and simulation in the form of mock session, case study of banks and insurance etc

Internal Assessment: A total of 30 marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

Sr.No.	Activity	Mode	Weightage of Marks
1	Three Sessional tests will be conducted.(Better Two will be counted)	Test	**20**
2	Preparation of an assignment on various topics	Lesson Plan & Presentation	**5**
3	Percentage of attendance	---	**05**
Total Marks			**30**

Practicum : Suggestive List:

- Critical study (Review) of any one Economics book
- Development and organization of co-curricular activities
- Preparation of Annual plan, Unit plan and Lesson plan
- Identifying and Evaluating ICT resources suitable for teaching Economics
- Develop a Multi-Media lesson using appropriate ICT resources and transacting the same before peers in simulated teaching exercise.
- Action Research Project Report
- Visits can be organise to

✓ RBI and other Banks
✓ Any Industry or Factory
✓ Finance ministry

*** In addition, school and community based activities may be organized with provisions for visits to innovative centres of pedagogy and learning, innovative schools, educational resource centres, etc. Action research based on teaching learning and school and community could be conducted.**

Suggested Readings

- Koutsoyiannis. (1979). *Modern microeconomics*, International Edition, Palgrave Macmillan.
- Arora, P.N. (1985). *Evaluation in economics*. New Delhi: NCERT.
- Arora, P.N. And Shorie, J.P. (1986). *Open book examination question in economics*, New Delhi: NCERT.
- Assistant Masters Association (1974). The Teaching of Secondary School Examinations, London Cambridge University Press.
- Bawa M. S. (ed.) (1998). *Source Book on Strategies of Teaching Social Sciences*, IASE, Deptt. of Education, Delhi University.
- Bawa, M. S. (ed.) (1995). Tendering of Economics: Contemporary Methods and Strategies for Secondary and Senior Secondary levels, IASE, Deptt. of Education, Delhi University.
- Bawa, M. S. (ed.) (1996). *Evaluation in Economics*, IASE, Deptt. of Education, Delhi University.
- Blanchard, O., *Macroeconomics*, 4th Edition, Prentice Hall.
- Chakravorty, S. (1987). Teaching of Economics in India, Bombay, Himalaya Publishing.
- Dornbusch, R., Fischer, S & Startz, R., (2015). *Macroeconomics*, 11th edition, McGraw Hill.
- Mishra & Puri, (1995). *Economic development and planning*. Himalaya publishing house.
- Lekhi R.K., (2014). *Economics of Development and Planning*. kalyani Publishers
- Hicks, J.R. (1960). *The social framework- an introduction to economics*, London: Oxford University Press.
- Hodkinson, Steve, Whitehead & David J. (ed) (1986). *Economics Education: Research and Development Issues*, London, New York: Longman.
- Hazlitt, H. (2010). *Economics in one lesson: the shortest and surest way to understand basic economics. Currency.*
- Mishra & Puri (2015). *Indian economy*. Himalaya Publishing house.
- Dutt & Sundaram, (2016). *Indian economy*, S.Chand Publisher.
- Kanwar, B.S. (1973). *Teaching of economics*, Ludhiana; Prakash Brothers.
- Khan, R.S. *Teaching economics* (In Hindi), Kota Open University, BE-13.
- Lee, N. (ed) (1975). *Teaching economics*, London: Heinemann Educational Books, Prentice Hall.
- Macroeconomics. (2015). HL Ahuja, S.Chand Publishers
- Mankiew, G, N, 'Principles of Macroeconomics, 9th edition, Macmillan Learning.
- Mangal & Mangal,U. (2018). Pedagogy of social sciences. India:PHI.
- Ahuja, H.L.(2016). *Micro economics*. S.Chand Publishers.
- NCERT (1974). Teaching Units in Economics for High and Higher secondary Stage, New Delhi: NCERT.
- Oliver, J. M. (1977). *The principles of teaching economics within the curriculum*, London Routledge & Kegan Paul.
- Pindyck, R.S., Rubinfeld, D.L. & Mehta, P.L., (2015). *Microeconomics*, 8th edition, Prentice Hall.
- Ray, D. (1998). *Development economics*, Princeton University Press.
- Sachs, I, (ed.) (1971). Main trends in Economics Project and Role Playing Economics, London, Macmillan.
- Salvatore, D., and Reed, (2013). *International economics* 11th edition, Wiley.

- Soderston, B.O. (1991). *International economics*, Macmillan.
- Siddiqi, M.H. (1998). *Teaching of economics*, New Delhi: Ashish Publishing House.
- Srivastava, H.S. (1976). Unit Tests in Economics, New Delhi, NCERT.
- Tyagi, S.D. (1973). *Teaching of economics(in hindi)*, Agra: Vinod Pustak Bhandar.
- Varian, Hall R. (1992). *Microeconomic Analysis* 3rd edition, New York : W.W. Norton & Company.
- Verma, S. (2018). *Bhartiya arthvyastha*, New Delhi: unique publisher.
- Whitehead, D. J. (ed.) (1974). *Curriculum development in economics*, London: Heinemann Education Books

Web Resources

- www.cseindia.org (for documentary films and DVD)
- www.india-seminar.com
- Janchetana.blogspot.com (Hindi and English)
- http://www.ibe.unesco.org/publications/educationalpracticesseries
- 1947PartitionArchive.org
- http://www.indiabudget.nic.in/survey.asp
- dsal.uchicago.edu
- http://bombay.indology.info/mahabharata/statement.html
- http://archive.is/http://www.sdstate.edu/projectsouthasia
- www.harappa.com
- http://www.mughalgardens.org
- http://persian.packhum.org
- www.museum.upenn.edu
- www.alifindia.or
- www.edumaritime.org
- http://parliamentofindia.nic.in
- www.gandhiserve.org
- www.copsey-family.org/~allenc/lakshmibai
- https://earth.google.com
- http://www.mapsofindia.com
- Position Paper National Focus Group on Teaching of Social Sciences, NCERT

http://www.ncert.nic.in/new_ncert/ncert/rightside/links/pdf/focus_group/social_sciencel.pdf

- Package in social science for professional development of in-service teachers, NCERT

http://www.ncert.nic.in/departments/nie/dess/publication/prin_material/ITPD%20Final%20june%2014.pdf

- Learning curves: special issue in social science in schools, (2010), by AzimPremji Foundation http://azimpremjifoundation.org/pdf/LCXV.pdf
- Learning Indicators and Learning Outcomes at the Elementary Stage, (2014), NCERT http://www.ncert.nic.in/departments/nie/dee/publication/pdf/LI_Final_Copy_Revised_29.12.14.pdf
- http://nroer.in/home/
- http://www.epathshala.co.in/

Audio Visual Resources

- http://www.kabirproject.org/the%20films
- https://www.youtube.com/watch?v=-E6Z-oSwfTA
- https://www.youtube.com/watch?v=0FK-BlTdqAs&list=PL5671Y5M9FStlCRg9hPujnRb5fsNmycez

PEDAGOGY OF COMMERCE
COURSE CODE - SOE020217C3104

Year : **I** **Credit :4**
Semester: **II** **Max Marks : 100**

Essence of the Course

This course aims to provide student-teachers with the content and pedagogical aspects of Commerce. This course includes basic concepts of commerce discipline as sound content knowledge is essential for effective teaching. For providing students with pedagogical content knowledge, different methods, approaches and strategies of teaching commerce have been included. This course will help student-teachers understand key concepts of commerce as well as methods and procedure of teaching commerce effectively and efficiently.

Objectives : After completing this course, the student teachers will be able to :

- explain Meaning, & Scope of commerce.
- develop an understanding about important commercial operations like Trade, Insurance etc.
- know the aims and objectives of teaching commerce at secondary level.
- familiarize various approaches of writing instructional objectives.
- formulate instructional objectives in behavioural terms.
- use various approaches to lesson planning and enable them to design their lesson so as to make them interesting and understandable to the learners.
- familiarize the concept and true purpose of evaluation and be able to construct a test to identify the strength and problem areas of students.
- select appropriate methods, aids and techniques of teaching commerce at secondary level.
- select appropriate co-scholastic activities to promote meaningful learning of concepts.

Teaching Scheme (session)*			**Total (L+T+P)**	**Examination Scheme**		
				Internal Assessment	**External Assessment**	**Total Marks**
Unit	**L**	**T/P**	**C**	**30 Marks**	**70 Marks**	**100 Marks**
I	12	4	16			
II	12	4	16			
III	12	4	16			
IV	12	4	16			
Total	48	16	64	**30 Marks**	**70 Marks**	**100 Marks**
L=Lecture, T=Tutorial, P=Practicum						

Course Content / Syllabus

Unit 1 : Introductory Commerce

- Meaning, definition & Scope of commerce.
- Trade: Meaning, Concept, Importance & Functions.
- Business organization: Meaning, Concept, characteristics & Types.
- Insurance: Meaning, Concept, Need, Importance, Types & Principles.

Unit 2 :Writing Instructional Objectives

- Aims and objective of teaching commerce at secondary level
- Bloom's Taxonomy
- Approaches of writing Instructional Objective: Mager, Miller & RCEM Approach
- Writing Instructional Objectives in behavioural terms.

Unit 3: Lesson Planning in Commerce

- Meaning, Concept & Importance of Lesson Planning
- Various approaches to lesson planning: Herbart approach & Morrison approach.
- Preparation of Lesson Plan.

Unit 4: Teaching Methods & Evaluation

- Methods of teaching commerce: Lecture, Project, Problem solving
- Co-curricular activities: Objectives & Various types.
- Different Types of Co-Scholastic activities for strengthening the understanding of commerce.
- Formative V/s Summative Assessment
- Construction of Achievement test in commerce

Transactional Strategies

Unit 1:Lecture followed by discussion supplemented by searches on MOOC's and augmented by power- point presentation analytical and synthetic discussions.

Unit 2: Lectures, discussions, use of MOOCs, e-platforms, library assignment

Unit 3: Lectures, discussions, library assignments, PowerPoint presentations on various approaches to lesson planning, discussion on model lesson plan of commerce formulated by RIE's..

Unit 4: Lecture followed by discussion supplemented by searches on MOOC's and augmented by power- point presentation analytical and synthetic discussions**.**

Internal Assessment: A total of 30 marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

Sr.No.	Activity	Mode	Weightage of Marks
1	Three Sessional tests will be conducted.(Best Two will be counted)	Test	**20**
2	Preparation of an assignment on various topics	Lesson Plan & Presentation	**5**
3	Percentage of attendance	---	**05**
Total Marks			**30**

Practicum:

- Design and Deliver a 15 Minutes presentation on any topic by using Lecture method.
- Prepare a report on India's Trade pattern.
- Prepare PowerPoint presentation on any topic covered in pedagogy of commerce syllabus.
- Sessional work/unit test/practicum/ project based activities and Terminal Assessments
- Construction of Achievement test in commerce

Suggested Readings:

- Agrawal, J.C. (2018). *Teaching of commerce: A practical Approach.* New Delhi: Vikas publishing House
- Babu, M. (2009).Teaching of commerce and accountancy. Centrum Press.
- Bansal, R.R.(1994). *New trends in teaching of commerce; Models of teaching and conceptual learning.* Anmol Publishing House.
- Busham, Y.K. (1991).*Fundamentals of business organization &Management*.New Delhi: Sultan Chand & Sons
- Chandra, S.S. (2017). *Pedagogy of school subject commerce*. Meerut: R. Lall Publications
- Doshi, S. (2009). *Modern methods of teaching commerce*. Paradise Publishers.
- Jawawi, R. (2010). Reflective practices in teaching economics and commerce. VDM Verlag Publications.
- Khan, M.S. (1982). *Commerce education.* New Delhi: Sterling Publications.
- Kumar, M. (2004).*Modern teaching of commerce.* Anmol Publishing House.
- Lloyd V. D.(1972). *Teaching business subjects (3rd Ed.).* New Jersey: Prentice Hall Publications.
- Singh, R.P. & Mansoori, I. (2017). *Pedagogy of school subject commerce*. Meerut: R. Lall Publications
- Singh, Y.K. (2018). *Teaching of commerce*. New Delhi: APH Publishing House.
- Tonne, H.A. (1975). *Methods of teaching business subjects*. New York: McGraw Company Ltd.
- Venkateswarlu, K. (1993). *Methods of teaching commerce*. New Delhi: Discovery Publishing House.

ART IN EDUCATION (VISUAL AND PERFORMING ARTS)
COURSE CODE - SOE020218C2024

Year :I **Credit : 2+2 (Theory + Practicum)**
Semester : II **Max Marks :100 (Theory + Practicum)**

Essence of the Course

The course on Arts in Education has been designed keeping in view the development of the self through the arts for every student teacher and for the development of students in school through arts in education to be practiced by every teacher. Two year B.Ed. programme offers school based learning and draws on the latest research into effective teaching, ensuring graduates are well equipped to teach. The course will unfold the aesthetic potentialities of prospective teachers for enabling them to become contributing citizens by promoting all forms of arts in school through hands on experience and integration of art as pedagogy in different subject areas. Pupil teachers will also use these skills in practice teaching during school internship. The essence of Arts Education is to enhance analytical and critical thinking among students, Learning through the arts will help student teachers in developing communication and interpersonal as well as presentational skills by bringing these in their teaching practice.

Objectives : After completing this course, the student teachers will be able to :

- familiar with the concept of art and its importance in daily life and education.
- develop competencies and skills for teaching of Art.
- acquire skills for integrating different art forms across school curriculum for better learning and developing.
- develop the artistic and aesthetic sensibilities among students to enable them to respond to the beauty in different art forms.
- develop imagination and sense of art and creative interest in art in teaching learning process.
- develop and understanding of drama and art, the scope and purpose of art education and art as the basis of education.
- acquaint about drama as a critical pedagogy and develop consciousness & awareness towards society.
- aware of forms of art, performing and visual and their significant role in human life.
- explore various dance forms and their integration in education practices.
- learn to identify areas that are best suited for drama exploration.
- recognize the role of drama as education in elementary school and will learn about different dance styles driven in India.

Teaching Scheme(session)*

Teaching Scheme (session)*				Total (L+T+P)	Examination Scheme		
					Internal Assessment	External Assessment	Total Marks
Unit	**L**	**T**	**P**	**C**	**15 Marks (Theory)** **15 Marks (Practicum)**	**35 Marks (Theory)** **35 Marks (Practical)**	**100 Marks**
I	13	0	0	13			
II	13	0	0	13			
III	0	0	20	20			
IV	0	0	18	18			
Total	26	0	38	64	**30 Marks**	**70 Marks**	**100 Marks**
L= Lecture, T=Tutorial, P=Practical							

Course Content

Unit -1 : Concept of Art and Education (Theory)

- Concept and meaning of Art and its types.
- Importance of colours in human life.
- Art in daily life.
- Art as an Educational/Pedagogy tool.
- Art and other Subjects- Languages, Mathematics, Science, Social Studies.
- Folk Art- Madhubani, Warli.

Unit 2 : Aesthetic Sense and Performing Art (Theory)

- Importance of Aesthetic sense in human life.
- Transformation of art and Aesthetic sense through Education.
- Introduction of Drama and its types, social and educational relevance of performing art and its place in contemporary Indian society.
- General introduction of seven classical Dance styles, knowledge of Indian Dance & Drama traditions both in classical and Folk Song.
- Drama as pedagogy of learning and development.
- Exposure to selective Basic skills required for Drama and Art.

Unit 3 : Methods and Materials of Art and Performing Art (Practical)

- Making of Object Drawing, Portrait Painting, Clay Model, Rangoli and Glass Painting.
- Free Handwriting and Calligraphy.
- Stage craft & design, technology and direction of performance.

- Acting for production, play production process.

Unit 4 : Printing, Painting & Crafting (Practical)

- Making Show-Pieces by Paper-cutting and folding.
- Products making out of Waste material.
- Arrangement Painting with Ladyfinger, Potato, Onion etc.
- Poster Making.
- Collage Making

Transactional Strategies

Hand on experience of working in different mediums and materials, preparation and presentation of teaching learning materials, workshop, exhibition, slide/film show, project work, group work planning of a stage-setting, visit, role play, celebrations of Indian festivals and fairs brain-storming, interaction with artists, lectures and demonstration.

Internal Assessment Strategies: A total of thirty marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are divided into two categories theory and practicum respectively as follows.

S. No.	Theory		Practical	
	Mode	**Marks**	**Mode**	**Marks**
1	TwoInternal Assessment (Better one will be considered)	10	File work and Viva	**10**
2	Assignment	2.5	Live performance	**2.5**
3	Percentage of attendance	2.5	Percentage of attendance	**2.5**
	Total	**15**	Total	**15**
	Total Mark: 30			

External Assessment Strategies :

A total of seventy marks have been allotted under External Assessment. The nature of the activity, mode and weightage of marks are divided into two categories theory and practical respectively as follows.

S. No.	Component	Mode	Marks	Total
1	Theory	Term end semester examination	35	**35**
2	Practical	Project Reports	15	**35**
		Spot visual/performing activity	10	
		Viva	10	
Total Marks				**70**

Practicum – Suggestive List

1. Linear Diagrams.
2. Designs.
3. Calligraphy.
4. Object Drawing.
5. Portrait Painting.
6. Clay Mod
7. Bloc Painting.
8. Glass Painting.
9. Rangoli Art
10. Crafts.
11. Products making out of Waste material.
12. Poster Making.
13. Collage making.
14. Folk arts.
15. Paper folding and cutting.
16. Music.
17. Dance.
18. Magic.
19. Theatre.

Suggested Readings :

- CCRT official website.
- Chandok Amargeet (2016), *Art and education*, Delhi: Bookman.
- Chaturvedi Snehlata (2016), *Art education*, Delhi: Bookman.
- Chauhan Rita (2016), *drama, Art and Education*, Agra: Agrawal Publications, Sanjay Place.
- Chawla S.S. (1986), Teacher of Art, Patiala: Publication bureau Punjabi university.
- Chetan Bharti (2016), *Drama and art in education*, Kalyani Publishers.
- Gill Rajesh (2017), *A textbook of art education*, New Delhi: Paragon International Publishers.
- Gill Rajesh (2018), *Art Education*, New Delhi: Paragon International Publishers.
- Jain Ritu (2016), *Art education*, Delhi: Bookman.
- Kakkar Rekha, Makkhar Ragini (2018), *Drama, art and aesthetics in education*, Agra: Rakhi Prakashan.
- Kumar Rajender (2016), *Drama and art in education*,Rajsthan: Jain Prakashan Mandir.
- NCERT (2006), *Position paper national focus group on Arts. Music, Dance and theatre*. New Delhi: NCERT.

- Prasad Devi (1998), *Art as the basis of Education*, New Delhi: NBT.
- Raw K. Ravikant, Kumar P. Ananad (2019), *Drama and Art in Education*, Neelkamal Publications.
- Roy Reeta (2017), *Perfect art education*, Arya: Publisher Company.
- Saxena Avnish, Sirth Sushil (2016), *Drama, art and aesthetics in education*, Agra:Rakhi Prakashan Raman Tower, Sanjay place.
- Sharma R. P., Sharma R. K.(2016*), Drama and art in education*, Agra: Radha prakashan mandir.
- Sharma Sudhir, Singh Kuljeet (2016), Art Education, Delhi: Bookman.
- Singh Chitralekha (2016), *Drama and art in education*, Agra: Publisher Shri Vinod Pustak Mandir.
- Suneela M. Esther, Kumar P. Anand (2019), *Art in Education*, Hyderabad: Neelkamal Publications.

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ICT IN EDUCATION
COURSE CODE -SOE020219C0022

Year :I **Credit: 2**
Semester: II **Max Marks: 50**

Essence of the Course:

The ultimate aim of teaching ICT in the discipline of Education is to disseminate ICT skills across the disciplines and aspire for multiple trajectories of best practices as per needs of the special discipline. The constantly developing field of ICT will always need exploration of new technological advancements in the context of teaching-learning. This course aims to give an understanding of ICT and its potential in changing social contexts. It will give a broad understanding of ICT that include computing and communication technologies. The students will be able to use basic office automation. An important aspect of this course is to give a sense of responsibility that comes with the technological advancements. Using technology in the classroom is an important skill for learning teachers towards ICT enabled education. This course focuses on equipping the student teachers with skills of basic computer literacy and ICT-aided learning; and applications of ICT in administrative and academic support systems.

Objectives: After completing this course, the student teachers will be able to :

- familiarize with computer system.
- work on Word processing, Spreadsheets and Presentation software.
- operate on Internet with safety.
- elucidate the application of ICT for Teaching Learning.
- develop various skills to use computer technology for sharing the information and ideas through the Blogs and Chatting groups.
- access online course materials – MOOC and other platforms.
- develop conceptual understanding of Information & Communication Technology
- identify and discuss the policy concerns regarding ICT in Education

Teaching Scheme (session)*

Teaching Scheme (session)*				**Total (L+T+P)**		**Examination Scheme**	
					Internal Assessment	**External Assessment**	**Total Marks**
Unit	L	T	P	C	15 Marks	35 Marks	50 marks
I	4	2	16	22			
II	6	2	14	22			
Total	**10**	**4**	**30**	**44**	**15 Marks**	**35 Marks**	**50 Marks**
L=Lecture, T=Tutorial, P=Practical							

Course Content / Syllabus

Unit -1 Fundamentals of Computer

- Introduction of Computer and its Components
- Hardware: Input and Output Devices
- Software: Meaning and Types, Features of Application Software, Operating System and its functions, MS Windows & Linux
- MS WORD: Introduction to a Word Processor, Basic components of MS WORD and its operation
- MS Excel: Introduction to Spreadsheets, Concept of Worksheets and their operations, Spreadsheet operations-entering Numbers ,text, Dates & Time, formulae, Preparation of Worksheets
- MS Power Point:, Basic components of MS Powerpoint and its operation, creation of Powerpoint Presentation Preparation of different types of slides, slide design, colour and background, slide transition, custom animation

Unit 2: Conceptual Understanding of Information and Communication Technology and Internet

- Information and communication technology: Meaning, Concept and Challenges of Integration of ICT in School
- Aims and Objectives of National Policy on Information and Communication Technology (ICT) in School Education in India and National Mission on Education through ICT (NMEICT),
- Internet: Ways of using the Internet in teaching learning process,E-mail, Google Drive, Google Group, Google Classroom, Search Engines, Safe surfing mode
- E- educational Resources & Platforms : MOOC's , SWAYAM, Gyan Darshan, Gyan Vani, Sakshat Portal, e-Gyan Kosh, Wikipedia, Facebook, You Tube, Google Scholar

Transactional Strategies:

Unit I

i) Hands on experience in ICT Lab
ii) Demonstration on various applications of MS Office
iii) Development of teaching learning resources using MS Office
iv) Internet Surfing/Web browsing in ICT Lab

Unit II:

i) Discussion on various ICT related issues
ii) Lecture cum Demonstration method will be used,
iii) Interaction with ICT software and hardware specialist
iv) Power Point presentation on various topics

Internal Assessment Strategies : A total of 15 marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of Marks
1	Two Presentation from suggestive list (Better one out of Two)+ Viva- Voce	Powerpoint Presentation	5+5
2	Preparation of a Practical File on various topics	Assignment	2.5
3	Percentage of attendance		2.5
	Total Marks		**15**

Practical

Choose any two of the following and Make a soft file and submit in CD form for evaluation:

- Making of a resume in MS Word.
- Making of a Lesson Plan in MS Word.
- Making of presentation in MS Power Point of any topic from B.Ed. Curriculum or school subject.
- Making of progress report-card and annual results in MS Excel.
- Graphical representation of data.
- Making of projects using internet.
- Making of projects integrating internet and smart classroom.
- Any other project/assignment given by the institution.

NOTE: External practical will be conducted by external examiner at the end of the semester

Suggested Readings

- Ara,A, Sujhatha, M. & Ramakrishna(2018). *ICT mediation in teaching learning.* New Delhi: Neelkamal Publications.
- Bansal & Kaur. (2016). *Critical understanding of ICT. Ludhiana: Tandon Publication.*
- Cheema, S.S., Kumar, G. & Preet, K.(2015). *ICT skill development.* Patiala: Twenty first Centuary Publication.
- Benkler, Y. (2006). *The wealth of networks: How social production transforms markets and freedom*. Yale: University Press.
- Brian K. W. & Stacey, S. (2005). *Using information technology*, 6th Edition Tata McGraw Hill, Curtin.
- Douglas, C. (2007). *The internet book: Everything you need to know about computer networking and how the internet works,* Prentice Hall,
- DSERT, Karnataka (2012). *Position paper on ICT mediation in education*. DSERT.
- MHRD, GOI (2004 revised 2010). *National ICTC schools scheme, development of education and literacy*. MHRD, New Delhi
- MHRD (2012*). National policy on information and communication technology (ICT) in school education*. MHRD, Government of India.
- Castells, M. (2011). The rise of the network society: The information age: Economy, society, and culture (Vol. I, II and III). John Wiley and Sons.

- National Mission in Education through ICT www.iitg.ernet.in/cet/MissionDocument_20Feb09.pdf
- NCERT (2013). *National repository of open educational resources*, CIET, New Delhi (nroer.gov.in)
- Sinha & Sinha (2005). *Computer fundamentals.*New Delhi: BPB Publications.

Web resources

- E-book: Getting Started with Libre Office 3.4 available at ttp://wiki.documentfoundation.org
- Free Software, Free Society: Selected Essays of Richard M. Stallman, digital book available on www.notabug.com/2002/rms-essays.pdf
- Free Software Foundation, www.fsf.org/
- www.unesdoc.unesco.org/images/0013/001390/139028e.pdf
- Information and Communication Technology Policy in School Education 2010. www.mhrd.gov.in/sites/upload_files/mhrd/files/ReviesICT_School.pdf
- http://en.wikibooks.org/wiki/Computers_for_Beginners. An exhaustive source for beginners
- National Policy on Information and Communication Technology (ICT) In School Education, http://mhrd.gov.in/sites/upload_files/mhrd/files/upload_document/revised_policy%20document%20ofICT.pdf
- Understanding MOOCs (2013), edited by Sanjaya Mishra, http://cemca.org.in/ckfinder/userfiles/files/EdTech%20Notes%202_Littlejohn_final_1June2013.pdf
- Increasing Access through Mobile Learning, (2014) edited by Mohamed Ally and Avgoustos Tsinakos,, http://oasis.col.org/bitstream/handle/11599/558/pub_Mobile%20Learning_web.pdf?sequence=4&isAllowed=y
- David Porter and Russell Beale (2015) A Policy Brief on MOOCs, http://oasis.col.org/bitstream/handle/11599/825/Policy%20Brief%20on%20MOOCs%20May%2025%20HQ%20print.pdf?sequence=1&isAllowed=y
- Mobile Learning – UNESCO, Steve Vosloo, 1 minute, http://www.unesco.org/archives/multimedia/index.php?s=films_details&pg=33&id=3601
- Expanding Mobile Learning, 2013, UNESCO, Nil Viasnoff (interviewer), 2 minutes, http://www.unesco.org/archives/multimedia/index.php?s=films_details&pg=33&id=2999
- How ICT can Support Teacher Training. 2014, UNESCO, Asha Kanwar (speaker5 minutes, http://www.unesco.org/archives/multimedia/index.php?s=films_details&pg=33&id=3722 and video
- Leveraging Mobile Technology for Education, 2013, UNESCO, Nil Viasnoff (interviewer), 5 minutes, http://www.unesco.org/archives/multimedia/index.php?s=films_details&pg=33&id=2997
- Vidya M. S.(2014), Technology tools for Teachers, http://cemca.org.in/ckfinder/userfiles/files/Technology%20Tools%20for%20Teachers_Low.pdf
- E-learning: A Guidebook of Principles, Procedures and Practices, SOM NAIDU (2006), cemca.org.in/ckfinder/userfiles/files/e-learning_guidebook.pdf
- Internet privacy and freedom of expression (2012) http://unesdoc.unesco.org/images/0021/002182/218273e.pdf

ICT in Education
COURSE CODE -SOE020236GEC2024

Year I **Credit: 4**
Semester: II **Max Marks: 100**

Essence of the Course:

The ultimate aim of teaching ICT in Education is to disseminate ICT skills across the disciplines and aspire for multiple trajectories of best practices as per needs of the discipline. The constantly developing field of ICT will always need exploration of new technological advancements in the context of teaching-learning. It will give a broad understanding of ICT that include computing and communication technologies. The students will be able to use basic office automation. Using technology in the classroom is an important skill for pursuing ICT enabled education. This course focuses on equipping the students with skills of basic computer literacy and ICT-aided learning.

Objectives: After completing this course, the student teachers will be able to :

- familiarise with computer system.
- work on Word processing, Spread sheets and Presentation software,
- operate on Internet with safety.
- elucidate the application of ICT for Teaching Learning.
- develop various skills to use computer technology for sharing the information.
- access online course materials – MOOC and other platforms.
- develop conceptual understanding of Information and Communication Technology.
- discuss and formulate an opinion about recent trends of ICT in education

Teaching Scheme (session)*

Teaching Scheme (session)*				**Total (L+T+P)**	**Examination Scheme**		
					Internal Assessment	**External Assessment**	**Total Marks**
Unit	L	T	P	C	30 Marks	70 Marks (35 Theory +35 Practical)	100 Marks
I	10	2	3	15			
II	10	2	3	15			
Practical	0	6	34	40			
Total	20	10	40	70	30 Marks	70 Marks	100 Marks
L= Lecture, T=Tutorial, P=Practical							

Content / Syllabus

Unit I: Fundamentals of ICT and its Tools

- Introduction of Computer and its Components
- Hardware: Input and Output Devices
- Software: Meaning and Types, Features of Application Software
- ICT tools and their utility

Unit II: Conceptual Understanding of Information and Communication Technology

- Meaning & Concept of Information and communication technology
- Types of Communication: Verbal, Nonverbal, Synchronous and Asynchronous Communication
- Role, importance and challenges of utilisation of ICT in education
- Recent trends of ICT in education: MOOCs, Blended learning, Flipped classroom.

Practical:

- MS WORD: Introduction to a Word Processor, Basic components of MS WORD and its operation
- MS Excel: Introduction to Spreadsheets, Concept of Worksheets and their operations, Spreadsheet operations-entering Numbers ,text, Dates & Time, formulae, Preparation of Worksheets
- MS Power Point:, Basic components of MS Power point and its operation, creation of Powerpoint Presentation Preparation of different types of slides, slide design, colour and background, slide transition, custom animation
- Internet: Ways of using the Internet in teaching learning process, E-mail, Google Group, Google Drive, Google Classroom, Search Engines, Safe surfing mode
- Accessing E- educational Platforms: Gyan Darshan, Gyan Vani, Sakshat Portal, e-Gyan Kosh, Wikipedia, Facebook, You Tube, Google Scholar.

Transactional Strategies:

Unit I:

- Discussion on various tools of ICT
- Demonstration of hardware of computer in ICT lab
- Lecture-cum-discussion on soft wares

Unit II:

- Discussion and demonstration of various types of communication
- Lecture-cum-discussion on role, importance, challenges and recent trends of ICT in education
- Debate on whether ICT is bane or boon in education.

Internal Assessment Strategies: A total of thirty marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of Marks
1	Three Sessional tests will be conducted.(Better Two will be counted)	written	20
2	Preparation of an assignment on various topics	Practical File & Viva + Lab Activity	5
3	Percentage of attendance	As per University rules	5
	Total Marks		30

Practical

Choose any two of the following and Make a soft file and submit in CD form for evaluation:

- Making of a resume in MS Word.
- Making of presentation in MS Power Point of any topic.
- Making of progress report-card and annual results in MS Excel.
- Graphical representation of data.
- Making of projects using internet.
- Report of experience of e-learning using any platform mentioned in the syllabus.
- Any other project/assignment given by the institution.

NOTE: External practical will be conducted by external examiner at the end of the semester

Suggested Readings

- Ara,A, Sujhatha, M. & Ramakrishna(2018). *ICT mediation in teaching learning.* New Delhi: Neelkamal Publications.
- Bansal & Kaur. (2016). *Critical understanding of ICT. Ludhiana: Tandon Publication.*
- Cheema, S.S., Kumar, G. & Preet, K.(2015). *ICT skill development.* Patiala: Twenty first Centuary Publication.
- Benkler, Y. (2006). *The wealth of networks: How social production transforms markets and freedom*. Yale: University Press.
- Brian K. W. & Stacey, S. (2005). *Using information technology*, 6th Edition Tata McGraw Hill, Curtin.
- Douglas, C. (2007). *The internet book: Everything you need to know about computer networking and how the internet works,* Prentice Hall,
- DSERT, Karnataka (2012). *Position paper on ICT mediation in education*. DSERT.
- MHRD, GOI (2004 revised 2010). *National ICTC schools scheme, development of education and literacy*. MHRD, New Delhi
- MHRD (2012*). National policy on information and communication technology (ICT) in school education*. MHRD, Government of India.

- Castells, M. (2011). The rise of the network society: The information age: Economy, society, and culture (Vol. I, II and III). John Wiley and Sons.
- National Mission in Education through ICT www.iitg.ernet.in/cet/MissionDocument_20Feb09.pdf
- NCERT (2013). *National repository of open educational resources*, CIET, New Delhi (nroer.gov.in)
- Sinha & Sinha (2005). *Computer fundamentals.*New Delhi: BPB Publications.

Web resources

- E-book: Getting Started with Libre Office 3.4 available at ttp://wiki.documentfoundation.org
- Free Software, Free Society: Selected Essays of Richard M. Stallman, digital book available on www.notabug.com/2002/rms-essays.pdf
- Free Software Foundation, www.fsf.org/
- www.unesdoc.unesco.org/images/0013/001390/139028e.pdf
- Information and Communication Technology Policy in School Education 2010. www.mhrd.gov.in/sites/upload_files/mhrd/files/ReviesICT_School.pdf
- http://en.wikibooks.org/wiki/Computers_for_Beginners. An exhaustive source for beginners
- National Policy on Information and Communication Technology (ICT) In School Education, http://mhrd.gov.in/sites/upload_files/mhrd/files/upload_document/revised_policy%20document%20ofICT.pdf
- Understanding MOOCs (2013), edited by Sanjaya Mishra, http://cemca.org.in/ckfinder/userfiles/files/EdTech%20Notes%202_Littlejohn_final_1June2013.pdf
- Increasing Access through Mobile Learning, (2014) edited by Mohamed Ally and Avgoustos Tsinakos,, http://oasis.col.org/bitstream/handle/11599/558/pub_Mobile%20Learning_web.pdf?sequence=4&isAllowed=y
- David Porter and Russell Beale (2015) A Policy Brief on MOOCs, http://oasis.col.org/bitstream/handle/11599/825/Policy%20Brief%20on%20MOOCs%20May%2025%20HQ%20print.pdf?sequence=1&isAllowed=y
- Mobile Learning – UNESCO, Steve Vosloo, 1 minute, http://www.unesco.org/archives/multimedia/index.php?s=films_details&pg=33&id=3601
- Expanding Mobile Learning, 2013, UNESCO, Nil Viasnoff (interviewer), 2 minutes, http://www.unesco.org/archives/multimedia/index.php?s=films_details&pg=33&id=2999
- How ICT can Support Teacher Training. 2014, UNESCO, Asha Kanwar (speaker5 minutes, http://www.unesco.org/archives/multimedia/index.php?s=films_details&pg=33&id=3722 and video
- Leveraging Mobile Technology for Education, 2013, UNESCO, Nil Viasnoff (interviewer), 5 minutes, http://www.unesco.org/archives/multimedia/index.php?s=films_details&pg=33&id=2997
- Vidya M. S.(2014), Technology tools for Teachers, http://cemca.org.in/ckfinder/userfiles/files/Technology%20Tools%20for%20Teachers_Low.pdf

- E-learning: A Guidebook of Principles, Procedures and Practices, SOM NAIDU (2006), cemca.org.in/ckfinder/userfiles/files/e-learning_guidebook.pdf
- Internet privacy and freedom of expression (2012) http://unesdoc.unesco.org/images/0021/002182/218273e.pdf
- Educational Multimedia:A Handbook for Teacher-Developers (2003), cemca.org.in/ckfinder/userfiles/files/EdMul_Full.pdf
- EXCEL TUTORIAL, http://www.excel-easy.com/
- TONY BATES, Teaching in a Digital Age, http://open.umn.edu/opentextbooks/BookDetail.aspx?bookId=221www.ictcurriculum.gov.in.
- https://swayam.gov.in/about
- https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/315591/DfE_RR355_-_Opportunities_for_MOOCs_in_schools_FINAL.pdf

ESSENTIALS OF GUIDANCE AND COUNSELING
COURSE CODE : SOE020237GEC2024

Year : I **Credit : 2+2 (Theory + Practicum)**
Semester : II **Max Marks : 100 (Theory + Practicum)**

Essence of the Course

The course on Essentials of Guidance and Counseling has been designed keeping in view the proper development of the individual. This course aims to counsel and guide the young generation for defining their career path ahead. It also helps to develop understanding and competencies required to counsel students. The course will unfold the potentialities of learners for enabling them to live life smoothly. The essence of Guidance and Counseling is to enhance analytical and critical thinking among students which will help students in developing their abilities as well as skills.

Objectives : After completing this course, the student teachers will be able to :

- develop conceptual understanding of guidance and its importance in daily life
- provide comprehensive training to learners
- help learners develop skills and techniques to provide the needed services to individuals, groups and organizations
- assess and diagnose the nature and intensity of day to day problems of the masses
- enable the learner to integrate psychological principles and therapeutic techniques as required during the Counseling Process
- develop professional competence among the learners
- differentiate between guidance and counseling
- list the main objectives of guidance and counseling programmes in education
- explore various types of guidance and counseling
- encourage learners to maintain the highest standards in offering services to individuals, groups and organizations
- critically analyze the role of a teacher as a guide in school
- identify various qualities of a teacher necessary for a counseling role
- develop competencies and skills in individuals to live life smoothly

Teaching Scheme (session)*

Teaching Scheme (session)*				Total (L+T+P)	Examination Scheme		
					Internal Assessment	External Assessment	Total Marks
Unit	**L**	**T**	**P**	**C**			
I	13	0	0	13	15 Marks (Theory)	35 Marks (Theory)	100 Marks
II	13	0	0	13			
Practicum	0	0	38	38	15 Marks (Practicum)	35 Marks (Practicum)	
Total	**26**	**0**	**38**	**64**	**30 Marks**	**70 Marks**	**100 Marks**
L=Lecture, T=Tutorial, P=Practicum							

Course Content / Syllabus

Unit -1 : Conceptual Understanding of Guidance

- Meaning and Definition of Guidance
- Functions of Guidance
- Fundamental Principles of Guidance
- Need for Guidance Services in India
- Types of Guidance: Educational, vocational and Personal
- Role of a class teacher in Guidance programme

Unit 2 : Counseling

- Concept of Counseling
- Difference between Guidance and Counseling
- Types of Counseling:
  (a) Direct Counseling
  (b) Indirect Counseling
  (c) Eclectic Counseling
- Teacher as a Counsellor

Practical: Select any three out of the following -

1. Administration and interpretation of any two.
   -Intelligence Test
   -Interest Inventory
   -Aptitude Test

-Personality Test

2. Prepare a case study of two students one general and one problem students
3. Planning/Preparing Guidance Programme for School.
4. Plan a Motivational Schedule for enhancing learning
5. Create a School Development Plan for initiating a guidance and counseling programme in schools

Transactional Strategies:

Lecture cum discussion, use of audio visual learning material, discussion brainstorming reflection, conduct counseling sessions, assignments on various topics, presentation of case study of students in need of counseling, group participation and group discussions conduct of psychological Tests, project work and field.

Internal Assessment Strategies:

A total of thirty marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are divided into two categories theory and practical respectively as follows.

	Theory		**Practical**	
S. No.	**Mode**	**Marks**	**Mode**	**Marks**
1	Two Internal Assessment (Better one will be counted)	10	Project Work and Viva-voce	**12.5**
2	Assignment	2.5		
3	Percentage of attendance	2.5	Percentage of attendance	**2.5**
	Total	**15**	Total	**15**
	Total Marks	**30**		

External Assessment Strategies: A total of seventy marks have been allotted under External Assessment. The nature of the activity, mode and weightage of marks are divided into two categories theory and practical respectively as follows.

S. No.	**Component**	**Mode**	**Marks**	**Total**
1	Theory	Term End Semester Examination	35	**35**
2	Practical	Project Report and Viva-Voce	35	**35**
Total Marks				**70**

Suggested Readings:

Ajowi, J. O., & Simatwa, E. M. W. (2010). The role of guidance and counseling in promoting student discipline in secondary schools in Kenya: A case study of Kisumu district. *Educational research and reviews*, 5(5), 263–272. Retrieved from: http://www.academicjournals.org/ERR

Barki, B. G., & Mukhopadhyay, B. (2008). *Guidance and counselling: A manual* (10th reprint). New Delhi: Sterling.
Chadurvethi, R. (2006). *Guidance and counseling techniques*, Chennai: S B A Book.
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Yuksel-Sahin, F. (2009). The evaluation of counselling and guidance services based on teacher views and their prediction based on some variables. *International journal of instruction,* 2(1)

PERFORMING AND VISUAL ARTS
Course Code : SOE020238GEC2024

Year **I** **Credit: 4 (2 Theory + 2 Practicum)**
Semester **II** **Max Marks: 100 (Theory + Practicum)**

Essence of the Course

The course on Performing and Visual Arts has been designed keeping in view the development of the self through the arts for every student. B.Ed. programme offers General Elective course to the students of other Departments. The course will unfold the aesthetic potentialities of students for enabling them to become contributing citizens by promoting all forms of arts through hands on experience and integration of art in different subject areas. The essence of Arts Education is to enhance analytical and critical thinking among students and learning through the arts will help students in developing their communication and interpersonal skills as well as presentational skills by bringing these in their daily practice.

Objectives : After completing this course, the student teachers will be able to :

- familiar with the concept of Performing and Visual Arts its importance in daily life.
- develop competencies and skills for teaching of Art.
- explore how art can enhance learning.
- get acquainted with various local, national art forms.
- present and describe their art work in a creative and expressive manner.
- acquire skills for integrating different art forms across Country for better learning.
- develop the artistic and aesthetic sensibilities among students to enable them to respond to the beauty in different art forms.
- develop imagination sense and creative interest in different forms of art.
- develop consciousness & awareness towards society through drama..
- aware of forms of art, performing and visual and its significant role in human life.
- explore various dance forms and their integration in daily life.
- learn to identify areas that are best suited for drama exploration.
- recognize the role of drama as education in elementary school and will learn about different dance styles driven in India.

Teaching Scheme(session)*

Teaching Scheme (session)*				Total (L+T+P)	Examination Scheme		
					Internal Assessment	External Assessment	Total Marks
Unit	**L**	**T**	**P**	**C**	**15 Marks (Theory)**	**35 Marks (Theory)**	**100 Marks**
I	13	0	0	13			
II	13	0	0	13			
III	0	0	20	20	**15 Marks (Practical)**	**35 Marks (Practical)**	
IV	0	0	18	18			
Total	26	0	38	64	**30 Marks**	**70 Marks**	**100 Marks**
L=Lecture, T=Tutorial, P=Practical							

Course Content / Syllabus

Unit -1 : Introduction to Performing and Visual Arts (Theory)

- Concept of Performing and Visual Arts.
- Importance of colour.
- Music, Dance, Theatre.
- Classical Indian arts.

Unit 2 : Acting Direction and Applied Arts (Theory)

- Acting according to Natyashastra.
- Concept of Direction and Design.
- History of advertising.
- India folk arts.

Unit 3 :Performing and Design Technology (Practicum)

- Acting.
- Direction.
- Stage Craft & Design Technology.
- Basic Drawing.
- Calligraphy.
- Waste utilization.

Unit 4 : Play Production Process (Practicum)

- Performance based on Mime.
- Acting Performance with Voice and speech.
- Practical of Direction and Stage Craft.
- Advertising art and ideas.
- Poster design/ Hoarding

Transactional Strategies : Hand on experience of working in different mediums and materials, preparation and presentation of teaching learning materials, workshop, exhibition, slide/film show, project work, group work planning of a stage-setting, visit, role play, celebrations of Indian festivals and fairs brain-storming, interaction with artists, lectures and demonstration.

Internal Assessment Strategies :A total of thirty marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are divided into two categories theory and practical respectively as follows.

	Theory		**Practicum**	
S. No.	**Mode**	**Marks**	**Mode**	**Marks**
1	Two Internal Assessment (Better one will be count)	10	File work and Viva	**10**
2	Assignment	2.5	Live performance	**2.5**
3	Percentage of attendance	2.5	Percentage of attendance	**2.5**
	Total	**15**	Total	**15**
	Total Marks			**30**

External Assessment Strategies :A total of seventy marks have been allotted under External Assessment. The nature of the activity, mode and weightage of marks are divided into two categories theory and practical respectively as follows.

S. No.	**Component**	**Mode**	**Marks**	**Total**
1	Theory	Term End Semester Examination	35	**35**
2	Practical	Project Reports	15	**35**
		Spot visual/performing activity	10	
		Viva-Voce	10	
Total Marks				**70**

Practicum – Suggestive List

1. Acting.
2. Direction.
3. Stage Craft & Design Technology.
4. Basic Drawing.
5. Calligraphy.
6. Waste utilization.
7. Advertising art and ideas.
8. Poster design/ Hoarding

Suggested Readings

- Chandok Amargeet (2016*). Art and education*. Delhi: Bookman.
- Chaturvedi Snehlata (2016). *Art education*. Delhi: Bookman.
- Chauhan Rita (2016). *Drama, Art and Education*, Agra: Agrawal Publications, Sanjay Place.
- Chawla S.S. (1986). *Teacher of art, patiala*: Publication bureau Punjabi university.
- Chetan Bharti (2016). *Drama and art in education*. Kalyani Publishers.
- Gill Rajesh (2017). A *textbook of art education*. New Delhi: Paragon International Publishers.
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- Jain Ritu (2016). *Art education*. Delhi: Bookman.
- Kumar Rajender (2016). *Drama and art in education., Rajasthan*: Jain Prakashan Mandir.
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- Raw K. Ravikant and P. Ananad Kumar (2019). *Drama and art in education.* Hyderabad: Neelkamal publications.
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- Sharma R. P., Sharma R. K.(2016). *Drama and art in education.* Agra: Radha prakashan mandir.
- Sharma Sudhir, Singh Kuljeet (2016). *Art education*. Delhi: Bookman.
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- Tivari Arjun,(2010). *Modern advertising art and behaviour*. Uttar Pradesh:Vishwavidyalaya Prakashan, Varanasi.
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Scheme

B.Ed.

(Bachelor of Education)

School of Education

Academic Session : 2018-20

Course Structure of Bachelor of Education (B.Ed.) under Choice Based Credit System for the Session 2019-21

Total No. of Credits in Four Semesters = 96 (88 + 8) (B.Ed. Course +Course offered by other Department)

B.Ed. Semester-I

Sl. No.	Course Code	Total Credits	Paper Title	Total Marks	Credits (Theory/Tutorial/Practicum)	Class Teaching Hours per week	Internal Assessment Weightage	External Assessment Weightage
1	SOE020101C3104	4	Childhood and Growing Up	100	4	4	30%	70%
2	SOE020102C3104	4	Contemporary India and Education	100	4	4	30%	70%
3	SOE020103C3104	4	Assessment for learning	100	4	4	30%	70%
4	SOE020104C3104	4	Value and Peace Education	100	4	4	30%	70%
5	SOE020105C1102	2	Language Across the Curriculum	50	2	2	30%	70%
6	SOE020106C1102	2	Understanding Discipline and Subjects	50	2	2	30%	70%
7	SOE020107C1102	2	Reading and Reflection on Text	50	2	2	30%	70%
8		**4**	**To be taken from other Department/MOOC**	100	4	4	30%	70%
	Total	**26**		**650**	**26**	**26**		
	Practicum/Hands on/ Students Activity /Seminar/Workshop/etc; during Practicum hours							
●	● **1 Credit Theory = 16 hours in a semester** ● **1 Credit = 25 Marks**							
●	● **Course Code offered to other Department in Semester I is presented in Table-1**							

Table-1: List of Courses offered by the School of Education to other Departments in Semester-I and III

Sl. No.	Course Code	Course Title	
1	SOE020134GEC3104	Value Based Education	Semester I
2	SOE020135GEC2024	Art in Education	Semester I

B.Ed. Semester-II

Sl. No.	Course Code	Total Credits	Paper Title	Total Marks	Credits (Theory/Tutorial/ Practicum)	Practical	Class Teaching/ Field Based Activity Hours per week	Internal Assessment Weightage	External Assessment Weightage
1	SOE020208C3104	4	Learning and Teaching	100	4	0	4	30%	70%
2	SOE020209C3104	4	Knowledge and Curriculum	100	4	0	4	30%	70%
3	SOE020210C3104 -- SOE020217C3104	4	Pedagogy of School Subject-1*	100	4	0	4	30%	70%
4	SOE020210C3104 -- SOE020217C3104	4	Pedagogy of School Subject-2*	100	4	0	4	30%	70%
5	SOE020218C2024	4	Art in Education (Visual & Performing Arts)	100	2	2	6	30%	70%
6	SOE020219C0022	2	ICT in Education	50	0	2	4	30%	70%
7	SOE020220C0044	4	School Internship**	100	0	4	8	60%	40%*
	Total	**26**		**650**	**18**	**8**	**34**		

Practicum/Hands on/ Students Activity /Seminar/Workshop etc. during Practicum hours

- **1Credit Theory = 16 hours in a semester**
- **1 Credit = 25 Marks**
- ***Pedagogy of School Subject-1* & Subject-2* may choose from List given below in Table-2.**
- ****Students will be engaged with school for the four weeks during the Semester.**

Course Code offered to other Department in Semester II is presented in Table-3

Table-2: List of Pedagogical Courses* offered by the School of Education in Ist Year (Semester II)

Sl. No.	Course Code	Course Title
1	SOE020210C3104	Pedagogy of Hindi
2	SOE020211C3104	Pedagogy of English
3	SOE020212C3104	Pedagogy of Social Sciences
4	SOE020213C3104	Pedagogy of Mathematics
5	SOE020214C3104	Pedagogy of Life Science
6	SOE020215C3104	Pedagogy of Physical Science
7	SOE020216C3104	Pedagogy of Economics
8	SOE020217C3104	Pedagogy of Commerce

Table-3: List of Courses offered by the School of Education to other Departments in Semester-II

Sl. No.	Course Code	Course Title	Semester
1	SOE020236GEC2024	ICT in Education	Semester II
2	SOE020237GEC2024	Essentials of Guidance and Counseling	Semester II
3	SOE020238GEC2024	Performing and Visual Arts	Semester II

B.Ed. Semester-III

Sl.No.	Course Code	Total Credits	Paper Title	Total Marks	Credits (Theory/Tutorial/ Practicum)	Practical	Class Teaching/ Field Based Activity Hours per week	Internal Assessment Weightage	External Assessment Weightage
1	SOE020321C001616	16	**School Internship***	400	0	32	32	60%	40%
2		**4**	***To be taken from other Department/MOOC**	100	4	0	4	30%	70%
	Total	**20**		**500**	**4**	**32**	**36**		

Practicum includes lesson planning/ Engagement with the field/ Hands-on experience/activities/seminars/workshops etc.
courses for advanced level pedagogy (senior secondary level) can be offered to post graduates in a school subject.
@ internship + school and community-based activities (credits 14+2) = Marks 350+50=400
Note: During School Internship School and Community-Based Activities may be arranged in terms of resources available in the teacher education institutions/university.

***School Internship will be treated as Practicum Course.**
1Credit Theory = 16 hours in a semester
1 Credit = 25 Marks
*** Students will be engaged with school for 16 weeks during the Semester.**
***Courses offered by the other Department: maximum-4 Credits**

B.Ed. Semester-IV

Sl.No.	Course Code	Total Credits	Paper Title	Total Marks	Credits (Theory/Tutorial/ Practicum)	Practical	Class Teaching/ Field Based Activity Hours per week	Internal Assessment Weightage	External Assessment Weightage
1	SOE020422C3104	4	Gender, School and Society	100	4	0	4	30%	70%
2	SOE020423C3104	4	Transaction of Curriculum: Issues & Challenges	100	4	0	4	30%	70%
3	SOE020424C3104	4	Creating an Inclusive School	100	4	0	4	30%	70%
4	SOE020425C1102	2	Understanding the Self	50	2	0	2	30%	70%
5	SOE020426C1102	2	Environmental Education	50	2	0	2	30%	70%
6	SOE020427C2024	4	Yoga Education	100	2	2	6	30%	70%
7	SOE020428DCEC1102-SOE020433DCEC1102	2	Optional Course*-1	50	2	0	2	30%	70%
8	SOE020428DCEC1102-SOE020433DCEC1102	2	Optional Course*-2	50	2	0	2	30%	70%
	Total	**24**		**600**	**22**	**2**	**24**		

Practicum/Hands on/ Students Activity /Seminar/Workshop/etc; during Practicum hours

- **1Credit Theory = 16 hours in a semester**
- **1 Credit = 25 Marks*Optional Course may choose from Table-4.**

Course Code offered to other Department in Semester IV is presented in Table-5

Table-4: List of Optional Courses offered by the School of Education in 2nd Year (Semester IV)
Choose any two from the following List

Sl. No.	Course Code	Course Title
1	SOE020428DCEC1102	Educational Administration and Management
2	SOE020429DCEC1102	Life Skills Education
3	SOE020430DCEC1102	Guidance and Counselling
4	SOE020431DCEC1102	Health &Physical Education
5	SOE020432DCEC1102	Education in Indian Constitution
6	SOE020433DCEC1102	Comparative Education

Table-5: List of Courses offered by the School of Education to other Departments in Semester-IV

Sl. No.	Course Code	Course Title	Semester
1	SOE020439GEC3104	Educational management and Leadership	Semester IV
2	SOE020440GEC3104	Peace education	Semester IV

Semester-IV

GENDER, SCHOOL AND SOCIETY
COURSE CODE - SOE020422C3104

Year II **Credit : 4**
Semester IV **Max Marks : 100**

Essence of the Course:

Gender sensitivity is the dire need of the present society. This course is one of the stepping stone towards it as it has been designed with the vision of making prospective teachers not only familiarize with the gender related terms, concepts and issues, but also to capacitate them with the knowledge of initiatives on the part of family, caste, religion, state, school, society, mass media and government. It will make the student teachers realize their importance and potential in making this world free from the gender based stigma.

Objectives: Present course aims at developing among pupil teachers:

- Basic understanding and familiarity with key concepts-gender, sex, transgender, gender bias, gender stereotype, empowerment, gender parity, equity and equality, patriarchy and matriarchy and feminism
- Positivity about policies, plans and schemes of the government for addressing all forms of disparities and inequalities existing in the society
- Sensitivity about gender issues in school, curriculum, and textual materials
- Acquaintance with teaching strategies for creating gender parity and its intersection with class, caste, religion and region; and understand the need to address gender based violence in all social spaces
- Familiarization with the outstanding personality who mark the women empowerment
- Awareness about the role of mass media in bringing gender parity in society

Teaching Scheme (session)*			**Total (L+T+P)**	**Examination Scheme**		
				Internal Assessment	**External Assessment**	**Total Marks**
Unit	**L**	**T/P**	**C**			
I	12	4	16	30 Marks	70 Marks	100 Marks
II	12	4	16			
III	12	4	16			
IV	12	4	16			
Total	**48**	**16**	**64**	30 Marks	70 Marks	100 Marks
L = Lecture, T= Tutorial, P=Practicum						

Course Content / Syllabus

Unit -1 : Introduction to Gender

- Gender: Concept, Difference between Gender and Sex
- Gender related Concepts: Sexuality, Feminism, Equity and Equality
- Gender Identity and Socialisation Process
- Gender Roles through Social Institutions : Family, Community, Society

Unit 2 : Gender and School

- Gender bias in School Enrolments, Dropouts, Household Responsibilities and Societal Attitudes towards Girl's Education
- Gender Issues in Schools: Bullying, Eve teasing, Sexual Abuse
- Gender Construction through Curriculum, Hidden Curriculum.
- Gender Sensitivity Pedagogy

Unit 3 : Gender and society

- Concept of Patriarchy and Matriarchy
- Issues related to Women/ Girl Child: Female Infanticide and Foeticide, Sex Ratio, Honour Killing, Dowry, Property Rights and Divorce
- Contemporary Women Role Models in India since 2000

Unit 4 : Role of Media and Government in Gender Parity

- Role of Print and Electronic Media in Gender Stereotyping
- Provisions for developing gender parity:
    - Domestic Violence Act(2005)
    - Reservation for Women (2008)
    - Supreme Court Verdict about Transgender(2018)
    - National Policy for the Empowerment of Women, 2001
    - Triple Talak Act

Transactional Strategies :

Lecture cum discussion, Tutorials, Brainstorming Session, Use of PPT, Film Shows (selected films), Assignments on different key areas of gender related issues given in syllabus through Google Group, Google Classroom and other online resources.

Internal Assessment Strategies :

A total of thirty marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of Marks
1	Three Sessional tests will be conducted(Better two will be considered)	Test	20
2	Preparation of an assignment on various topics and it is followed by presentation in the classroom	Assignment & Presentation (PPT)	05
3	Percentage of attendance		05
	Total Marks		30

Practicum :

- Organising debates on equality cutting across gender, class, cast and religion.
- Case study on how students perceive role models in their own lives.
- Debate on women role models in various fields with emphasis on women in unconventional roles.
- Prepare an analytical report on portrayal of women in print and electronic media.

Suggested Readings:

- Chaudhary, D.R. (2007). *Haryana at cross roads, problems and prospects*. New Delhi: National Trust of India.
- Chowdhary, P. (1994). *The veiled women. shifting gender equations in rural Haryana* (1980-1990). New Delhi: Oxford University Press.
- Chowdhary, P. (2004). *Caste panchayats and the policing of marriage in contribution to Indians.* Sociology. Vol. 38, (Jan to Aug): 1.
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- Dasgupta, J.(2015). *Gender gap: Men get away with too many privileges*. Available:http://www.dailyo.in/politics/gender-equality-men-get-toomany-privileges-no-country-for-women-india-gendergap-index/story/1/1478.html[Accessed 2015, September 14]
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- Gandhi, R. (2015). *Women in business: Can P2P lending bridge gender gap in access to capital*. The Times of India. June 19.
- Gupta, S., & Dhull, K. (2018). *Gender, school and society*. New Delhi: Sudha Publication.
- International Labour Organization. (2014). *Global employment trends 2014: Risk of jobless recovery*

- Jammer.V.(1998).*Attainment struggle to make healthier food choices: The importance of psychological and social factors*. Psychological Health. 24 (9): 1003-20. 156
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- Lal, N. (2016). *India needs to save its daughters through education and gender equality.* Inter Press Services, March 4.
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- McKinsey Global Institute. (2015). *The power of parity: How advancing women's equality can add $12 trillion to global growth.* September.
- Misra, U. (2015). *How India ranks on gender parity- and why?* Indian Express November 4.
- Nair, S. (2015). *More gender inequality in India than Pakistan and Bangladesh*: UN.Indian Express December 15.
- Pachauri, G. (2018). *Gender, school and society.* Meerut: R. Lal Publication.
- Pulugurtha, S. (2008). *How a lack of education adversely affects girls.* Psychological Health. 26 (9): 1005-20. 158

Available:http://empowermentinternational.org/2008/08/01/how-a-lack-of-educationadversely-affects-girls/[Accessed 2015, January 12].

- Reserve Bank of India (2013). *Outstanding credit of scheduled commercial banks according to organizations.* Reserve Bank of India. July 22.
- Salve, P. (2015). *#SelfieWithDaughter:Can India save 23 million girls?* Available http://scroll.in/article/738068/selfiewithdaughter-can-india-save-23-million-girls[Accessed 2015, June 23].
- Sen, K. and Kumar, S.(2001). *Women in India: How free; How equal.* Report Commissioned by the Office of the United Nations Resident Coordinator in India, UNDP.
- Tavares, Rebecca R. and Mishra, Y. (2016). *Budget 2016: To really transform India, focus on women first*. The Times of India. March 1.
- The World Bank (2014). *Financial inclusion data*. Global Index. Available http://datatopics.worldbank.org/financialinclusion/country/india [Accessed 2014, November 21].
- United Nations. (1995). *Fourth world conference on women.* United Nations Entity for Gender Equality and Empowerment of Women, Beijing, China.
- Wodon, Q. (2014). *Eliminating child marriage to boost girls' education*. The World Bank. Available:http://blogs.worldbank.org/education/eliminating-child-marriageboost-girls-education[Accessed 2015, January 6].
- World Bank. (2012). *HIV/AIDS in India*. Available: http://www.worldbank.org/en/news/feature/2012/07/10/hivaids-india [Accessed 2014, December 28]

Web Resources :

https://www.amazon.in/Gender-School-Society-TEXT-TEACHERS-ebook/dp/B073Q8L39R
http://www.bdu.ac.in/cde/docs/ebooks/B-Ed/II/GENDER,%20SCHOOL,%20SOCIETY%20AND%20INCLUSIVE%20SCHOOL.pdf
http://www.ncert.nic.in/departments/nie/dse/activities/advisory_board/PDF/Genderconcerns.pdf
http://oxfordre.com/education/view/10.1093/acrefore/9780190264093.001.0001/acrefore-9780190264093-e-73
https://www.brookings.edu/blog/education-plus-development/2017/11/02/how-can-teachers-be-more-gender-inclusive-in-the-classroom/
https://www.ithaca.edu/wise/gender/
http://unesdoc.unesco.org/images/0017/001781/178125e.pdf
https://onlinelibrary.wiley.com/doi/abs/10.1002/tea.10044
https://www.sciencedirect.com/science/article/pii/S0360131508000201
https://www.cambridge.org/core/journals/language-teaching/article/issues-of-language-and-gender-in-second-and-foreign-language-education/9112FA5B296E2DD34DF71A3C3958A912
https://www.sciencedirect.com/science/article/pii/S0360131504000533
https://books.google.co.in/books?hl=en&lr=&id=DoZuDwAAQBAJ&oi=fnd&pg=PR3&dq=gender+issues+in+education+and+its+impact+on+society&ots=S3Bm0gVJ0m&sig=kykJnvoFT1HewCgzWDX-Xkp-O2w#v=onepage&q=gender%20issues%20in%20education%20and%20its%20impact%20on%20society&f=false
https://www.ithaca.edu/wise/gender/
https://www.washingtonpost.com/news/worldviews/wp/2018/03/12/why-indias-modern-women-say-its-a-burden-to-be-female/
http://theconversation.com/achieving-gender-equality-in-india-what-works-and-what-doesnt-67189
https://indianexpress.com/article/opinion/columns/indian-women-safety-economy-beti-bachao-gender-equality-5329742/

CURRICULUM TRANSACTION
COURSE CODE – SOE020423C3104

Year II **Credit 4**
Semester IV **Max Marks 100**

Essence of the Course:

Every teacher has to deal with creation of congenial environment for curriculum transaction. Teachers' job is primarily concerned with operationalizing the various curricular practices. Teachers' understanding about the nature of knowledge in the context of school subjects is essentially desirable. It aims at providing knowledge and skills to student-teachers relating to curriculum development, it's process, implementation and evaluation. Different concepts like types, models, approaches of curriculum development and modes of curriculum transaction have also been incorporated in this course for further enhancement of their understanding.

Objectives :

The student teachers will be able to:

- Describe the concept of curriculum development, source of curriculum development and curriculum organizations
- Familiar with the types and models of curriculum
- Interpret the meaning of the recommendations of NCF 2005 and NCFTE 2009 pertaining to curriculum
- Appraise the need, importance, sources and types of curriculum evaluation
- Critically analyse the subject matter and content

Teaching Scheme (session)*			**Total (L+T+P)**		**Examination Scheme**	
				Internal Assessment	**External Assessment**	**Total Marks**
Unit	**L**	**T/P**	**C**	30 Marks	70 Marks	100 Marks
I	12	4	16			
II	12	4	16			
III	12	4	16			
IV	12	4	16			
Total	**48**	**16**	**64**	**30 Marks**	**70 Marks**	**100 Marks**
L= Lecture, T=Tutorial, P=Practicum						

Course Content / Syllabus

Unit -1 : Curriculum Development

- Concept and Process of Curriculum Development
- Curriculum organization: Horizontal & Vertical
- Bases of Curriculum Development: Sociological, Psychological & Philosophical
- Selection of Content & Learning Experiences

Unit 2 : Curriculum Framework & Implementation

- NCF 2005 and NCFTE 2009: Recommendations on Curriculum
- Concept and Nature of Curriculum Implementation
- Curriculum Implementation Models: ORC Model, Organizational-Development Model
- Approaches of Curriculum Implementation: Academic and Behavioural

Unit 3 : Curriculum Model & Transaction

- Models of Curriculum Development - Tylor's Model and Hilda Taba's Model
- Modes of Curriculum Transaction
- Role of different agents in curriculum transaction : Principal & Teachers
- Role of curriculum in effective teaching learning process

Unit 4 : Curriculum Evaluation

- Curriculum Evaluation: Concept, Need and Importance
- Sources of Curriculum Evaluation
- Types of Curriculum Evaluation
- Content Analysis

Transactional Strategies:

Lecture cum discussion, Assignments on various topics, PPT presentation and discussion, Preparation of activity based curriculum in groups and discussion, Analysis of curriculums at various levels, Group discussion bases, process and approaches of curriculum development, chart preparation on various models and process, panel discussion on various issues of curriculum development and reviewing B.Ed. curriculum.

Internal Assessment Strategies:

A total of thirty marks have allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of Marks
1	Three Sessional tests will be conducted(Better two will be considered)	Test	20
2	Practicum and Preparation of an assignment on various topics and it is followed by presentation in the classroom	Assignment& Presentation (PPT)	05
3	Percentage of attendance		05
Total Marks			**30**

Practicum :

- Preparation of unit plan of concerned Pedagogy Subjects
- Reflection on NCF 2005 or NCTEF 2009
- Content Analysis
- Text Book Review

Suggested Readings :

- Aggrawal, J.C., & Gupta, S. (2005). *Curriculum development.* New Delhi: Shipra Publisher.
- Ainsworth, L. (2014). Rigorous curriculum design: How to create curricular units of study that align standards, instruction, and assessment. Houghtom Mifflin Harcourt Publishers.
- Alaxander, W.M., & Saylor, J.G. (1966). *Curriculum planning for modern schools*. New York: Holt, Rinhart and Winston Inc.
- Balrara, M. (1999). *Principles of curriculum renewal*. New Delhi: Kanishka Publishers.
- Bhatia, S.K., & Jindal, S. (2016). *A textbook of curriculum, pedagogy and evaluation*(1st Edition). Paragon Publishers.
- Candra, A. (1977). *Curriculum development and evaluation in education.* New Delhi: Sterling Publishers.
- Jenkins, D., & Shifrnan, D.M. (1976). *Curriculum: An introduction.* London: Pitman Publishing House.
- Khan, M.I., & Nigam, B.K. (2007). *Curriculum reform change and continuity*. New Delhi: Kanishka Publication.
- Madan, P. (2017). Curriculum development and assessment (1st Edition) (Hindi). Agarwal Publisher.
- Musgrave, P.W. (1974). *Contemporary studies in the curriculum*. Australia: Angus and Roberston Publishers.
- *National Curriculum Framework* (2005): New Delhi: NCERT.
- Nigam, B.K., & Khan, M.I. (1993). *Evaluation and research in curriculum construction*. New Delhi: Kanishka Publishers.
- Ornstein A. C., & Hunkins, F. P. (2009). *Curriculum foundations, principles and issues* (5th edition). Boston, MA: Allyn and Bacon
- Ornsttein, A.C., & Hunkins, F. (1988). *Curriculum foundations, principles and issues*. New Jersey: Prentice Hall.
- Panday, M. (2007). *Principles of curriculum development*. New Delhi; Rajat Publications.

- Sharma, R. (2002). *Modern methods of curriculum organisation*. Jaipur: Book Enclave.
- Sharma, S.R. (1999). *Issues in curriculum administration*. New Delhi: Pearl Publishing House.
- Srivastava, H.S. (2006). *Curriculum and methods of teaching*. New Delhi: Shipra Publishers.
- Taylor, P. (2003): *How to design a training course: A guide to participatory curriculum development*. London: Continuum.
- Walker, D. F. (1990). *Fundamentals of curriculum*. Fort Worth. TX: Harcourt Brace College.
- Yadav, S.K. (2013). *School curriculum: Structure and practice*. New Delhi, NCERT.
- Yadav, Y.P. (2006). *Fundamentals of curriculum design*. New Delhi, Shri Sai Printographers.

Web Sources

- NCF-2005 available on www.ncert.ac.in
- NCFTE:http://www.ncte-india.org/publicnotice/NCFTE_2010.pdf
- National Curriculum Framework for Teacher Education, 2009. Available online at www.teindia.nic.in/files/national_curriculu-for-teacher-education-2009.pdf

CREATING AN INCLUSIVE SCHOOL
COURSE CODE – SOE020424C3104

Year II **Credit 4**
Semester IV **Max Marks 100**

Essence of the Course:

This is a core course carrying 4 credits. It covers concept of special education, mainstreaming and inclusion, national policies, programmes and acts for inclusive education, nature and needs of the individuals having disabilities, inclusion in operation, and characteristics of inclusive school. The objective of this course is to bring about an understanding of the 'cultures, policies and practices' that need to be addressed in order to create an inclusive school. It will help student-teachers in identification of barriers to learning and participation while formulating a policy of good practice and review. The objective of the course is to integrate the children with disabilities with the general community as equal partners, to prepare them for normal growth and to enable them to face life with courage and confidence.

Objectives : The student teachers will be able to:

- Interpret the concept, significance and philosophy of inclusive education in the context of Education for All.
- Identify and address the diverse needs of learners.
- Compare and contrast the National & International Policies & Programmes with respect to the children with special needs
- Explain the concept of Mainstreaming, Special Education and Inclusion.
- Examine the status of Inclusive Education in India critically.
- Define the role of different specialists in the area of special education.
- Comprehend and apply the special techniques of teaching and evaluating the children with special needs.
- Suggest and device the various inclusive practices to promote Inclusion in the classroom.

Teaching Scheme (session)*			**Total (L+T+P)**	**Examination Scheme**		
				Internal Assessment	**External Assessment**	**Total Marks**
Unit	L	T/P	C	30 Marks	70 Marks	100 Marks
I	12	4	16			
II	12	4	16			
III	12	4	16			
IV	12	4	16			
Total	**48**	**16**	**64**	**30 Marks**	**70 Marks**	**100 Marks**
L= Lecture, T=Tutorial, P=Practicum						

Course Content / Syllabus

Unit -1 : Exceptionality & Exceptional Children

- Concept of Exceptionality, Positive, Negative & Multiple Deviation
- Concept of Disability, Impairment and Handicapped
- Continuum of Special Education Services
- Characteristics and Educational Programme of Special Need Children with specific reference to Sensory Impairment, Learning Disability and Giftedness

Unit 2 : Conceptual understanding of Inclusive Education

- Inclusive Education: Concept, Meaning and Characteristics
- Models of Inclusion
  (i) Charity Model (ii) Human Rights Model
- Difference between Special Education, Integrated Education and Inclusive Education
- Benefits of inclusive education for Children with and without special needs

Unit 3 : Policies and Programmes for Inclusive Education

- International Policies & Programmes
  - ➢ Salamanca Statement (1994)
  - ➢ Policies guidelines on Inclusive Education, UNESCO- 2009
- National Policies & Programmes
  - ➢ RCI Act, 1992
  - ➢ PWD Act, 1995
  - ➢ National Policy on Disability (2006)
  - ➢ The Right of Persons with Disabilities Act,2016

Unit 4 : Preparing Schools for Inclusion

- School readiness for addressing the diverse needs of children with special needs :
  - ➢ Infrastructural
  - ➢ Technological
  - ➢ Pedagogical
  - ➢ Attitudinal needs
- Strengthening support services - collaboration of different specialists :

- ➢ Special Education Teacher
- ➢ Speech Therapist
- ➢ Physiotherapist
- ➢ Counsellor

Transactional Strategies:

Lecture-cum-Discussion, Group discussion on various policies and programmes, Power point presentation, Film shows, Sharing of experiences of people regarding issues of disabilities, Preparation of projects on various issues related to special education and exclusion.

Internal Assessment Strategies: A total of thirty marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of Marks
1	Three Sessional tests will be conducted (Better two will be considered)	Test	20
2	Practicum and Preparation of an assignment on various topics and it is followed by presentation in the classroom	Assignment& Presentation (PPT)	05
3	Percentage of attendance		05
		Total Marks	**30**

Practicum :

- Collection of data regarding children with special needs from school record.
- Visit to Inclusive Schools and to observe classroom transaction and prepare a report of the same.
- Case study of one mainstreamed (Inclusive) student with respect to :
  1. Role of a parent
  2. Role of a teacher, special school teacher
  3. Role of counselor

Suggested Readings :

- Alur, M., & Timmons, V. (2009). *Inclusive education across cultures: Crossing boundaries, sharing idea*. New Delhi: Sage Publications India Pvt. Ltd.
- Fimian, M.J., Fafard, M., & Howell, K.W. (1984). *A teacher's guide to human resources in special education: Para professionals, volunteers, and peer tutors.* Boston: Allyn and Bacon Inc.
- Hallahan, D.P., & Kauffman, J.K. (1988). *Exceptional children: Introduction to special Education.* N.J.: Englewood Cliffs.
- Jangira, N.K. (1986). *Special education scenario in Britain and India*. Gurgaon: The Academic Press.

- Julka, A., & Bharti. (2014). *Teachers creating inclusive classrooms: Issues and challenges: A research study*. New Delhi: Department of Education of Groups with Special Needs, National Council of Educational Research and Training.
- Kapoor, S. (2015). *Index of inclusive school quality*. Delhi: Brotherhood Publisher.
- Frederickson, N., & Cline, T. (2009). *Special educational needs, inclusion and diversity* (2nd edition). New York: McGraw Hill Education Open University Press.
- Gargiulo, R.M. (2015). *Special education in contemporary society: An introduction to exceptionality*. Canada: Sage Publications.
- Hallahan, D.P., Kauffman, J.M., & Pullen, P.C. (2018). *Exceptional learners: An introduction to special education*. (14th edition) New Jersey: Pearson Education.
- Kothari, R.G., & Mistry, H.S. (2011). *Problems of students and teachers of the special schools – A study of Gujarat state*. Germany: VDM Publication.
- Messily, K. (2012). *Confronting marginalisation in education: A framework for promoting inclusion*. London: Rutledge Publication.
- Mithu, A., & Michael, B. (2005). *Inclusive education: From rhetoric to reality*. New Delhi: Viva Books Pvt. Ltd.
- NCERT (2006). *Position paper: National focus group on education of children with special needs*. New Delhi: NCERT.
- Oza, D., & Pandit, R. (2011). *Management of behavioural problems of children with mental retardation*. Germany: VDM Publication.
- Premavathy, V., & Geetha, T. (2006). *Integrated and inclusive educationDSE (VI) Manual*. New Delhi: Krishana Publication.
- Reed, M. (1984). *Educating hearing impaired children*. Milton Keynes: Open University Press.
- Sharma, P.L. (1988). *A teacher's handbook on integrated education of the disabled*. New Delhi: NCERT.
- Ysseldyke, J.E. (2016). *Special education: A practical approach for teachers* (1st Edition). Kanishka Publishers.

Web Resources

- Consortium for Research on Educational Access, Transitions and Equity.Retrieved from http://www.create-rpc.org/pdf_documents/PTA15.pdf
- IBE-UNESCO (2016). Training Tools for Curriculum Development - Reaching Out To All Learners: a resource pack for supporting Inclusive Education, Ibe.training@unesco.org, http.//www.ibe.unesco
- The SALAMANCA statement and framework for action on special needs education. Available onlinewww.unesco.org/education/pdfSALAMA_EPDF
- IBE-UNESCO (2016). Training Tools for Curriculum Development - Reaching Out To All Learners: a resource pack for supporting Inclusive Education, Ibe.training@unesco.org, http.//www.ibe.unesco
- Video on A World for Inclusion (2007) by UNESCO, directed by David Atrakchi, 20 minutes,http://www.unesco.org/archives/multimedia/index.php?s=films_details&pg=33&id=213
- Children with Disabilities (2012), by UNESCO, 23 minutes,http://www.unesco.org/archives/multimedia/index.php?s=films_details&pg=33&id=2758
- https://www.teachervision.com/teaching-strategies/special-needs
- https://www.researchgate.net/publication/282774571_Preparing_Teachers_for_Inclusive_Education_in_Botswana_The_Role_of_Professional_Development

UNDERSTANDING THE SELF
COURSE CODE -SOE020425C1102

Year : II **Credit : 2**
Semester : IV **Max Marks : 50**

Essence of the Course

This course focuses on exploration of the self and conflict resolution in social context. The course culminates into realization of the self while developing a broad understanding of what affects development of self- identity. Various processes for understanding the self have also been specified in a broader context of different types personalities one may possess or encounter.

Objectives:

After completion of the course **Understanding the Self**, student teachers develop the capacity to :

- dentify their own potential and give conscious direction to their lives to take responsibility for their actions
- develop a holistic and integrated understanding of the human self and personality
- self-reflection and personal integration
- develop the capacity for perspective taking and appreciating different points of view and develop sensitivity towards needs of children by connecting with one's own childhood experiences
- develop the capacity to establish peace within oneself
- develop the capacity to establish harmony within a group and methods of conflict resolution
- explain the meaning and importance of self-concept and self-esteem
- manage conflict effectively

Teaching Scheme (session)*				**Total (L+T+P)**	**Examination Scheme**		
Unit	L	T	P	C	**Internal Assessment**	**External Assessment**	**Total**
1	10	2	4	16	15 marks	35 marks	50 Marks
2	10	2	4	16			
Total	**20**	**4**	**8**	**32**	**15**	**35**	**50**
L= Lecture, T= Tutorial, P= Practicum							

Course Content / Syllabus

Unit 1: Exploring the Self

- Fundamentals of self-exploration: Self-concept, Self Identity, Self Image, Self-Esteem, Self-motivation
- Factors affecting exploration of self: Heredity and environment

- Understanding the concept of Personality and its various types: Jung's Classification, Sheldon's Classification, Kretschmer's classification

Unit 2: Development of Self

- Techniques of Self Reflection (Introspection, Reflective Diary, Reflective Dialogue and discussion & Social media)
- Techniques of Stress Management
- Group & Social Harmony
- Development of resilience
- SWOC Analysis

Transactional Strategies

- Lecture, PowerPoint presentations, MOOCs and e-platforms.
- Lecture cum discussion, Group Discussions, use of audio and video materials
- Review of various literature available
- Providing reading material to students
- Organising tutorials if needed

Suggestive List for Assignment/Practicum:

- Write a self-reflective journal (approx.600-800 words).
- Elaborate your own values towards self and society.
- Report on stress management techniques.
- Group discussion and presentation.
- SWOC analysis of one's own.
- Any other as prescribed by the institution

Internal Assessment Strategies:

A total of 15 marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of Marks
1	Two Sessional tests will be conducted(Better one will be considered)	Test	10
2	Practicum and Preparation of an assignment on various topics and it is followed by presentation in the classroom	Assignment& Presentation (PPT)	2.5
3	Percentage of attendance		2.5
Total Marks			**15**

Suggested Readings

- Feldonan, R.S. (2019). *Essentials of understanding psychology* seventh edition. New Delhi: Tata McGraw Hill.
- Farrell, T. S. C. (2019). *Reflective practice in action*. Thousand Oaks, CA: Corwin Press, Inc.
- Adair, J. and Allen, M. (2018). *Time management and personal development*. London: Hawksmere.
- Luft J and Ingham H. (2017). *The johari window: A graphic model for interpersonal relations*, University of California Western Training Lab.
- Hadfield, J. A. (2016). *Psychology and morals*. London: Methuen & Co.
- Kubalker, R. (2015). *Know your stress-manage your stress*. New Delhi: Neel Kamal Publishers.
- Snyder, C.R. (2011). *Positive psychology: The scientific and practical explorations of human strengths.* New Delhi: Sage Publishers.
- Gurol, A (2010) Determining the reflective thinking skills of pre-service teachers in learning and teaching process. Turkey: Firat University.
- Lewis, M. & Brooks-Gunn, J. (2009). *Self knowledge and emotional development*. In M. Lewis & L. Rosenblum (Eds.), The development of affect: The genesis of behavior, 1 (pp. 205-226). New York: Plenum Press.
- Sheorron, B. (2008). *The presentation skills workshop.* New Delhi: Prentice Hall of India.
- Rohrer, J. (2008). *ABC of awareness.* oberurnen: UTD Media.
- Simanowitz, V. and Pearce, P. (2003). *Personality development*. Beckshire: Open University Press.

Web resources

https://www.annualreviews.org/doi/pdf/10.1146/annurev.ps.38.020187.001503
https://s3.amazonaws.com/academia.edu.documents/42337592/Academic_Self-Concept_and_Self-Efficacy_20160207-29667-6myipg.pdf?AWSAccessKeyId=AKIAIWOWYYGZ2Y53UL3A&Expires=1543320724&Signature=jtfnc6KaNbX%2FvVylWNjmcFqtPoE%3D&response-content-disposition=inline%3B%20filename%3DAcademic_self-concept_and_self-efficacy.pdf
https://onlinelibrary.wiley.com/doi/epdf/10.1348/014466699164149
http://southeastinforms.org/Proceedings/2008/proc/p080527003.pdf
https://slideplayer.com/slide/4892851/
http://www.wikihow.com/Identify-Your-Strengths-and-Weaknesses
http://www.mindtools.com/pages/article/coaching-self-awareness.htm
http://www.selfawareness.org.uk/news/understanding-the-johari-window-model
https://tojde.anadolu.edu.tr/tojde42/articles/article_2.htm
http://cie.asu.edu/ojs/index.php/cieatasu/article/viewFile/225/127
http://www.azimpremjiuniversity.edu.in/sites/default/files/userfiles/files/Mythili_Ramchand.pdf
http://www.teachingenglish.org.uk/article/reflective-teaching-exploring-our-own- classroom-practice
http://www.qou.edu/english/conferences/firstNationalConference/pdfFiles/zaidOdeh.pdf

ENVIRONMENTAL EDUCATION
COURSE CODE -SOE020426C1102

Year: II **Credit : 2**
Semester: IV **Max Marks : 50**

Essence of the Course:

This course is designed to develop an understanding about the nature of environment and various factors coming in the way of environment preservation. Education has to play a major role in learning and learn for environment and making pupil teachers aware of various means of preserving the environment and sustainable development. This course will also develop an understanding about various aspects of environment based observation and illustration, drawn from life experiences and physical, biological, social aspects of life, rather than abstractions. This course will also develop an awareness about environmental ethics.

Objectives : The student-teachers will be able to:

- familiarize with concept and nature of Environmental Education.
- acquaint with the objectives, and importance of Environmental Education.
- identify various environmental problems affecting the human life.
- develop awareness about the environment and associated problems.
- develop knowledge, skills, attitudes, motivation and commitment to work individually and collectively towards the environmental problems solutions and prevention of new ones.
- grasp the significance of Environmental Education.
- recognize the way of protecting and managing the environment.
- analyze the various causes for environmental disequilibrium.

Teaching Scheme (session)*			**Total (L+T+P)**	**Examination Scheme**		
				Internal Assessment	**External Assessment**	**Total Marks**
Unit	**L**	**T/P**	**C**	15 Marks	35 Marks	50 Marks
I	12	4	16			
II	12	4	16			
Total	**24**	**8**	**32**	**15**	**35**	**50**
L= Lecture, T=Tutorial, P=Practicum						

Course Content / Syllabus

Unit -1 : Conceptual Understanding of Environmental Education

- Concept & Components of Environment.
- Concept & Components of Environmental Education.

- Aims and Objectives of Environmental Education.
- Strategies for Environmental Education.

Unit 2 : Environmental Issues and Concerns

- Human interaction and dependency on Environment.
- Environmental Disequilibrium: Causes and Problems- Greenhouse Effect, Ozone Depletion, Acid rain, Pollution and its Consequences: Air pollution, water pollution, land pollution, Soil pollution, Noise pollution
- Deforestation and its impacts on environment.
- Sustainable Developments.
- Role of Education, School and Teacher in Environment Conservation.

Transactional Strategies :

Lecture cum discussion, Lecture cum demonstration, Use of laptop as audio-visual aid, Assignments on various topics, Presentation and group discussion, and presentations by Pupil Teachers will be encouraged.

Internal Assessment Strategies :

A total of 15 marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of Marks
1	Two Sessional tests will be conducted (Better one will be considered)	Test	10
2	Practicum and Preparation of an assignment on various topics and it is followed by presentation in the classroom	Assignment& Presentation (PPT)	2.5
3	Percentage of attendance		2.5
		Total Marks	**15**

Practicum :

- To prepare a report on the present status of climate change.
- To prepare a report on recycling of non-decomposable material.
- To prepare a report on environment protection act.
- To prepare a report on environmental standards (any one)
- To prepare a report on environmental issues what you see in your surroundings.
- Any topic suggested by a teacher related to the entire syllabus.

Suggested Readings :

- Abbas, G. Northern Areas Strategy for Sustainable Development: Environmental Education. (2003). Retrieved from http://cmsdata.iucn.org/downloads/bp_env_edu.pdf
- Aggarwal, J. C.(2010). *Education for values, environment and human rights.* Delhi: Shipra Publications.
- Briceno, S. & Pitt, C.D. (Ed.). (2018). *New ideas in environmental education.* U.K: Routledge Publication.
- Environmental Ethics. (n.d.). Retrieved December 20, 2018, from http://dspace.vpmthane.org:8080/jspui/bitstream/123456789/4154/1/FC%20Sem%204%20%20ENVIRONMENTAL%20ETHICS.pdf
- Environmental Education – the path to Sustainable Development. (n.d.). Retrieved November 20, 2018, fromhttps://www.pro-e.org/files/environmental_education.pdf
- Environmental Education: A Strategy for the Future. (n.d.). Retrieved November 20, 2018, fromhttps://nmardoin.people.stanford.edu/sites/g/files/sbiybj4916/f/documents/EE_Strategy_for_the_Future.pdf
- Environmental Education Framework: Creating an Environment to Educate about the Environment (2003). UNEP. Retrieved fromhttp://www.unep.or.jp/ietc/Focus/pdf/ee-frame.pdf
- Catherine, J. (2011). *Environmental education.* New Delhi: Neel Kamal Publication.
- Environmental Ethics. (n.d.). Retrieved December 25, 2018, fromhttp://dspace.vpmthane.org:8080/jspui/bitstream/123456789/4154/1/FC%20Sem%204%20%20ENVIRONMENTAL%20ETHICS.pdf
- Environmental Education – the path to Sustainable Development. (n.d.). Retrieved November 20, 2018, fromhttps://www.pro-e.org/files/environmental_education.pdf
- Environmental Education Framework: Creating an Environment to Educate about the Environment (2003). UNEP. Retrieved fromhttp://www.unep.or.jp/ietc/Focus/pdf/ee-frame.pdf
- Gopal Dutt, N. H. (2014). *Environmental education*. New Delhi: Neel Kamal Publication.
- Jain, K.C., & Garg, R. (2016). *Environment Education.* Ludhiana: Vijaya Publication.
- Krishnamacharyulu, V. et al. (2017). *Environmental education*. New Delhi: Neel Kamal Publication.
- Nagarjan, K. (2017). *Environmental education*. Chennai: Sriram Publisher.
- Packiam, S. (2018). *Education for sustainable development.* New Delhi: Neel Kamal Publication.
- Palmer, P., & Neal, P. (2003). *The handbook of environmental education.* UK: Routledge Publication
- Reddy, V. Purushotham et al. (2013). *Environmental education*. New Delhi: Neel Kamal Publication.
- Ravinder, Ch. & Ramakrishna, A. (2017). *Environmental education issues and concerns.* New Delhi: Neel Kamal Publication.
- Sharma, R. A. et. al. (2012). *Environmental education*. New Delhi: Surya Publication.
- Sharma, S. (2016). *Environment Education:* New Delhi: R. Lall Publication.
- Saminathan, B. (2015). *Environmental education.* Retrieved fromhttp://www.bdu.ac.in/cde/docs/ebooks/B-Ed/II/ENVIRONMENTAL%20EDUCATION.pdf

- Verma, K. & Kaur, G. & Singh, P. (2010).*Introduction to environment*. New Delhi: Indira Gandhi National Open University.

Web Sources:

- http://shodhganga.inflibnet.ac.in/bitstream/10603/76004/8/08_chapter%202.pdf Retrieved November 30, 2018
- https://www.unescap.org/sites/default/files/CH15.PDF Retrieved November 30, 2018
- https://www.pro-e.org/files/environmental_education.pdf Retrieved November 30, 2018
- http://envfor.nic.in/divisions/ic/wssd/doc4/consul_book_persp.pdf Retrieved November 30, 2018
- https://wedocs.unep.org/bitstream/handle/20.500.11822/9851/-The_United_Nations_Environment_Programme_and_the_2030_Agenda_Global_Action_for_People_and_the_Planet-2015EO_Brochure_WebV.pdf.pdf?sequence=3&isAllowed=y Retrieved November 30, 2018
- https://nptel.ac.in/courses/120108004/module1/lecture1.pdf Retrieved December 3, 2018
- http://publishing.unesco.org/chapters/978-92-3-104039-9.pdf Retrieved December 5, 2018
- http://ncert.nic.in/book_publishing/environ_edu/eei.pdf Retrieved December 5, 2018
- http://www.ncert.nic.in/rightside/links/pdf/syllabus/vol1/08Environmental%20(III-V).pdf Retrieved December 11, 2018
- http://www.hbcse.tifr.res.in/resources/talks-by-hbcse-members/jr-2/utsav-nmsf-pbl-feb2013.pdf Retrieved December 11, 2018
- https://nios.ac.in/media/documents/dled/Block1_505.pdf Retrieved December 11, 2018
- http://www.ncert.nic.in/rightside/links/pdf/framework/english/nf2005.pdf. Retrieved December 11, 2018

YOGA EDUCATION

COURSE CODE - SOE020427C2024

Year II **Credit: 4 (2 Practical + 2 Theory)**

Semester IV **Max Marks : 100 (50 Practical + 50 Theory)**

Essence of the Course

This course aims at development of understanding of fundamentals of Yoga and Yoga Education among students. It will cover concept and components, importance and basic principles of Pranayama, Asana, Ashtang Yoga of Patanjali, Yogic diet, Meditation, their importance, precautions and benefits along with the need and importance of yoga education in the education system. At the end of the course, students will be able to practice yoga and motivate others to adopt yogic practices for holistic development of personality and social harmony.

Objectives : The students will be able to:

- Discuss how Yoga and Yoga practices are important for healthy living.
- Explain the different limbs of Ashtanga Yoga.
- State and demonstrate different types of Yogasanas.
- Demonstrate some important Asanas and Pranayama while observing precautions.
- Practice yoga and motivate others for practicing Yoga.
- Comprehend how Yoga and Education are complementary to each other.
- Orient towards practicing meditation and yogic life-style.
- Plan and conduct instruction and appropriate assessment in Yoga.
- Write report on practice of Yoga.

<table>
<tr><th colspan="4">Teaching Scheme (session)*</th><th>Total (L+T+P)</th><th colspan="3">Examination Scheme</th></tr>
<tr><th colspan="4"></th><th></th><th>Internal Assessment</th><th>External Assessment</th><th>Total Marks</th></tr>
<tr><th>Unit</th><th>L</th><th>T</th><th>P</th><th>C</th><td rowspan="4">30 Marks</td><td rowspan="2">35 Marks (Theory Paper)</td><td rowspan="5">100 Marks</td></tr>
<tr><td>I</td><td>13</td><td>2</td><td>0</td><td>15</td></tr>
<tr><td>II</td><td>13</td><td>2</td><td>0</td><td>15</td></tr>
<tr><td>III</td><td>10</td><td>0</td><td>20</td><td>30</td><td rowspan="2">35 marks (Practical File and Viva-voce)</td></tr>
<tr><td>IV</td><td>10</td><td>0</td><td>20</td><td>30</td></tr>
<tr><td>Total</td><td>46</td><td>4</td><td>40</td><td>90</td><td>30 Marks</td><td>70 Marks</td></tr>
<tr><td colspan="7">L= Lecture, T=Tutorial, P=Practical, C=Cumulative</td><td></td></tr>
</table>

COURSE CONTENT / SYLLABUS (THEORY)

Unit 1 : Introduction to Yoga

- Etymology of Yoga, Brief introduction to Origin, History and Development of Yoga
- Yoga, its Nature, Aims and Misconceptions.
- Distinction between Yogasana and Non-Yogic physical practices.
- General Guidelines and Preparatory Steps for Yogic Practices.

- Patanjali's Ashtang Yoga
- Role of yoga practice in developing concentration, will power and discipline.

Unit 2 : Yoga Education for Holistic Living

- Concept and Importance of Yoga Education and Objectives of Yoga Education in Teacher Education Programmes
- Yogic principles of Healthy living and Character-building
- Concept of Triguna and Yogic Diet
- Meditation, its preparation, steps and types.
- Self-Management of Excessive Tension (SMET)
- Eight step teaching method of Yoga, Assessment techniques and Report writing

PRACTICAL

Pranayamas, their Process, Precautions and Benefits

- Kapalbhati, Anulom Vilom, Bhramari, Ujjayi, Bhastrika, Kumbhak, Nadi Shodhan.
- Shithilikarana Vyayama (Jogging, Mukha Dhauti, Loosening of ankle joints, Loosening of Knee joints, Loosening of Hip joints, Pada Sanchalana, Front and Back bending of Waist, Side Bending and Twisting of Waist, Rotation for Shoulder-joints, Neck-Stretch, Tiger Stretch, Back-Stretch and Breathing exercises with Hand movements
- Surya Namskar (Pranamasan, Hastauttanasana, Hasta Padasana, Ashwa Sanchalanasana, Dandasana, Ashtanga Namaskara, Bhujangasana, Parvatasana, Ashwa Sanchalanasana, Hasta Padasana, Hastauttanasana, Tadasana)
- Yog Nidra

Asanas, their Process, Precaution and Benefits

- Sitting postures: Sukhasana, Siddhasana, Padmasana, Vajrasana, Paschimottanasana, Matsyasana, Ardha Matsyendrasana, Gomukhasana
- Standing postures: Tadasana, Trikonsana, Vrikashana, Garudasana, Ardh Chakrasana, Chakrasana, Natarajasana,Virabhadrasana, Ardha Chandrasana, Utkatasana
- Laying postures: Uttanpadasana, Vipreet Karni, Adhomukh Vakrasana, Bhujangasana, Dhanursana, Mayurasana.
- Upside postures: Halasana, Sarvangana, Sheersasana

Transactional Strategies

Theory : Lecture cum discussion, Review of various literature available on yoga, Demonstration and Presentation, Group discussion, Review of various ancient literature, Use of PPT and Videos and Panel discussion

Practical : Lecture cum demonstration, Use of PPT and videos, Group discussion and presentation, Excursion and Practicum

Internal Assessment Strategies : A total of 30 marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows:

Activity	Mode	Weightage of Marks
Sessional 1: Demonstration of Yogasanas/Pranayamas	Practical	10
Sessional 2 and 3: Written test of theoretical components (Best one will be considered)	Written	10
Preparation of an assignment on various topics and it is followed by presentation in the classroom (Group activity)	Assignment & Presentation (PPT)	5
Percentage of attendance		5
Total Marks		**30**

Suggested Readings

- Besant, A. (2005). *An introduction to yoga,* New Delhi: Cosmo.
- Gupta, S.K. (2019). *Yoga & concentration,* New Delhi publication, Delhi
- Kaul, H.K. (2013). *Yoga asana for everyone.* Surjeet Publishers.
- Kubalker, R. (2015). *Know your stress-manage,* Neel Kamal Publishers.
- Mangal, S.K., Mangal, U and Mana, S. K.(2009). *Yoga education*, New Delhi: Arya Publication.
- NCERT (2015). *Yoga: A healthy way of living secondary stage*, New Delhi. (Also available in Hindi)
- NCERT (2015). *Yoga: A healthy way of living upper primary stage*, New Delhi (Also available in Hindi)
- Omand, S. (2006). *Patanjali yoga,* Pradeep Gorakhpur: Gita Press.
- Pramanik, T.N. (2018). *Yoga Education.* New Delhi: Sports Publication.
- Yadav, Y.P. and Yadav, R. (2003). *Art of yoga*, New Delhi: Friends.
- Yogacharya, O. S. (2007). *Freedom of body and mind: yogasanas, pranayam and meditation*, New Delhi: Rawat.

Web links:

https://mea.gov.in/in-focus-article.htm?25096/Yoga+Its+Origin+History+and+Development Retrieved on 07.01.2020
http://www.ncert.nic.in/gpPDF/pdf/tiyhwlss1.pdf Retrieved on 07.01.2020
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3193654/ Retrieved on 07.01.2020
https://fitsri.com/yoga/trigunas Retrieved on 07.01.2020
https://www.youtube.com/watch?v=zzZ4DemVXDw Retrieved on 07.01.2020
https://yogavinirishikesh.com/12-surya-namaskar-postures-practice/ Retrieved on 07.01.2020
https://www.yogiclifesouls.com/how-to-teach-yoga-by-using-8-step-method/ Retrieved on 07.01.2020
http://krishnaprerna.in/rrff/BackGround-Bansiyog-SMET.pdf Retrieved on 07.01.2020
https://www.yogajournal.com/meditation/let-s-meditate. Retrieved on 07.01.2020
http://www.kkhsou.in/4mobile/deledunits/Course9Eng/unit1.pdf Retrieved on 15.01.2019
https://www.rishikulyogshala.org/top-10-sitting-yoga-poses-asanas/ Retrieved on 15.11.2018
https://yogainternational.com/article/view/ground-your-home-practice-with-standing-poses Retrieved on 25.10.2018
https://www.bookyogaretreats.com/news/yoga-inversions Retrieved on 22.10.2018
http://www.kkhsou.in/4mobile/deledunits/Course9Eng/unit1.pdf Retrieved on 16.10.2018
https://www.anandapaloalto.org/ashtanga-yoga/ Retrieved on 24.10.2018

EDUCATIONAL ADMINISTRATION AND MANAGEMENT
COURSE CODE -SOE020428DCEC1102

Year: **II** **Credit:2**
Semester: **IV** **Max Marks: 50**

Essence of the Course :

This course covers the nature of the educational administration and management. Education has to play a major role in preparing the youth for educational administration and making people aware of various functions of educational administration and management. Emphasis is also given on school management, school organization and school administration in India.

Objectives :

After completing this course, the student-teachers will be able to:

- acquaint with the concept, objectives and importance of educational administration in India.
- develop awareness of various functions of educational administration and management.
- develop some leadership qualities in themselves.
- develop awareness of educational administration at local, state and central level.
- undertake practical participation in school activities as administrative and managerial work. (These activities would have been observed and practiced during the 16-week Internship in schools)
- inculcate friendly environment through proper functioning of educational administration and management.

Teaching Scheme(session)*			**Total (L+T+P)**	**Examination Scheme**		
				Internal Assessment	**External Assessment**	**Total Marks**
Unit	L	T/P	C	15Marks	35 Marks	50 Marks
I	12	4	16			
II	12	4	16			
Total	**24**	**8**	**32**	**15 Marks**	**35 Marks**	**50 Marks**
L= Lecture, T=Tutorial, P=Practicum						

Course Content / Syllabus

Unit 1: Concepts Understanding the Concepts of Educational Administration, Educational Management and Resources

- School Administration: Meaning, Scope, Principles and Approaches.
- Educational Management: Meaning Scope, Principles and Approaches.
- Difference between School Administration and School Management
- Human and Physical Resources of School

- Headmaster/ Principal : Qualities, Role and functions

Unit 2 : Role & Function of Various Agencies & and Techniques of Educational Administration and Management

- Administration of School education at different levels – local, district, state and national (Panchayats, Zila Parisad, SCERT, DIET, NCERT, IASE)
- Methods and Techniques of Teaching Educational Administration and Management (Field trips, Role play, Debate, Projects)

Transactional Strategies:

- Lecture cum discussion on concept and objectives.
- Organization of debates quiz on issues related to Educational Administration and Management.
- Sharing experiences of educational administrative.
- Review of existing role & functions of educational administrative bodies.
- Evaluation of existing materials prepared of reports and discussion.
- Assignments of various topics
- Demonstration.

Internal Assessment Strategies:

A total of 15 marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of Marks
1	Two Sessional tests will be conducted (Better one will be considered)	Test	10
2	Practicum and Preparation of an assignment on various topics and it is followed by presentation in the classroom	Assignment& Presentation (PPT)	2.5
3	Percentage of attendance		2.5
		Total Marks	**15**

Practicum :

- Preparation of chart on Educational Administration and Management
- Visit to field realities to know the role and functions of Headmaster/ Principal/Teacher.
- Posters on various issues.
- Presentation on various Administrative activities.

Suggested Readings:

- Bush T., L.B.(2003). *The principles and practice of educational management* (Edited). New Delhi: Sage Publications.
- Bush, T. (2013). *Educational management, administration & leadership*. New Delhi: Sage Publications.
- Chauhan,S.(2012). *Educational management*. New Delhi: Pearson Publication.
- Dhillan, S.S. (2019). *Educational administration: management and leadership*. New Delhi: Gyan Geeta Publications.
- Lunenburg, F.C. & Orenstein, A.C. (2012).*Educational administration- Concept & practices*. Canada, USA: Wadsworth, Cengage Learning Solutions.
- Luthans, F. (2005). *Organisational behavior*. New York: McGraw – Hills Inc.
- McCaffery, P. (2004). *The higher education manager's handbook*, NewYork and Canada: Routledge.
- Nair, S.R. (2004).*Organizational behaviour- Texts and cases*. Mumbai: Himalaya Publication.
- Nangia, S.B. (2009). *Educational administration*. New Delhi: APH Publishing Corporation Publishing House.
- Nangia, S.B.(2009). *Educational administration*, New Delhi: APH Publishing Corporation Publishing House.
- Northouse, P. (2018). *Leadership theory and practice*. New Delhi: Sage Publications.
- Prasad, A. (2007). *University education administration and the law*, New Delhi: Deep& Deep Publications.
- Punia,V. (2004).*managerial skills in educational administration*, New Delhi: Deep& Deep Publications Pvt. Ltd.
- Rita, S. (2004). *Assessment and accreditation in higher education*. New Delhi: Association of Indian Univesities.
- Sayeed, O. B. and Pareek, U. (2000). *Actualizing managerial roles*. New Delhi: Tata McGraw-Hill Publishing Company Limited.
- Sharma, R. A. (2009). *Educational administration &management*. Meerut: R Lal Book Depot.
- Sindhu, I.S.(2012). *Educational administration & management*. New Delhi: Pearson Publications
- Srivastav, A.K. (2009). *Educational administration policy, planning and survey*. New Delhi: Kunal Books.

LIFE SKILLS EDUCATION
COURSE CODE -SOE020429DCEC1102

Year: II **Credit : 2**
Semester: IV **Max Marks: 50**

Essence of the Course:

This course aims at developing theoretical as well practical foundations of life skill education. The present course covers topic intended to promote personal, social and emotional well-being of the learners.

Objectives : After completing this course, the student-teachers will be able to:

- define life skills education
- interpret the concept and significance of life skills education
- describe the theoretical foundations of life skills education ·
- develop and apply thinking skills in various spheres of life ·
- develop skills to cope with emotions and stress
- apply social and negotiation skills in day-to-day life
- comprehend and apply the special strategies to develop life skills

Teaching Scheme(session)*			**Total (L+T+P)**	**Examination Scheme**		
				Internal Assessment	**External Assessment**	**Total Marks**
Unit	L	T/P	C	15 Marks	35 Marks	50 Marks
I	12	4	16			
II	12	4	16			
Total	**24**	**8**	**32**	**15 Marks**	**35 Marks**	**50 Marks**
L= Lecture, T=Tutorial, P=Practicum						

Course Content / Syllabus

Unit -1 : Introduction to Life Skills

- Life Skills: Concept and significance of Life Skills
- Thinking: Critical and Creative thinking, Problem Solving and Decision Making
- Coping Skills: Coping with Emotions and Coping with Stress
- Social and Negotiation Skills: Self Awareness, Empathy, Effective Communication and Interpersonal Relationship

Unit 2 : Strategies of Life Skills Development

- Strategies of Life Skills Development: Classroom Discussion, Brainstorming, Role-plays, Audio and visual activities, Case Studies, Storytelling, Debates
- Role of teacher in encouraging the practice of life skills

Transactional Strategies :

Lecture cum discussion, Group discussion and presentation, Brainstorming Session, Use of PPT, Assignments on various topics, Lecture cum demonstration, Preparation of activity based on the strategies of life skills development in groups and discussion, Debate on various problems, panel discussion, In depth analysis of various life skills by the student teachers and presentations will be encouraged.

Internal Assessment Strategies :

A total of 15 marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows:

S. No.	Activity	Mode	Weightage of Marks
1	Two Sessional tests will be conducted (Better one will be considered)	Test	10
2	Practicum and Preparation of an assignment on various topics and it is followed by presentation in the classroom	Assignment & Presentation (PPT)	2.5
3	Percentage of attendance		2.5
		Total Marks	**15**

Practicum :

- The activities listed in Unit-II with respect to the process and methods of Life Skills will be taken up in workshops to initiate the student-teachers with respect to the dynamics of the same. ·
- The Core Life Skills will also be demonstrated through role plays on diverse issues in the form of workshops.
- The student-teachers shall also engage in reflection on different core Life Skills being displayed by children in schools during their field engagement.
- Human animal interface: Case of study of a domestic/institutional animal/with human being.

Suggested Readings :

- Life Skills Based Education. (2011). Wikipedia. Retrieved from:http://en.wikipedia.org/wiki/Life_skills-based_educaion
- Life Skills Based Education CCE. (2009). CBSE. Retrieved from: http://www.cbse.nic.in/cce/life_skills_cce.pdf ·
- Ministry of Education. (2006). Senior Secondary Phase. Republic of Namibia. Retrieved from:http://www.nied.edu.na/publications
- Delors, Jacques (1997). Learning: The Treasure Within, UNESCO, Paris.

- Nair .V. Rajasenan, (2010). Life Skills, Personality and Leadership, Rajiv Gandhi.2 National Institute of Youth Development, Tamil Nadu. Page 8 of 62 UNESCO (1997).
- Adult Education: The Hamburg Declaration, UNESCO, Paris..3 UNESCO (2005).
- Quality Education and Life Skills: Darkar Goals, UNESCO, Paris..4 WHO (1999).
- Partners in Life Skills Education: Conclusions from a United Nations.5 Inter-Agency Meeting, WHO, Geneva.
- Nair. A. Radhakrishnan, (2010). Life Skills Training for Positive Behaviour, Rajiv.6 Gandhi National Institute of Youth Development, Tamil Nadu.

GUIDANCE AND COUNSELLING
COURSE CODE -SOE020430DCEC1102

Year: II **Credit : 2**
Semester: IV **Max Marks : 50**

Essence of the Course:

This course aims at providing students with basic understanding of guidance and counselling. It also aims at equipping student-teachers with the capability of drawing out the true potentials of the learners. This course will help student- teachers understand the basic concept and procedure of counselling which in turn them identify the problem areas affecting learners' understanding of concepts and modify their instructions accordingly.

Objectives: The student-teachers will be able to:

- explain the concept and importance of guidance
- comprehend the concept and importance of counselling.
- identify the principles , issues , problems and procedures of guidance & counselling
- apply the concept of testing in guidance & counselling.
- select appropriate test to identify the problem and strength areas of the learners.

Transactional Strategies :

Teaching Scheme(session)*			**Total (L+T+P)**	**Examination Scheme**		
				Internal Assessment	**External Assessment**	**Total Marks**
Unit	L	T/P	C	15Marks	35 Marks	50 Marks
I	12	4	16			
II	12	4	16			
Total	**24**	**8**	**32**	**15 Marks**	**35 Marks**	**50**
L= Lecture, T=Tutorial, P=Practicum						

Course Content / Syllabus

Unit -1 : Fundamentals of Guidance & Counselling

- Guidance and Counselling: Concept, Need & Importance.
- Principles of Guidance and Counselling.
- Personal, Educational and Vocational Guidance.
- Role of teacher as a Counsellor.
- Organization of Guidance Programmes in schools.

Unit 2 : Counselling Services & Ethics

- Types of Counselling Services
- Counselling Skills
- Characteristics of Counsellor
- Directive, Non-directive and Eclectic Counselling, Individual & Group Counselling
- Professional ethics of Counsellors

Transactional Strategies:

Lecture cum discussion, Use of PPT, Assignments on various types of knowledge, presentation and discussion, Lecture cum demonstration, Ask pupil teachers to prepare write up on various maxims of education, Preparation of activity based curriculum in groups and discussion.

Internal Assessment Strategies:

A total of 15 marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of Marks
1	Two Sessional tests will be conducted(Better one will be considered)	Test	10
2	Practicum and Preparation of an assignment on various topics and it is followed by presentation in the classroom	Assignment& Presentation (PPT)	2.5
3	Percentage of attendance	-	2.5
		Total Marks	**15**

Practicum:

- Case study of an adolescents and preparation of reports
- Elaborate your own values towards self and society.
- Report on stress management techniques.
- Any other project/assignment given by the institution

Suggested Readings :

- Gladding, R.(2018). *Introduction to counseling*, New Delhi : Pearson.
- Kubalker, R. (2015). *Know your stress-manage your stress*, Neel Kamal Publishers.
- Oberoi, S.C (2015). *Educational vocational guidance & counselling*, International Publishing House.
- Steve, D. (2012). *The basics of communication:A relational Perspective*, Sage Publishers.
- Gibson Robert & Mitchell Marianne (2005): *Introduction to Guidance & Counseling*, 6th edition, Prentice Hall of India, N. Delhi.
- Madhukar Indira (2005):*Guidance & Counseling*, Authors Press, N. Delhi

- Aggrawal JC (1991): *Educational & Vocational Guidance & Counseling,* 7th edition, Doaba House, N. Delhi.
- Feldonan, R.S. (2009). *Essentials of understanding psychology seventh edition,* Tata Mc Graw Hill, New Delhi.
- Singh LK & Sudarshan KN (1996): *Vocational Education, DPH Education Series,* Discovery Publishing house, N. Delhi.
- Kochhar SK (1987): *Educational & Vocational Guidance in Secondary Schools,* Sterling Publishers, N. Delhi.
- Sheorron, B. (2008). *The presentation skills workshop*, Prentice Hall of India, New Delhi.

Web Resources :

- Systemic Reforms for Curriculum Change, http://www.ncert.nic.in/new_ncert/ncert/rightside/links/pdf/focus_group/Systemic_reforms_final.pdf
- Curriculum, Syllabus and Textbooks, http://www.ncert.nic.in/new_ncert/ncert/rightside/links/pdf/focus_group/cst_final.pdf.

HEALTH AND PHYSICAL EDUCATION
COURSE CODE - SOE020431DCEC1102

Year: II **Credits: 2**
Semester: IV **Max Marks: 50**

Essence of the Course:

This subject area adopts a holistic definition of health within which physical education contributes to the physical, social, emotional and mental aspects of health there are many opportunities for cross curricular learning and integration in other subject area like science, social science and languages. This subject focuses on applied learning and therefore, innovative approaches need to be adopted for transaction of this curriculum.

Objective : The course will enable the pupil teachers to :

- be conscious towards the development of holistic health by understanding its various dimensions and determinants.
- develop understanding about fundamentals of physical and health education.
- adopt preventive measures from common communicable diseases by acquiring knowledge about these.
- identify the nature of injuries and to provide first aid.
- create awareness on different aspects of health and fitness.
- develop positive attitude towards health and physical education.
- comprehend various policies and programmers related to health & physical education.
- help them to understand the process of assessment of health and physical fitness.

Teaching Scheme (session)*			**Total (L+T+P)**	**Examination Scheme**		
				Internal Assessment	**External Assessment**	**Total Marks**
Unit	L	T/P	C	15 Marks	35 Marks	50 Marks
I	15	3	18			
II	15	2	17			
Total	**30**	**5**	**35**	**15 Marks**	**35 Marks**	**50 Marks**
L= Lecture, T=Tutorial, P=Practicum						

Course Content / Syllabus

UNIT 1: Health, Wellness and areas of concern

- Health: Concept, definition, dimensions and determinants.
- Health Education: Definition, aims and objectives.
- Concept of Wellness and measures to ensure wellness
- Communicable Diseases: Mode of Transmission, Methods of Prevention and Control
- Nutrition: Elements of Balanced Diet, Food habits

UNIT 2: Physical Education and Integrated Personality

- Physical Education: Concept, definition, aims and objectives
- Need, scope and Importance of Physical Education Programs at different school levels
- Rules, Regulations and skills of any one of the Games/events: Hockey, Badminton, Volleyball, Football.
- Concept of integrated personality and its realization through physical education program.

Transactional Strategies

The following methods may be adopted :

- Interactive discussion, group-work, sharing of experiences, organizing various activities, analyzing various topics by using chart, photographs and other materials on aspects of health-related issues.
- Organizing school health check-ups, practical classes for first aid, blood donation, self-defense, awareness rally in nearby areas.
- Lecture, PowerPoint presentations, MOOCs and e-platforms.
- Lecture cum discussion, Group Discussions, use of audio and video materials
- Review of various literature available
- Providing reading material to students
- Organising tutorials if needed

Internal Assessment Strategies :

A total of 15 marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of Marks
1	Two Sessional tests will be conducted (Better one will be considered)	Test	10
2	Practicum and Preparation of an assignment on various topics and it is followed by presentation in the classroom	Assignment& Presentation (PPT)	2.5
3	Percentage of attendance	-	2.5
		Total Marks	**15**

Assignment/ Practicum:

- Prepare a Project Report on: Three types of Sports Ground.
- Write a detailed account of your participation in any team game (hockey, Volleyball and Football) or individual game.
- Write a detailed account of your participation in any Self-defense training camp.
- Write a detailed account of your participation in any Blood donation camp.
- Write a detailed account of your participation in Health Check up camp.
- Write a Project Report on Awareness rally for prevention from communicable diseases.
- Any other, as decided by the institution.

Suggested Readings :

- Ajmer, S. (2003). *Essentials of physical education*. New Delhi: Kalyani Publishers.
- Chandra, S., Sothi, &Krishnan P. (2005). *Health education and physical education*. Delhi: Surjeet Publications.
- Charles, B. A. (1992). *Foundation of physical education and sport*. New Delhi: B1 Publication.
- John E, Nixon, Ann E. jewett.1980. "An Introduction to Physical Education, Thomson Learning 9th edition London.
- Kanele, B. S., & Kumar, C. P. (1996). *Text book on health and physical education*. Ludhiana: Kalyana Publishers.
- Mangal, S. K. (2005). *Health and physical education*. Ludhiana: Tandon Publication book market.
- Nash T.N. (2006). *Health and physical education*. Hydereabad: Nilkamal Publishers.
- Prasad, Y. V. (2006). *Method of teaching physical education*. New Delhi: Discovery Publishing house.
- Ramachandran, L.T., & Dharmalingam. (1993). *Health education. A new approach*. New Delhi: Vikas Publishers Ltd.
- Reema, K. (1996). *Physical fitness*. New Delhi: Khel Sahitya Sports Publication.

Web Resources

https://en.unesco.org/themes/education-health-and-well-being
https://www.pwc.in/assets/pdfs/india-publication-working-towards-wellness.pdf
http://www.ncert.nic.in/programmes/aep/pdfs/module%2011%20rti,%20sti%20and%20relationship%20with%20hiv.pdf
https://www.pdhpe.net/better-health-for-individuals/what-does-health-mean-to-individuals/meanings-of-health/dimensions-of-health/
https://sporttudomany.uni-eszterhazy.hu/public/uploads/organising-sports-events_570f84971d1e4.pdf
http://unesdoc.unesco.org/images/0024/002464/246453e.pdf

EDUCATION IN INDIAN CONSTITUTION
COURSE CODE -SOE020432DCEC1102

Year : II **Credit: 2**
Semester : IV **Max Marks : 50**

Essence of the Course:

This course aims at developing theoretical as well practical knowledge and awareness about educational provisions in Indian Constitution. The present course covers topic intended to promote personal, social and educational well-being of the learners and nation.

Objectives: After completing this course, the student-teachers will be able to:

- orientate about constitutional provisions of education
- aquatint with the educational policies and acts for education
- develop the sense of democracy and values of equality, justice, freedom, secularism, respect for human dignity and rights
- define the role and duties of central and state government for educational enhancement.
- recognize the importance of universalization of education and RTE Act, 2009
- examine the status of education in special reference to equality and inequality in India critically
- foster the spirit of social responsibility to promote education

Teaching Scheme (session)*			**Total (L+T+P)**	**Examination Scheme**		
				Internal Assessment	**External Assessment**	**Total Marks**
Unit	**L**	**T**	**C**	15 Marks	35 Marks	50 Marks
I	12	4	16			
II	12	4	16			
Total	**24**	**8**	**32**	**15 Marks**	**35 Marks**	**50 Marks**
L= Lecture, T=Tutorial, P=Practicum						

Course Content / Syllabus

Unit -1: Constitutional Provisions related to Education

- Constitutional provisions related to education that reflect national ideals:
- Democracy and the values of equality, justice, freedom, secularism, respect for human dignity and rights.
- Policies, acts and provisions related to education and children with special reference to their contexts (class, caste, tribe, religion, language and gender)
- Role of Central and state governments in the development of education

Unit 2 : Contemporary Indian Education: Concerns and Issues

- Constitutional interventions for universalization of education and RTE Act 2009
- Challenges in implementation of RTE Act 2009
- Equality of educational opportunity: Meaning of equality and constitutional provisions and Issues of equality and equity.
- Inequality in schooling: Public-private schools, rural-urban Schools , single teachers' schools and many other forms of inequalities in school systems and the processes leading to disparities

Transactional Strategies:

Lecture cum discussion, use of PPT, assignments on various topics, preparation of activity based on the Constitutional provisions in groups and discussion, Debate on various problems, panel discussion, In depth analysis of various life skills by the student teachers and presentations will be encouraged.

Internal Assessment Strategies:

A total of fifteen marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of Marks
1	Two Sessional tests will be conducted (Better one will be considered)	Test	10
2	Practicum and Preparation of an assignment on various topics and it is followed by presentation in the classroom	Assignment& Presentation (PPT)	2.5
3	Percentage of attendance		2.5
		Total Marks	**15**

Practicum:

- Reflection on various Constitutional provisions
- Visit in school and assess the provisions of RTE, 2009.
- Survey/Project on Constitutional awareness in education.

Suggested Readings:

- Anand, C.L. et.al. (1983). *Teacher and education in emerging in Indian society*. New Delhi: NCERT.
- Govt. of India (1986). National Policy on Education. New Delhi: MHRD.
- Govt. of India (1992). Programme of Action (NPE). New Delhi: MHRD.
- Govinda, R. (2011). Who goes to school? Exploring exclusion in Indian education. Oxford University Press.
- Mohanty, J., (1986). *School education in emerging society*. New Delhi: Sterling Publishers.
- Mukherji, S.M., (1966). *History of education in India*. Baroda: Acharya Book Depot.

- GOI (1964-1966). *Education and National Development*. MHRD, Government of India.
- NCERT (2002). Seventh all India school education survey. New Delhi: NCERT.
- NCERT (1986). School education in India – Present status and future needs. New Delhi: NCERT.
- NCERT. (2005). National curriculum framework. (NCF 2005). New Delhi: NCERT.
- NCERT. (2006d). Position paper-national focus group on teaching of Indian language. New Delhi: NCERT.
- Salamatullah, (1979). *Education in social contex*t, New Delhi: NCERT.
- Sykes, Marjorie (1988). *The story of nai talim*, Wardha:Naitalim Samit.
- UNESCO (2004). *Education for all: The quality imperative*. Paris: EFA Global Monitoring Report.

COMPARATIVE EDUCATION
COURSE CODE -SOE020433DCEC1102

Year : II **Credit: 2**
Semester : IV **Max Marks: 50**

Essence of the Course:

Comparative Education has two complementary goals. First, it should provide students with some of the information and concepts necessary for comparing different educational systems, their contexts, and educational outcomes. Second, it should help students sharpen their own research and analytic skills for independent, comparative insight secondary education system (India, U.K. and U.S.A). If these goals are achieved, students would be able to form judgments about which aspects of a nation's education system are unique to a particular context and which aspects represent features found generally in other schools throughout the world. This ability is important for educators who want to improve education systems anywhere through policy.

Objectives : The student-teachers will be able to:

- acquaint with the concepts of comparative education
- recall history and developmental stages of comparative education
- familiar with educational systems in terms of factors and approaches of comparative education
- acquaint with educational systems prevailing in various nations
- assess the efficiency of educational systems of various countries in terms of prevailing trend in those countries
- create a perspective about the implications of educational policies and for solving the educational problems in India
- acquaint about the concept of secondary education and its implication in India, U.K. and U.S.A.
- interpret the need & importance of secondary education and its vocationalisation

Teaching Scheme (session)*			**Total (L+T+P)**	**Examination Scheme**		
				Internal Assessment	**External Assessment**	**Total Marks**
Unit	**L**	**T**	**C**	15 Marks	35 Marks	50 Marks
I	12	4	16			
II	12	4	16			
Total	**24**	**8**	**32**	**15 Marks**	**35 Marks**	**50 Marks**
L= Lecture, T=Tutorial, P=Practicum						

Course Content / Syllabus

Unit -1 : Conceptual Understanding of Comparative Education

- Concept of Comparative Education: History and developmental stages of Comparative Education
- Aims of Comparative Education
- Need and scope of Comparative Education
- Approaches to Comparative Education: Historical, Philosophical, Sociological and Problem Approach
- Factors affecting of education system

Unit 2 :Secondary Education in India, U.K. and U.S.A.

- Secondary education :Concept, meaning and need
- Secondary education in India, U.K. and U.S.A. (Aims, Content, Methods & Instruction and Evaluation System) and its vocationalization in India.

Transactional Strategies :

Lecture cum discussion, use of PPT, assignments on various topics, Lecture cum demonstration, ask pupil teachers to prepare write up on various factors influencing of education system and Comparative Education, debate on aims, content, methods & instruction and evaluation system in India, U.K. and U.S.A., chart preparation on education system in India, U.K. and U.S.A., In depth analysis of various education system by the student teachers and presentations will be encouraged.

Internal Assessment Strategies :

A total of 15 marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of Marks
1	Two Sessional tests will be conducted (Better one will be considered)	Test	10
2	Practicum and Preparation of an assignment on various topics and it is followed by presentation in the classroom	Assignment& Presentation (PPT)	2.5
3	Percentage of attendance		2.5
		Total Marks	**15**

Practicum:

- Write up on various factors influencing of education system.
- Chart preparation on education system in India.
- Reflections on secondary education in India, U.K.and U.S.A.

Suggested Readings :

- Andrey, A. & Howard N. (1978). *Developing curriculum: A practical guide*. London: George Allen and Unwin.
- Baradey, G.Z.F. (1964). *Comparative methods in education*. New Delhi: Oxford and IBH Publishing Co.
- Chaube, S. P.(2009). *Comparative education*. New Delhi: Vikas Publication.
- Chaube, S. P.(2017). *Features of comparative education*. New Delhi: Vikas Publication.
- Cowen , R. (2017). *Narrating and relating educational reform and comparative education*. Switzerland AG. : Springer Nature
- Cramer, I.F. & Brown, G.S. (1965). *Contemporary education: A comparative study of national system*. New York: Harcourt Brace & Company.
- Denis, L. (1986). *School curriculum planning*. London: Hodder ad Stoughton.
- Dent, H.C. (1981). *Educational system of England*. London: George Allen and Unwon.
- Edward, A. K. (1960). *The secondary schools curriculum*. New York: Harper and RowPublishers.
- Hans, N. (1961). *Comparative education*. London: Routledge and Kegan Paul.
- Harold A. & Elsic, J. A. (1957). *The curriculum*. New York: The MacMillan Company.
- Holmes, B. (2018). *Comparative education : Some considerations of method*. London: Taylor & Francis Group
- International encyclopaedia of curriculum. (1991) London: Pergamon Oxford.
- Kandel, I.L. (1963). *Studies in comparative education*. New York: George Harrup.
- Marshall, J.(2019). *Introduction to Comparative and International Education*. New Delhi: SAGE Publication India Pvt. Ltd.
- Parmaji, S, (1984). *Distance education*. New Delhi: Sterling Publishers Pvt. Ltd.
- Rajput, J.S. (2004). *Encyclopedia of indian education*. New Delhi: NCERT.
- Sodhi T.S. (1988). *A text book of comparative education*. New Delhi: Association of Indian Universities, IGNOU.
- William, M. A. (1966). *Planning curriculum for schools*. New York: Holt, Rinehart and Winston.

EDUCATIONAL LEADERSHIP AND MANAGEMENT
COURSE CODE:SOE020439GEC3104

Year : II **Credit : 4**
Semester : IV **Marks : 100**

Essence of the Course :

This course covers the nature of the educational administration and management. Education has to play a major role in preparing the youth for educational administration and making people aware of various functions of educational administration and management. Emphasis is also given on school management, school organization and school administration in India.

Objectives : On the completion of this course the students will be able to:

- know and understand the concepts of educational management and leadership
- develop awareness of various functions of educational management.
- understand various styles of leadership
- develop some leadership qualities in themselves.
- develop some leadership qualities in themselves
- understand educational administration in India at local, state and central level

Teaching Scheme (session)*				Total (L+T+P)	Examination Scheme		
Unit	**L**	**T**	**P**		**Internal Assessment**	**External Assessment**	**Total Marks**
I	12	4	0	16	30	70	100
II	12	2	1	15			
III	12	3	2	17			
IV	12	3	1	16			
Total	**48**	**12**	**04**	**64**	**30**	**70**	**100**

Course Content / Syllabus

Unit-1 : Educational Management: Conceptual Understanding

- Meaning, Concept, Needs of Educational Management
- Objectives & Scope of Educational Management
- Educational Manager: Functions and Roles
- Professional Ethics

Unit -2 : School Management and Communication

- Role and functions of Headmaster/ Principal/ Teacher
- Process, Human Relations Approach to Management.
- Types of Communication
- Barriers of Communication

Unit – 3 : Leadership : concept and skills

- Meaning and Concept of Leadership
- Difference between Leader and Manager
- Leadership Traits and Skills
- Functions and Styles of Leadership

Unit- 4 : Educational Administrative Bodies in India at National Level: Role & Functions

- University Grant Commission (UGC)
- National Council of Educational Research and Training (NCERT)
- National University of Educational Planning and Administration (NUEPA)
- Ministry of Human Resource Development (MHRD)
- National Council for Teacher Education (NCTE)

Transactional Strategies :

Lectures, field visits to various educational institutions, case studies, assignments, discussions etc.

Internal Assessment Strategies :

A total of thirty marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of Marks
1	Two Sessional tests will be conducted(Better one will be considered)	Test	20
2	Practicum and Preparation of an assignment on various topics and it is followed by presentation in the classroom	Assignment& Presentation (PPT)	5
3	Percentage of attendance		05
Total Marks			**30**

Practicum:

- Compile articles from newspapers, magazines, and internet discussing present policies and operational strategies of central and state Govt. for secondary education. Prepare a report of entire activity.

- Review research on educational management or management of secondary schools which are used in other countries but not in India.
- Evaluation of management of SSA activities in a district.
- Collect data from relevant sources on student & teachers ratio for secondary level school of your district. Is it according to provision of RTE act? Prepare a report and send it to authorities.
- Examine the effectiveness of any one programme run by central Govt. for secondary students. Present the report in a classroom seminar.

Suggested Readings:

- Altrichter, H. and Elliot, J. (2000). *Images of Educational Change*. England: Buckingham Open University.
- Bhattacharya, D.K. (2001). *Managing People*. New Delhi: Excel Books.
- Bush T., L. B. (2003). *The principles and practice of educational management*, (Edited, Ed.). New Delhi: Sage Publications.
- Bush, T. (2013).*Educational management, administration & leadership*. New Delhi: Sage Publications.
- Chauhan,S.(2012). Educational management. New Delhi: Pearson Publication.
- Dawra, S. (2003). *Management thought*. New Delhi: Mohit Publication.
- Harigopal, K. (2001). *Management of organizational change*. New Delhi: Response Books.
- Luthans, F. (2005). *Organisational behavior*. New York: McGraw – Hills Inc.
- Lunenburg,F.C. & Orenstein, A.C.(2012).*Educational administration-Concept &practices*. USA: Wadsworth, Cengage Learning Solutions, Canada.
- McCaffery, P. (2004). *The higher education manager's handbook*. NewYork and Canada: Routledge.
- Nair, S.R. (2004).*Organizational behaviour- Texts and cases*. Mumbai: Himalaya Publication.
- Nangia, S.B. (2009). *Educational administration*. New Delhi: APH Publishing Corporation Publishing House.
- Northouse, P. (2018). *Leadership theory and practice*. New Delhi: Sage Publications.
- Owens, R.C. (2001). *Organizational behaviour in education*. Boston: Allyn and Bacon.
- Prasad, A. (2007). *University education administration and the law*, New Delhi: Deep& Deep Publications.
- Punia,V. (2004).*Managerial skills in educational administration*. New Delhi: Deep& Deep Publications Pvt. Ltd.
- Rita, S. (2004). *Assessment and accreditation in higher education*. New Delhi: Association of Indian Univesities.
- Sayeed, O. B. and Pareek, U. (2000). *Actualizing managerial roles*. New Delhi: Tata McGraw-Hill Publishing Company Limited.
- Srivastav, A.K. (2009). *Educational administration policy, planning and survey*. New Delhi: Kunal Books.
- Sharma, R. A. (2009). *Educational administration & management*. Meerut: R Lal Book Depot.
- Sindhu, I.S.(2012).*Educational administration & management*. New Delhi: Pearson Publications

PEACE EDUCATION
COURSE CODE -SOE020440GEC3104

Year II **Credit : 4**
Semester IV **Max Marks : 100**

Essence of the Course:

Peace is considered as one of the main core values out of the five basic human values. The five basic / core human values are Truth, Righteous conduct, Peace, Love and Non-violence. Every teacher must realize the significance of values in individual and social life. In the present scenario Peace Education and Education for Peace, its concept and understanding is of paramount significance in Teacher Education. This course focuses on the concept, importance nature of Peace and Peace education and pedagogy of Peace Education.

Objectives : The student teacher will be able to:

- Explain the need and importance of peace .
- Know the different approaches of peace.
- Develop personal initiative and resources for the pursuit and Promotion of peace.
- Describe the nature of peace education.
- Manage conflicts of their life and business.
- Appreciate the developments in Peace Education in India and abroad.
- Understand various methods, techniques and approaches of Peace development.
- Appreciate the importance of living together and imbibe in their attitude and behaviour

.

Teaching Scheme (session)*				**Total (L+T+P)**	**Examination Scheme**		
					Internal Assessment	**External Assessment**	**Total Marks**
Unit	**L**	**T**	**P**	**C**	30 Marks	70 Marks	100 Marks
I	12	4	0	16			
II	12	4	0	16			
III	12	4	0	16			
IV	12	4	0	16			
Total	**48**	**16**	**0**	**64**	30 Marks	70 Marks	100 Marks

Course Content / Syllabus

Unit -1 : Conceptual fundamental of Peace

- Concept and importance of peace
- Gandhian Concept of peace
- Different Approaches of peace

Unit 2 : Peace Education

- Peace Education: Meaning, definition, and scope
- Aim and objectives of peace education
- Role of organizations involved in promoting peace education (UNO, UNESCO)

Unit 3 : Peace for Conflict Management

- Meaning and nature of conflicts
- Conflict Management: Concept and significance
- Peace and Conflict Management

Unit 4 : Pedagogy of Peace Education

Approaches and techniques for peace education:-

- Roll Playing, value based story-telling
- Group activities (literary activities, games and sports, service activities),
- Counselling, organizing value based co-curricular activities.

Transactional Strategies:

Lecture cum discussion, Tutorials, Brainstorming Session, Use of PPTs, Assignments on different key areas of Peace related issues.

Internal Assessment Strategies:

A total of thirty marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of Marks
1	Two Sessional tests will be conducted (Better one will be considered)	Test	20
2	Practicum and Preparation of an assignment on various topics and it is followed by presentation in the classroom	Assignment& Presentation (PPT)	05
3	Percentage of attendance		05
	Total Marks		30

Practicum – Suggestive List

- Seminar and group discussion on importance peace in the class.
- Chart preparation on various Peace Education
- Reflection on various conflicts in day to day life.
- Organize mock activities on working of UNO for Peace Education.

Suggested Readings :

- Arulsamy, S. (2016). *Peace and value education.*, New Delhi: Neelkamal Publication.
- Barash, P. David (2000). A*pproaches to peace*. New York: Oxford University Press.
- Charles, K., & Selvi, A. (2016). *Peace and value education.* New Delhi: Neelkamal Publication.
- Gandhi, M.K. (1944). *Non-violence in peace and war.* Ahmedabad : Navajivan Publishing House.
- Kapani, M. (2000). *Education in human values – concept and practical implications.* New Delhi: Sterling Publishers.
- National Curriculum Framework (2005) position paper, National Focus group on Education for Peace. New Delhi: NCERT.
- Pandey, S. (2004). *Education for peace, self instructional package for teacher education*. New Delhi: NCERT.
- UNESCO (2001). L*earning the way of peace: A teacher guide to education for peace*, UNESCO.

Web Sources

- http://www.ncert.nic.in/new_ncert/ncert/rightside/links/pdf/focus_group/education_for_peace.pdf
- www.bdu.ac.in/cde/docs/ebooks/B-Ed/II/PEACE%20EDUCATION.pdf
- http://www.gordontraining.com/free-parenting-articles/the-nature-of-conflict/
- https://journals.sagepub.com/doi/abs/10.1177/106591295100400201?journalCode=prqa
- https://www.amanet.org/training/articles/the-five-steps-to-conflict-resolution.aspx
- https://www.managers.org.uk/knowledge-bank/conflict-management
- *cejsh.icm.edu.pl/cejsh/element/bwmeta1.element.ojs-doi.../10472-10011.pdf*
- *https://www.jagran.com/editorial/apnibaat-the-importance-of-peace-10751783.htmlhttps://www.quora.com/What-is-the-importance-of-peace-in-our-life-Why-and-how-do-you-achieve-it*
- *http://www.eolss.net/sample-chapters/c04/e1-39a-06.pdfhttps://unesdoc.unesco.org/ark:/48223/pf0000150262https://dialog1.webs.com/sejv2i1/samwaad_2.pdf*
- *http://shodhganga.inflibnet.ac.in/bitstream/10603/36399/7/chapter%202.pdf*

Syllabus

M.Ed.

(Master of Education)

School of Education (2018-20)

w.e.f. 03/01/2019

Central University of Haryana

M.Ed. Programme Implementation and Assessment

1. Curriculum

The M.Ed. programme is designed to provide opportunity for students to extend as well as deepen their knowledge and understanding of education, specialize in selected areas and also to develop research capacities leading to specialization in either elementary education or secondary education. The curriculum of the two-year M.Ed. programme shall comprise of the following components:

1) A Common Core that includes Perspective Courses, Tool Courses, Teacher Education Course, and A Self-development component;
2) Specialization Branches where students choose to specialize in any one of the school levels/areas (such as elementary, secondary and senior secondary);
3) Research leading to dissertation; and
4) Field immersion/attachment/internship.

There shall be core courses (which shall have about 60% of credits) and specialized courses in elementary education or secondary education and dissertation with about 40% of the credits.

(a) Theory (Core and Specialization) Courses

The theory courses are divided into core courses and specialization courses. The main core courses shall comprise perspective courses, Tool Courses and Teacher Education courses.

Perspective Courses shall be in the areas of: Philosophy of Education, Sociology-History-Political-Economy of Education, Psychology of Education, Education Studies and Curriculum Studies. Tool Courses shall comprise of those in basic and advanced level education research, academic/professional writing and communication skills and educational technology including workshops/courses in ICT. Teacher education courses (which are also linked with the field internship/immersion/attachment in a teacher education institution) shall also be included in the core.

The specialization component/branches shall offer students a specialization in one of the school stages-elementary (upto VIII), or secondary and senior secondary (VI to XII). The courses within the school stage specialization shall represent/cover selected thematic areas pertinent to that stage such as: Curriculum, Pedagogy and Assessment; Policy, Economics and Planning; Educational Management and Administration; Education for differently abled; etc. Other specialization may also be planned. A field internship/attachment relevant to the area of specialization shall be organized during the programme.

Critical reflection on gender, disability and marginalisation should cut-across the courses in core and specialization. Similarly skills pertaining to ICT and educational technology should be integrated in various courses in the programme. Besides, yoga education shall form an integral part of the curriculum.

(b) Practicum

Organisation of workshops, practicum activities and seminars to enhance professional skill and understanding of the students shall be part of the teaching modality of the various courses.

(c) Internship and Attachment

Fields attachments/internships/immersion shall be facilitated with organizations and institutions working in education. These would aim at engaging the students with field-based situations and work in elementary and other levels of education and to provide an opportunity for reflection and writing on the same. Systematically planned field internship/attachment in a teacher education institution, and in the specialization area chosen by the students shall be organized during the programme.

Close mentorship by faculty in relevant areas should be provided in the programme in the form of tutorials, guided reading groups, field attachment, and guided research dissertation.

2. Programme Implementation

The institution will have to meet the following specific demands of this professional programme of the study (M.Ed.):

(i.) Prepare a calendar for all activities, including internship and field attachment. The calendar of the M.Ed. programme shall be synchronised with the academic calendar of the institutions identified for internship and attachment.

(ii.) Submission of a Dissertation which could be based on primary field data or secondary data or a treatise comprising of a long reflective and critical essay on an approved topic shall be compulsory.

(iii.) For the conduct of the dissertation, the ratio of the faculty to students for guidance and mentoring shall be of 1:5.

(iv.) Structured engagement of M.Ed. students with educational sites/fields for not less than 4 weeks resulting in a reflective report. The suggested sites/fields are as follows:

a. Professional pre-service teacher education programme.

b. An organization engaged in the development of innovative curriculum and pedagogic practices.

c. International/National/State institution involved in curriculum design, textbook development, education policy planning, formation and implementation, educational administration and management.

d. In-service training programmes for school teacher.

(v) The institution shall initiate discourse in education by periodically organizing seminars, debates, lectures and discussion groups for students and faculty. Students' participation in the weekly research colloquium/seminar shall be ensured.

(vi) There shall be provision and mechanisms and provisions in the institutions for addressing complaints of students and faculty and for redressal of grievances.

(vii) Mechanisms shall be worked out where faculty other than the ones actually dealing with the course shall be involved in the work of the institution.

3. Assessment

For each theory course, at least 30% weightage shall be assigned for continuous internal assessment and 70% for examination conducted by the examining body. The weightage for the internal and external assessment for theory and practicum courses shall be such as prescribed by the affiliating university based on the above formulation. The bases of internal assessment may include individual/ group assignment, seminar presentations, field attachment, appraisal reports etc. One-fourth of the total marks/credits/weightage shall be assigned to practicum, internship, field attachment and dissertation.

Course Structure of Master of Education (M.Ed.) under Choice Based Credit System (Academic Session: 2019-20)

M.Ed. Semester- II

S. No.	Course Credit	Course Code	Course Title	Total Marks	Credits (Theory/ Tutorial/ Practicum)	Practical	Class Teaching / Field Based Activity Hours per week	Internal Assessment Weightage	External Assessment Weightage
9	4	SOE010208C3014	Philosophical Foundations of Education	100	4	0	4	30%	70%
10	4	SOE010209C3014	Sociological Foundations of Education	100	4	0	4	30%	70%
11	4	SOE010210C3014	Curriculum Studies	100	4	0	4	30%	70%
12	4	SOE010211C3014	Teacher Education	100	4	0	4	30%	70%
13	2	SOE010212C0022	Academic Writing	50	0	2	4	60%	40%
14	2	SOE010213C0022	Internship and Field Attachment	50	0	2	4	60%	40%
15	2	SOE010214C0022	Dissertation Part-II	50	0	2	4	60%	40%
16	4		Taken from other Department / MOOC	100	4	0	4	30%	70%
Total	26			650	20	06	32		

- 1 credit Theory/ Tutorial/ Practicum=16 hours in a semester
- 1 credit=25 Marks
- Viva-Voce exam for course 13, 14 & 15 will be conducted by the external examiner at the end of the semester and weightage will be 40% external & 60% Internal.

Internship Programme :

- Internship should be organized in such a way that all students' engagement for a continuous period of 2 weeks in a teacher education institute for field experience associated with the specialization choose. Since the M.Ed. programme structure proposed in this report is associated on schools and teacher education institutions (and other sites) based activity, the M.Ed. calendar should be development keeping in mind the schedule of these institutions **.**
- **A student has to take 4 credits General Elective Course from other department course/ MOOC approved by C.U.H/ U.G.C**
- **General Elective Courses Offered by M.Ed. to other department : Introduction to Academic Writing (4 Credits);**
  : Educational Leadership and Management (4 Credits)

Syllabus-M.Ed.

Semester-II

PHILOSOPHICAL FOUNDATIONS OF EDUCATION
COURSE CODE:SOE010208C3014

Year: I **Credit : 4**
Semester: II **Marks : 100 (External : 70+Internal: 30)**

Objectives : On the completion of this course, the students will be able to

- Explain about the concept and nature and various branches of Philosophy
- Know about the concept and various types of knowledge.
- Understand the relationship between Philosophy and Education
- Explain the educational implications of some schools of philosophy in Western Thought and Indian Philosophy

Course Content / Syllabus

Unit-1: Conceptual Understanding of Philosophy

- Concept and nature of Philosophy, Educational Philosophy
- Relationship between Education and Philosophy.
- Branches of Philosophy: Metaphysics, Epistemology and Axiology and their implications for education.
- Knowledge: Concept, nature and types of knowledge

Unit-2: Indian Schools of Philosophy

Indian Schools of Philosophy with special reference to concepts of Knowledge, reality and values and their educational implications for aims of education, curriculum and methods of teaching: Sankhya, Vedanta, Buddhism, Jainism.

Unit-3: Western Schools of Philosophy

Western Schools of Philosophy with special reference to concepts of Knowledge, reality and values and their educational implications for aims, curriculum and methods of teaching: Idealism, Naturalism, Pragmatism, Existentialism

Unit-4: Educational Thinkers

- J. Krishnamurthy
- Rabindranath Tagore

- John Dewey
- Paulo Friere

Transactional Strategies

Lectures, Discussions, Presentations, Problem based learning.

Evaluation Strategies

A total of thirty marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of Marks
1	Three Sessional tests will be conducted (Better two will be counted)	Test	20
2	Assignment on various topics and presentation	Assignment & Presentation (PPT)	05
3	Percentage of attendance	Counted at the end of semester	05
Total Marks			**30**

Practicum :

Assignment on any one of the following :

• The Essay Course: Students will be required to submit a long essay of 5000 – 7000 words on a philosophical topic of their choice.

• Identify the different instruments of knowledge used by a proficient teacher in a classroom situation and explain them briefly.

Suggested Readings:

- Aggarwal, J.C. (2013). *Basic ideas in education*. New Delhi: Shipra Publications.
- Bailey, Richardet. al. (2010). *Philosophy of education*. U.S.A.: Sage Publication Ltd.
- Barrow, R. (2010). Schools of Thought in Philosophy of Education. In Bailey, R. Barrow, Carr, D., & McCarthy, C.(ed.), *The SAGE Handbook of Philosophy of Education*. London: Sage Publications.
- Bharathy, V., & Rao, D. B. (2015). *Educational philosophies of Swami Vivekananda and John Dewey*. New Delhi: APH Publications Corporation.
- Carr, D. (2010). The Philosophy of Education and Educational Theory. In Bailey, R. Barrow, Carr, D., & McCarthy, C. (ed.), *The SAGE Handbook of Philosophy of Education*. London: Sage Publications.
- Chand, J. (2010). *Philosophical foundation of education.* New Delhi: Anshah publishing house.
- Coulby, D. & Zambeta, G. (2005). *Globalization & nationalism in education*. New York: Routledge.
- Deshpande, S. (2004). *Contemporary India: a sociological view.* New Delhi: Penguin.
- Gupta, R. (2011). *Philosophical, sociological and economic bases of education*. Ludhiana : Tondon Publications.
- Gupta, R. (2012). *Shiksha ke darshnik, samajshastriya aurarthik adhar*.Ludhiana:Tondon Publications.
- Kaur. (2018). Philosophical and sociological perspectives in education. New Delhi:ABD Publishers.
- Kenkel, W.F. (1980).*Society in action: Introduction to sociology*. New York: Harper and Row.
- Kumar, A. (2015). *Philosophical perspective of education*. New Delhi: APH Publishing Corporation.
- Mathur S.S. (2008). *A Sociological approach to Indian Education.* Agra: Vinod Pustak Mandir.
- Ministry of Education (1985). *Challenges of Education-A policy perspective.* New Delhi: Govt. of India.
- Ministry of Education (1993). *Education for all: The Indian Scene*. New Delhi: Govt. of India.
- Ozmon, H. A. (2017). *Philosophical foundations of education*. New Jersey: Pearson Publication
- Pandey, R.S. (1997). *East west thoughts on education*. Allahabad: Horizon Publishers.
- Phillips, D.C. (2010). What is Philosophy of Education? In Bailey, R. Barrow, Carr, D., & McCarthy, C. (ed.), *The SAGE Handbook of Philosophy of Education*. London: Sage Publications.
- Pring, R. (2010). The philosophy of education and educational practice. In the sage handbook of philosophy of education. Bailey, R. Barrow, Carr, D., & McCarthy, C. (ed.). London: Sage Publications.
- Siegel, H. (2010). Knowledge and truth. In Bailey, R. Barrow, Carr, D., & McCarthy, C. (ed.), *The sage handbook of philosophy of education*. London: Sage Publications.
- Singh, Y. K. (2014). *Education philosophy of Mahatma Gandhi.* New Delhi: APH Publishing Corporation.
- Sodhi T.S. & Suri A. (1998). *Philosophical and sociological foundation of education*. Patiala: Bawa Publications.
- Vallikkat, S. (2015). *Philosophy of education.* New Delhi: APH Publishing Corporation.
- Vashishtha, U. C. (2011). *Educational philosophy*. New Delhi: APH Publishing Corporation.
- Walia, J.A. (2011).*Modern Indian education and its problems*. Gopal Nagar, Jalandhar City: Paul Publishers.

Walia, J.A. (2011). *Philosophical, sociological and economic bases of education*, Jalandhar: Ahim Paul Publishers.

M.Ed. Semester-II

SOCIOLOGICAL FOUNDATIONS OF EDUCATION

COURSE CODE:SOE010209C3014

Year: I **Credit -4**

Semester : II **Marks 100 (External : 70+Internal: 30)**

Objectives: After the completion of this course the students will be able to

- Understand the concept of educational sociology and sociology of education and its Approaches.
- Know and understand Indian culture and socialization.
- Understand the Social Institutions and Social Movements.
- Understand social change and how education helps in it.

Course Content / Syllabus

Unit-1: Concept of Educational Sociology and Sociology of Education

- Educational Sociology, sociology of education, Relationship of Sociology and Education,
- Social foundations of education
- Approaches to Sociology of Education (Structural Functionalism and Conflict Theory)

Unit-2: Social Institutions and types, Social Movements and theories

- Concept and types of social Institutions and their functions in education (family, school and society)
- Concept of Social Movements and Theories (Relative Deprivation, Resource Mobilization, Political Process Theory and New Social Movement Theory)

Unit -3: Socialization and education , Education and Culture

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- Social Stratification; Concept and educational implications

- Role of education in cultural context, Education and cultural change
- Concept and Meaning of Socialization, Agencies of Socialization; Home, School, Community

Unit-4: Social Change, Social Mobility and National Values

- Social change: Concept and educational Implications, constraints to Social Change in India
- Social Mobility and education.

- National Values as enshrined in the Indian Constitution – Socialism, Secularism, justice, liberty, democracy, equality, freedom with special reference to education

Transactional Strategies: Lectures, discussions, sociometry, observation and report of a social setting

Internal Assessment Strategies :

A total of thirty marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

	Activity	Mode	Weightage of Marks
1	Three Sessional tests will be conducted (Better two will be considered)	Test	20
2	Preparation of an assignment on various topics and it is followed by presentation in the classroom (Group activity) & Practicum	Assignment & Presentation (PPT)	05
3	Percentage of attendance		05
Total Marks			30

Practicum (Assignment on any one of the following :

- Visit a school to study the activities of the school for socialization and prepare a report.
- Socio-Economics study of a class consisting of not less than 25 students and Prepare a report. Prepare a questionnaire on different aspects of socialization and administer it on at least 30 students (homogeneous group) to find out the most influencing aspect. Prepare a report on entire activity.

Suggested Readings:

- *Abrahan F. & Margan, J. (2002). Sociological thought. New Delhi: MC Millian India Ltd.*
- *Banks (2018). An Introduction to Multicultural Education. New Delhi: Pearson.*
- *Gore, M.S. (1984). Education and modernization in India. Jaipur: Rawat Publishers.*
- *Hanighurst, R.(1995). Society and education. Boston: Allyn and Bacon.*
- *Harlambos, M. (1997).Sociology Theme and perceptive. New Delhi: OUP.*
- *Jayapalan N. (2001). Sociological theories. New Delhi: Atlantic Publishers and Distributers.*
- *Kamat, A.R. (1985). Education and social change in India. Bombay: Samaiya Publishing Co.*
- *Lal, R.B. & Palod, S. (2016). Philosophical & Sociological perspectives of education. Meerut: R.Lall Publications*
- *M.H.R.D. (1990). Towards an enlightened and human society. New Delhi: Department of Education.*
- *Mathur, S.S.(1966). Sociological Approach to Indian Education. Agra: Vinod Pustak Mandir.*
- *Maubnhein K. (1962). An introduction to sociology of education. London: Routledge.*
- *Mossish, Loor (1972). Sociology of Education: An Introduction. London: George Lalen and Unwin.*
- *Pandey, K.P. (1983). Perspective in Social Foundations of Education. Gaziabad: Amita Prakashan.*
- *Rao, Shanker, C.N. (2002). Sociology, primary principles. New Delhi: S. Chand & Co.*
- *Saxena, S. (2001). Philosophical and sociological foundation of education. Meerut: Surya Publications.*
- *Singh, A.(2018). Emerging trends in education and future vision. New Delhi: Omega Publications*
- *Singh, B.N. (2005). Education: social change and economic development. Jaipur: RBSA Publishers.*
- *Snedden, D. (2018). A digest of educational sociology. Australia: Trestie Publications*
- *Sodhi, T.S. & Suri, Aruna (1998). Philosophical and sociological foundation of education. Patiala: Bawa Publication.*

Web Resources

- *http://www.beykon.org/dergi/2016/SPRING/2016XI.I.10.A.Sen.pdf*
- *https://www.bmartin.cc/pubs/90psa2/90psa2_Rootes.pdf*
- *https://www.cliffsnotes.com/study-guides/sociology/the-sociological-perspective/three-major-perspectives-in-sociology*
- *https://www.ebscohost.com/uploads/imported/thisTopic-dbTopic-1248.pdf*

https://laulima.hawaii.edu/access/content/user/kfrench/sociology/The%20Three%20Main%20Sociological%20Perspectives.pdf

- *https://study.com/academy/lesson/sociologys-four-theoretical-perspectives-structural-functional-social-conflict-feminism-symbolic-interactionism.html*
- *https://en.wikibooks.org/wiki/Introduction_to_Sociology/Sociological_Theory*

CURRICULUM STUDIES

COURSE CODE:SOE010210C3014

Year:	**I**	**Credit**	**: 4**
Semester:	**II**	**Marks**	**: 100 (External : 70+Internal: 30)**

Objectives : After the completion of this course the students will be able to

- Understand the concept of curriculum and its various types.
- Understand the concept, scope and principles of curriculum development
- Know various models and designs of curriculum development
- Understand how to critically evaluate the curriculum

Course Content / Syllabus

Unit -1: Conceptual Understanding of Curriculum

- Meaning, definition and elements of curriculum
- Types of curriculum and curriculum approaches (Behavioral and Humanistic)
- Determinants of curriculum (Philosophical, Sociological and Psychological)

Unit -2: Curriculum Development

- Nature, purposes, scope and principles of curriculum development
- Types of curriculum-hidden curriculum, integrated curriculum and their relevance
- Structure of teacher education curriculum and its vision in curriculum documents of NCERT and NCTE, UGC

Unit -3: Approaches and Models of Curriculum Design

- Academic/Discipline based model,
- Competency based model
- Social Function/Activities model
- CIPP model

Unit- 4: Models of curriculum evaluation

- Tyler model

- Kirkpatric model
- Scriven Model

Transactional Strategies: Assignments and workshop on curriculum development and evaluation

Internal Assessment Strategies :

A total of thirty marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of Marks
1	Three Sessional tests will be conducted (Better Two will be considered)	Test	20
2	Preparation of an assignment on various topics and it is followed by presentation in the classroom	Assignment & Presentation (PPT)	05
3	Percentage of attendance		05
Total Marks			**30**

Practicum :

- Critical appraisal of present curriculum in secondary schools of Haryana.
- Compare and prepare report on different curriculum prescribed by different boards at secondary level.

Suggested Readings:

- Bob, M. & Patricia, M. (1999). *Curriculum in Context* (Eds.). London: Paul Chapman Publishing.
- Chomsky, N (1986). *Knowledge of Language*. New York: Prager.
- Dewey. J. (1992).*The Child and the Curriculum.* Chicago: University of Chicago Press.
- Education Scotland. (2012). Process of change. Retrieved February 7, 2012, from http://www.ltscotland.org.uk/understandingthecurriculum/whatiscurriculumforexcellence/howwasthecurriculumdeveloped/processofchange/index.asp
- Eurybase. (2009/2010). Organization of the education system in Finland: 2009/2010. Retrievedfromhttp://eacea.ec.europa.eu/education/eurydice/documents/eurybase/eurybase_full_reports/FI_EN.pdf

- Ford, G.W. & Lawrence, P. (1964). *The structure of Knowledge and the curriculum*. Chicago: Rand McNally & Company.
- Jackson, P.W. (1992). *Handbook of Research on Curriculum*(Ed.). NY: Macmillan Publishing Co.
- Kelley, A.B. (1996). *The Curricular Theory and Practice*. US: Harper and Row.
- Kumar K. (1997). *What is worth teaching ?*. New Delhi: Orient Longman.
- Margaret, K.T. (1999). *The open Classroom*. New Delhi: Orient Longman.
- Marsh, C.J. (2009). Key concepts for understanding curriculum. New York: Taylor and Francis.
- McKernan, J. (2008). Curriculum and imagination: Process theory, pedagogy and action research. New York, NY: Routedge.
- MHRD (1993): Learning Without Burden (Yashpal Committee Report). New Delhi. MHRD (2012) Vision of Teacher Education in India Quality and Regularity Perspective (Report of the High-Powered Commission on Teacher Education constituted by Hon'ble Supreme Court of India), Department of School Education & Literacy, MHRD, Government of India, New Delhi
- National CurriculumFramework (2005): New Delhi: NCERT.
- Nirantar (1997). *Developing a curriculum for rural women*. New Delhi: Nirantar.
- Ornstein, A.C & Hunkins, F.P, (2018). *Curriculum: Foundations, Principles and Issues* (7th Ed.). New York: Pearson.
- Ornstein, A. C. (2011). Critical issues in Teaching. In Ornstein, Pajak, and Ornstein (Eds.). *Contemporary issues in Curriculum (5th Ed,)*. Ch.8, p. 75-93. New York: Pearson.
- Ornstein, P. & Ornstein. A.C. (2011). *Contemporary Issues in Curriculum* (5th Ed,). New York: Pearson.
- P.H. Phenix. (1964). *Realms of meaning*. New York: MacGraw-Hill.
- Sarangapani, P. M. (2003). *Constructing school knowledge: An ethnography of learning in an Indian village*. New Delhi: Sage Publication Inc.
- Prema Clarke (2001). *Teaching & learning: The culture of pedagogy*. New Delhi: Sage Publication.
- Slattery, P. (2006). *Curriculum development in the postmodern era* (2nd Ed.). New York: Rutledge.
- Steven H. Cahn (1970). *The philosophical foundation of education*. New York: Harper & Row Publishers.
- Taba, Hilda (1962). *Curriculum development: Theory and practice*. Harcourt: Brace and Wald.
- Yadav, S. (2017). *Curriculum development and school.* Agra: Vinod Pustak Mandir.

M.Ed. Semester-II

TEACHER EDUCATION

COURSE CODE:SOE010211C3014

Year :	**I**	**Credit:**	**4**
Semester:	**II**	**Marks:**	**100 (External : 70+Internal: 30)**

Objectives: After the completion of this course the students will be able to:

- Understand the objectives of teacher education at various levels.
- Familiarize with different modes of pre-service and in-service teacher education.
- Familiarize and evaluate various components of a pre-service and in-service teacher education
- Know the role and functions of agencies of Teacher Education programs.
- Acquaintance with Professional ethics and challenges.

Course Content / Syllabus

Unit-1 : Introduction to Teacher Education

- Meaning, Nature and Scope of Teacher Education; Types of Teacher Education Programs
- Historical Development of Teacher Education (emphasis on Wood Dispatch (1854), Hunter Commission (1882), Sadlar Commission (1917-19), Kothari Education Commission Report (1964-66), National Curriculum Framework (2005) and National Curriculum Frameworks on Teacher Education (2009).

Unit-2 : Structure, Curriculum and Modes of Pre-Service Teacher Education

- Pre- Service Teacher Education: Concept, Nature, Objectives at different levels.
- Components of Pre-Service Teacher Education: Foundation Courses, Subject Specialization and Pedagogy, School based Practicum and Internship.

- Meaning of Reflective Teaching and Strategies.
- Transactional Approaches (for foundation courses) -Collaborative and Experiential learning

Unit-3 : Concept, Structure and Modes of In-service Teacher Education

- In-service Teacher Education; concept, Need, Objectives and areas of Professional development.
- Types of In-Service courses for Teachers; Orientation and refresher Courses, workshops, seminars, Internship and Summer Institutes.
- Structure for In-service Teacher Education; District, State, Regional and National level Agencies and institutions.
- Models of In-service teacher education; Modes- Face to face, Distance Mode, Online and Mixed Mode.
- Models- Induction, Cascade, and School based.

Unit-4 : Agencies of Teacher Education, Teaching as a Profession and its future

- Agencies of Teacher Education and their functions: DIET, SCERT, NCERT, NCTE and UGC.
- Profession and Professionalism, Teaching as a profession, Professional ethics of a teachers
- Challenges of teacher education in 21st Century.

Transactional Strategies: Study of Reports of in-service teacher education programs organized by various agencies of education in India, workshop on development and conduct of an in-service teacher education program

Internal Assessment Strategies :

A total of thirty marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of Marks
1	Three Sessional tests will be conducted (Better two will be considered)	Test	20
2	Preparation of an assignment on various topics and it is followed by presentation in the classroom	Assignment & Presentation (PPT)	05
3	Percentage of attendance		05

Total Marks	**30**

Practicum (Assignment on any one of the following) :

- Prepare a report on role of various central and state agencies in Teacher Education.
- Visit of DIET/SCERT/NCERT and prepare a note on its functions.
- Attend any in-service teacher education program and write a report on it.

Write a detail essay on conditions of Pre-Service and In-Service Teacher Education in your state.

Suggested Readings:

- Batra, P. (2014). Problematizing teacher education practice in India: Developing a research agenda. *Education as Change, 18*, S5- S18.
- Behari, A. & Menon, S. (2009). National Curriculum Framework 2005: Implications for Teacher Education. In M. A. Siddiqui, A. K. Sharma & G. L. Arora (Eds), *Teacher Education: Reflections towards Policy Formulation*. New Delhi: NCTE.
- Cochran Smith, M. (2008). Handbook of research on teacher education: Enduring questions in changing contexts (3rd ed.). New York: Routledge.
- Devedi, Prabhakar (1980). *Teacher Education- A Resource Book*. New Delhi: NCERT.
- http://www.ejtn.eu/Documents/Collaborative_experiential_learning.pdf
- Govt. of India (1966). *Education and National Development*, New Delhi. Report of Education Commission.
- Govt. of India (1986). *National Policy of Education.* New Delhi: Ministry of Human Resource and Development.
- Govt. of India (1992). *Report of C.A.B.E.*. New Delhi: Committee Department of Education.
- Giroux, H. (1988). Teachers as Intellectuals .USA: Bergin & Garvey Publishers Inc.
- Giroux, H. (2012). Paulo Freire and the Pedagogy of Bearing Witness in Education and the Crisis of Public Values. New York: Peter Lang Publication.
- https://www.infodev.org/infodev-files/resource/InfodevDocuments_294.pdf
- Kohli, V.K. (1992). *Teacher education in India.* Ambala: Vivek Publishers.
- Kumar, K. (2005). *Political agenda of education: A study of colonialist and nationalist ideas* (2nd ed.). New Delhi: Sage Publications.
- Linda Darling Hammond & John Bransford (ed) (2005): Preparing Teachers for aChanging World. Jossey-Bass, San Francisco.
- Mangla, S. (2000). *Teacher Education: Trends and Strategies*. New Delhi: Radha Publishing.
- MHRD (1985). *Report of the National Commission on Teachers* (1983-85). New Delhi: Govt. of India.
- MHRD (1986). *National Policy of Education and Program of Action*. New Delhi: Govt. of India.
- MHRD (1992). *Program of Action*. New Delhi: Department of Education, Govt. of India.
- MHRD (2012). *Vision of teacher education in India: quality and regulatory perspective*. New Delhi: Govt. of India.1 & 3.

- NCERT (2006). *Position paper on teacher education*. New Delhi: National Council for Educational Research and Training.
- NCTE (2009). *National curriculum framework for teacher education: Towards preparing professional and humane teachers*. New Delhi: NCTE.
- Null, J. W. & Bohan, C.H. (2005). Teacher education curriculum: what, how and why. *Curriculum and teaching dialogue* pp.39-49.
- https://opentextbc.ca/teachinginadigitalage/chapter/4-4-models-for-teaching-by-doing/
- Pollard, A. (2002). *Reflective teaching: Effective and evidence informed professional practice*. London: Continuum.
- Purnima, K. (2018). *Teacher education in 21st century. ND:* APH Publishing Corporation.
- *Sharma (2017). Teaching effectiveness. ND:* APH Publishing Corporation.
- Sharma, R.A. (2005). *Teacher Education*. Meerut: Loyal Book Depot.
- Sharma, S.P.(2005). *Teacher Education*. New Delhi: Kanishka Publishers.
- Shrimali .K.L (1954). *Better teacher education*. New Delhi: Ministry of Education Govt. of India.
- Sikula, J., Buttery, T. J. & Guyton, E. (Ed.) (1996). *Handbook of Research on Teacher Education*. USA: Macmillan.
- http://tanvirdhaka.blogspot.com/2011/01/models-of-teacher-education.html
- Udyaveer (2006). *Modern Teacher Training*. New Delhi: Anmol Publications.

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ACADEMIC WRITING

COURSE CODE:SOE010212C0022

Year :	**I**	**Credit :**	**2**
Semester:	**II**	**Marks :**	**50**

Objectives: After the completion of this course the students will be able to:

- Draft and write applications, professional letters and e- mail etc.
- Differentiate various kinds of informal and formal writings and writing styles
- Reflect on essential requirements of academic writing and distinguish a good academic writing from others.
- Identify and analyse academic sources and referring those sources of learning.
- Cite and acknowledge various sources of learning.
- Edit one's own and peer's writing work

Academic Writing Skill

- Difference between an article, essay and a research paper
- Difference between a seminar, conference, symposium, colloquium and a workshop
- Write a paragraph/essay and an article on any topic of your interest and edit your own writing. Prepare a report on it
- Write a professional report of any workshop and seminar
- Analyze a Newspaper and its contents
- Critically analyze any two research paper on the topic of your interest and write a report on it.
- Book Review: Any Text Book/Novel or Book

Transactional and Evaluation Strategies

Mode of transaction of this course will be a Discussions, workshop, Project and Assignment.

- The student will maintain a file of the record related to activities performed.
- Peer Review of various writing work done by students

Internal Assessment Strategies :

A total of fifteen marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of Marks
1	Two Sessional tests will be conducted (Better one will be considered)	Test	10
2	Preparation of an assignment on various topics and it is followed by presentation in the classroom	Assignment & Presentation (PPT)	2.5
3	Percentage of attendance		2.5
Total Marks			**15**

References:

- Academic English: Writing Specialization (2019). Retrieved from https:// www.coursera.org/specializations/academic-english.
- Bailey. S. (2015). *Academic writing: A Handbook for International Students.* London and New York: Rutledge.
- Eric Hayot (2014). T*he Elements of Academic Style: Writing for the Humanities.* US: Columbia University Press.
- Labaree, R.V. (2009). Organizing your social sciences research paper: Academic writing style. Retrieved from libguides.usc.edu/writing guide/academic writing
- Murray, N. (2012). *Writing essays in english language and linguistics*. UK: Cambridge University Press.
- Olivia, V. (2019). An introduction to academic writing: Characteristics and common mistakes to avoid. Retrieved from https:// www.thoughtco.com /what-is -academic-writing-1689052

M.Ed. Semester-II

INTERNSHIP AND FIELD ENGAGEMENT

COURSE CODE:SOE010213C0022

Year :	**I**	**Credit:**	**2**
Semester:	**II**	**Marks:**	**50**

Objectives : Internship program is aimed at providing practice of the concepts and skills learned in the theoretical papers in the field of education such as schools, teacher education institutes apart from where the scholar is studying.

Methodology:

Internship should be organized in such a way that involves all students' engagement for a continuous period of 28 days in a school/ teacher education institute for field experience associated with the specialization that students choose. Since the M.Ed. Programme structure proposed in this report is associated with schools and teacher education institutions (and other sites) based activities, the M.Ed. Calendar should be developed keeping in mind the schedule of these institutions.

Plan of Activities:

Sr. No.	Phase	Name of Activity	Duration
1	Part -One	Pre Internship training (Each student is required to deliver at least one lecture to B.Ed. students of School of Education)	01 Week
2	Part - Two	Observation of Internship Activities of B.Ed. students	01 Week
3	Part-Three	Attachment in Teacher Training Institution.	02 Week

Total Duration of Internship	**04 Week**

Part-A:

This phase is preparatory in nature aimed at providing students with necessary guidance and skills enriching their field based engagement. In this phase each M.Ed. student is required to take a minimum of One Pedagogy paper class in the B.Ed. course of the Department.

Part-B:

Each student is required to observe the internship activities of B.Ed. students attached to a high school / higher secondary school for school based internship programme. The students are required to observe at-least five lessons of B.Ed. students and should maintain a separate observation record. The students are also expected to familiarize himself/herself with the school practices including school administration, organization of curricular and co-curricular activities.

Part-C:

Each M.Ed. student is required to take a minimum of 06 classes in B.Ed. college/DIET either in core papers or in optional papers or both taken together under the close mentorship of teacher educators of the institution selected for internship related activities. The students are also expected to familiarize himself/herself with the college practices including administration, organization of curricular and co-curricular activities. The students are also expected to collectively organize at least one activity. The suggestive list are as follows:

- Teaching learning material making competition
- Drawing / poster making competition on themes related to education
- Organize an innovative teaching learning material making workshop.
- Debate/ Essay writing/ Slogan competition.
- Nukkad Natak
- Cleanliness Drive

- Workshop on Micro-teaching Skills

Internal & External Assessment Strategies :

The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of Marks (Internal)	Mode	Weightage of Marks (External)
1	Part-A	Presentation of Report (PPT)	10	Viva-Voce	10
2	Part-B	Presentation of Report (PPT)	10	Presentation of Report	10
	Part-C (One)	Presentation of Report (PPT)	7.5		
3	Percentage of attendance		2.5		
Total Marks			**30**		**20**

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DISSERTATION-II

COURSE CODE:SOE010214C0022

Year: I **Credit : 2**

Semester: II **Marks: 50**

Objectives : After the completion of the dissertation work , students will be able to:

- Understand the process of conducting research.
- Know various statistical techniques used for analysing the data.
- Critically analyse the related literature
- Contribute to new knowledge.
- Learn the process of publishing research output
- Suggest desirable changes in their area of study.

Transactional Strategies : In this part of Dissertation each student is required to undertake the following activities under the guidance of their respective supervisors:

- Preparation of detailed synopsis
- Review of related literature
- Classroom Seminar/Colloquium

Internal and External Assessment Strategies:

The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Weightage of Marks (Internal)	Activity	Weightage of Marks (External)
1	Preparation of detailed synopsis	10	Presentation	10
2	Presentation	10	Viva-Voce	10

3	Viva-Voce	10		

M. Ed. Semester- IV **Session 2018-20**

S. No.	Course Credit	Course Code	Course Title	Total Marks	Credits (Theory/ Tutorial/ Practicum)	Practical	Class Teaching / Field Based Activity Hours per week	Internal Assessment Weightage	External Assessment Weightage
25	4	SOE010426C3014	Recent Trends in Teacher Education	100	4	0	4	30%	70%
26	4	**Elective Course-I (Choose any one)**		100	4	0	4	30%	70%
		SOE010427DCEC3014	Educational Technology						
		SOE010428DCEC3014	Education of the Disadvantaged Groups						
		SOE010429DCEC3014	Personality Development and Communication Skills						
		SOE010430DCEC3014	Educational Measurement and Evaluation						
27	4	**Specialization of course -Elective-II (Choose any one)**		100	4	0	4	30%	70%
		SOE010431DCEC3014	Educational Policy, Economics and Planning at Elementary Level						
		SOE010432DCEC3014	Educational Policy, Economics and Planning at Secondary Level						
28	4	**Specialization of course -Elective-III (Choose any one)**		100	4	0	4	30%	70%
		SOE010433DCEC3014	Educational Management, Administration & Leadership at Elementary Level						

		SOE010434DCEC3014	Educational Management, Administration & Leadership at Secondary Level						
29	4	**Elective Course-IV (Choose any one)**		100	4	0	4	30%	70%
		SOE010435DCEC3014	Value Education						
		SOE010436DCEC3014	Distance and Open Learning						
		SOE010437DCEC3014	Comparative Education						
		SOE010438DCEC3014	Guidance and Counselling						
30	4	SOE010439C3014	Dissertation	100	0	4	8	60%	40%
Total	**24**			**600**	**20**	**4**	**28**		

- **1 credit Theory/ Tutorial/ Practicum=16 hours in a semester**
- **1 credit=25 Marks**
- Viva-Voce exam for course 30 will be conducted by the external examiner at the end of the semester
- **Generic Elective Courses offered by M.Ed. to other department**
  - **Introduction to Counselling (4 Credits)**
  - **Inclusive Education (4 Credits)**

RECENT TRENDS IN TEACHER EDUCATION

COURSE CODE:SOE010425C3014

Year : II **Credit : 4**

Semester : IV **Marks : 100(Theory: 70 + Internal: 30)**

Objectives: On the completion of this course the students will -

- toacquaint with various policies on teacher education and their implications.
- familiarized with the concept of professional competencies and ways to develop it.
- Discuss and appreciate various issues related to teacher education
- Identify gaps in research on teachers and teacher education
- Appreciate the need and importance of in-service teacher education for professional development of teachers
- Identify and discuss the current problems in the field of teacher education.

Teaching Scheme				L+T+P	Examination Scheme		
Unit	**Lecture (L)**	**Tutorial (T)**	**Practicum (P)**		**Internal Assessment**	**External Assessment**	**Total Marks**
I	12	4	0	16	30 Marks	70 Marks	100
II	12	2	1	15			
III	12	3	2	17			
IV	12	3	1	16			
Total	48	12	04	64	30	70	100

Course Content / Syllabus

Unit -1 : Teacher Education Post-Independence

- National Commission on Teachers (1999)
- National Curriculum Framework (2005) and National Curriculum Framework for Teacher Education (2009)
- Justice Verma Committee Report (2012) and NCTE Regulations (2014)
- Draft of National Education Policy (2019)

Unit -2 :Understanding knowledge Base and Models of Teacher Education

- Understanding knowledge base of teacher education from the view point of Schulman, Deng and Luke &Habermas
- Meaning of Reflective Teaching and Strategies for promotion of Reflective Teaching
- Models of Teacher Education- Behaviouristic, Competency based and Inquiry oriented Teacher Education

Unit -3 : Teacher Competency and Accountability

- Personal and contextual factors affecting teacher development
- Competency based teacher education and Core competencies of teacher educators
- Roles and accountability of teacher educators and characteristics of effective teacher educators

Unit -4 : Emerging Issues in Teacher Education

- Digital Initiatives:MOOCsand Online faculty development programmes
- Maintaining standards in teacher education: Admission policies and procedures, recruitment of teacher educators and service conditions of teacher educators.
- Innovative practices/approaches in teacher education: Constructivist and ICT Integration approach
- Qualityenhancement for professional of teacher education and research priorities in teacher education

Transactional Strategies: The course would be transacted through participatory approach including lecture cum group discussion; self-study, seminar/presentations by students etc.

Evaluation strategies:

Identify gaps in research on teacher education, design a program for teachers' professional development, organize a workshop on teacher's personality development and communication skills.

S. No.	Activity	Mode	Weightage of Marks
1	Two Sessional tests will be conducted	Test	20
2	Preparation of an assignment on various topics and it is followed by presentation in the classroom.	Assignment & Presentation (PPT)	05
3	Percentage of attendance		05
Total Marks			**30**

Suggested Readings:

- Arora, G.L. (2002). *Teachers and their teaching.* Delhi: Ravi Books.
- Chaurasia G. (2000).*Teacher education and professional organizations.* Delhi: Authors Press.
- Chauhan, S.S. (2018). *Professional ethics and accountability in education*. New Delhi: APH Publications
- Day, C. & J. Sachs, J. (2004). *International handbook on the continuing professional development of teachers.* Maidenhead: Brinks Open University Press.
- Dillon J. & Maguire, M. (1997). *Becoming a teacher: Issues in secondary teaching*. Buckingham: Open University Press.
- Dunking, Michael, J. (1987). *The international encyclopedia of teaching and teacher education*. Oxford: Pergamon Press.

- Elahi, N. (1997). *Teacher's education in India*. New Delhi: APH Publishing Corporation
- Kundu, C.L. (1998). *Indian year book on teacher education.* New Delhi: Sterling Publishers Privatization Ltd.
- McNergney, Robert F. and Herbert, Joanne M. (2001). *Foundations of education*: *The challenge of professional practice*. Boston: Allyn and Bacon.
- Misra, K.S. (1993). *Teachers and their education*. Ambala Cantt.: The Associated Publishers.
- Mohammad Miyan (2004). *Professionalization of teacher education*. New Delhi: Mittal Publications.
- Murray, Frank B. (1996). *Teacher educator's handbook: Building a base for preparation of teachers.* San Francisco: Jossey-Bass Publishers.
- Sen.S. (2018). *Teachers in 21st century characteristics and role performance*. New Delhi: APH Publishing House
- National Council for Teacher Education (1998). NCTE Document. New Delhi: Member Secretary, NCTE.
- NCTE. (1998). *Policy perspective in teacher education-Critique and documentation.* New Delhi: NCTE.
- Reimers, E.V. (2003). *Teacher professional development: An international review of the literature*. UNESCO Paris: IIEP.
- Siddiqui, M.A. (1993). *In-service education of teachers.* New Delhi: NCERT.
- Wasnik (2018). *Skilling training: A complete guide for trainers and learners.* New Delhi: APH Publications

EDUCATIONAL TECHNOLOGY

COURSE CODE:SOE010426DCEC3014

Year : II **Credit : 4**

Semester: IV **Marks :100 (Theory: 70, Internal: 30)**

Objectives: On completion of this course the students will be able to:

- Explain the concept, nature, forms and historical development of educational technology.
- Describe significance and stages of development of Instructional Design.
- Apply the models of Instructional design
- Develop E- portfolios and E- assessment tools
- Elaborate the significance, applications and current trends in educational technology.
- Critically analyse the uses of E-Learning, M-Learning, Blended learning, and Virtual Learning Communities.
- Adopt ethical issues for e-learner and e-teacher.

Teaching Scheme				L+T+P	Examination Scheme		
Unit	**Lecture (L)**	**Tutorial (T)**	**Practicum (P)**		**Internal Assessment**	**External Assessment**	**Total Marks**
I	12	4	0	16	30	70	100
II	12	2	1	15			
III	12	3	2	17			
IV	12	3	1	16			
Total	**48**	**12**	**04**	**64**	**30**	**70**	**100**

Course Content / Syllabus

Unit-1 : Educational Technology: An Overview

- Educational Technology: Concept, nature, components (hardware & software), scope, forms and historical development
- Application of educational technology in Formal, Non-formal (open and distance learning), Informal and Inclusive Education systems
- Systems Approach to education

Unit-2 : Instructional Objectives and Instructional Design

- Overview of Behaviourist, Cognitive, and Constructivist theories and their implications to instructional design
- Instructional Design: Concept, significance, process and stages of development of Instructional Design.
- Overview of Models of Instructional Design- ADDIE, ASSURE, DICK and CAREY Model.
- Gagne's Nine events of instruction and Nine Elements of Constructivist Instructional Design

Unit-3 : Emerging Trends in e-learning

- Concept of e- learning and approaches to e-learning (Offline, Online, Synchronous, Asynchronous, Blended Learning, Mobile learning).
- Recent Digital Initiatives- e-PG Pathshala, MOOCs, SWAYAM, Open Educational Resources (OERs).
- Social learning- Concept, use of web 2.0 tools for learning, social networking sites, blogs, chats, video conferencing, discussion forum.
- Quality of e-learning and ethical issues for e-learner & teacher

Unit-4 : ICT in Education

- ICT in Education: Concept, significance and applications of ICT tools
- E-portfolios and Online Assessment- concept and development.
- E- inclusion- Concept, Assistive technology in e-learning.
- Major issues and concerns in use of ICT in education.

Transactional Strategies

Lecture-cum- demonstration and hands on experiences on the production of audio-visual material; observation of various modes of training programmes by the different organizations / institutions and analyzing the different instructional designs.

Internal Assessment Strategies :

A total of thirty marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of Marks
1	Two Sessional tests will be conducted	Test	20
2	Preparation of an assignment on various topics and it is followed by presentation in the classroom	Assignment & Presentation (PPT)	05
3	Percentage of attendance		05
Total Marks			**30**

Suggested Readings:

- Apple, M. (1991): The new technology: Is it part of the solution or part of the problem in education? Computers in the Schools, 8(2), 59-81.
- Ahuja, M. (2007). *Mastery learning- A practical approach*. Meerut: Vivek Publishers.
- Behera, S.C. (1991). *Educational television programmes*. New Delhi: Deep and Deep Publications.
- Bhushan, A & Ahuja, M. (1992). *Educational technology*. Meerut: Vikas Publication.
- Bloom, B.S. (1972). *Taxonomy of educational objectives. A hand book- I (cognitive domain).* New York: DevidMokeay Campo.
- Das, R.C. (1993). *Educational technology– A basic text*. New Delhi: Sterling Publishers Pvt. Ltd.
- Flanders, Ned A. (1978). *Analyzing teacher behavior.* London: Addison Wesley Publishing Co.
- Goel, S. (2019). *ICT waves in education: challenges for 21st century teachers.* New Delhi; Atlantic publishers
- Haas, K.B. and Packer, H.Q. (1990). *Preparation and use of audio visual aids.* New York: Prentice Hall.
- Jena, S.S. (2018). *ICT in Education.* New Delhi: Shipra Publication.
- Joyce, B. Weil, M. & Showers, B. (1985). *Models of Teaching.* New Delhi: Prentice Hall of India Pvt. Ltd.
- Kumar, K.L. (2008). *Educational technology.* New Delhi: New Age International Pvt. Ltd. Publishers.
- Kumar, N. and Chandiram, J. (1967). *Educational television in India*, New Delhi: Arya Book Depot.
- Ledford, B.R. &Sleeman, P.J. (2001). Instructional Design: A Primer. Greenwich: Information Age Publishing.
- Mohanty, J. (2007). *Modern trends in educational technology*. Hyderabad: Neelkamal Publications.
- Mukhopadhyay, M. (1990). *Educational technology challenging issues.* New Delhi*:* Sterling Publishers Pvt. Ltd.
- Mukhopadhyay, M. (1990). *Educational technology.* New Delhi: Shipra Publication.

●Narang, V.K. (2015). *Modern trends in educational technology*. New Delhi: Astha Publishers.
●Pandey, S. (2018). A textbook of educational technology.New Delhi: Pearson
●Pathak, R. P. (2007): ShaikshikProdyogikiKeinNayeAayaam. Delhi: S. M. Books.
●Ray, P.K.S. (2012). *Educational technology*. Delhi: Dominant Publishers.
●Roy, R. (2011). *Educational technology in changing society*. Delhi: Shipra Publication.
●Saxena, P. K. (2008): ShaikshikProdyogikievamKakshaPrabandh. Delhi: KK Publications.
●Sharma, S. & Gupta, N. (2007): ShaishikTaknikiAvamKakshaKakshPrabandhan. Jaipur: ShyamPrakashan.

EDUCATION OF THE DISADVANTAGED GROUPS

COURSE CODE:SOE010427DCEC3014

Year :II **Credit : 4**

Semester: IV **Marks: 100 (Theory: 70, Internal: 30)**

Objectives : After the completion of this course, the students will be able to

- Understand the policy perspectives related to education of socially disadvantaged section in India,
- Analyze the status of education of the socially disadvantaged children in the country,
- Develop knowledge and skill to address social group inequality in school and, society,
- Understand the schemes and programmes of education of socially disadvantaged group,
- Identify research priorities and conduct researches in the area of education of socially disadvantaged groups.

Teaching Scheme				L+T+P	Examination Scheme		
Unit	**Lecture (L)**	**Tutorial (T)**	**Practicum (P)**		**Internal Assessment**	**External Assessment**	**Total Marks**
I	12	4	0	16	30	70	100
II	12	2	1	15			
III	12	3	2	17			
IV	12	3	1	16			
Total	**48**	**12**	**04**	**64**	**30**	**70**	**100**

Content / Syllabus

Unit-1 : Conceptual Understating of Education of the Disadvantaged Groups

- Disadvantaged Sections of India: Scheduled Castes, Scheduled Tribes, Educationally backward minorities, girls, children from rural and slum children.
- Constitutional Provisions for social group equity and education of socially disadvantaged sections of India
- National Policy on Education (1986), POA (1992), and National Curriculum Framework, 2005.
- International initiatives: Dakar Framework of Action (2000) and Millennium Development Goals (2000).

Unit-2 : Status of School Education of Disadvantaged Section in India

- Status of enrolment at elementary and secondary stage with reference to social group equity, different access in habituations, class, caste, tribe and other disadvantages groups.
- Achievement of disadvantages children.
- Education of gifted and underachievers of disadvantaged group
- Remedial measures for disadvantaged section of society

Unit-3 : Problems in education of disadvantaged section and addressing inequality

- Problems in education of socially disadvantaged children.
- Multicultural education, multi-grade teaching in rural context.
- Organization and management of school to address socio-cultural diversity, bias in textbooks, hidden curriculum (teacher attitude, expectations).
- Teaching learning process and support materials, addressing language issues, curriculum and curricular activities for meeting diverse needs of children- socio-cultural and linguistic.

Unit-4 : Research priorities in the area of education of disadvantaged section

- Evaluation of centrally sponsored schemes of education of SCs, STs, girls and Minorities.
- Status study of education of SCs, STs, girls, and Minorities and other marginalized groups.
- Study of teaching learning practices and social inclusion.
- Case studies on innovative institutional practices-NVS, KGVBs, Madrassas etc.

Transactional Strategies: Discussions, debates, research trends analysis, case studies

Internal Assessment Strategies :

A total of thirty marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of Marks
1	Two Sessional tests will be conducted	Test	20
2	Preparation of an assignment on various topics and it is followed by presentation in the classroom .	Assignment & Presentation (PPT)	05
3	Percentage of attendance		05
Total Marks			**30**

Practicum:

- Preparation of status report on education (elementary/secondary) of socially disadvantaged groups in a district/state region.
- Evaluation of text books from the social group equality perspective.
- Critical analysis of NCF, 2005 (Focus group report).
- Field visit to residential/ ashram schools and minorities institutions and preparation of report.
- Identification of research topic in the area of education of socially disadvantaged sections and preparation of proposals.
- Documentation/preparation of report on institutions/school practicing innovations.
- Analysis of status report on girls' education-access, enrolment etc from selected educational statistics (MHRD), Report cards (NUEPA) and All India Survey Report (NCERT).
- Evaluation/Analysis of school textbooks from gender perspective.
- Visit to state Project office/DPO, discussion with members of girls' education cell and preparation of report

Suggested Readings:

- Bank, B.J. (2007).*Gender and education: An encyclopedia*. Westport, London: Praeger.
- Bhatt, B.D. & Sharma, S.R. (1992). *Women's education and social development*. Delhi: Kanishka.
- Fredman, S. (2018). *Human rights and equality in education: comparative perspectives on right to education of minorities and disadvantaged groups*. Germany: Lambart publications.
- Government of India (1986). *National policy on education.* New Delhi. Department of Education.
- Government of India (1992). *Programme of action*, New Delhi: MHRD, Department of Education.

- Mehrotra, S. (2006). Child malnutrition and gender discrimination in south Asia. *Economics and political weekly*.
- NCERT (2005): *National curriculum framework.* New Delhi: NCERT.
- NCERT (2006). *National focus group report on education of SCs and STs*. New Delhi: NCERT.
- Ramchandran, V. (1998). *Girls and women education: policies and implementation mechanism*. Case study: India, Bangkok, UNESCO.
- Scot Danforth & Terry J.S. (2005). *Engaging Troubling Students-A Constructivist Approach*.
- Sharma, M.C. & Sharma, A.K. (2003). *Discrimination based on sex, caste, religion and disability: Addressing through educational interventions; A handbook for sensitizing teacher and teacher educators*. New Delhi: NCTE & NHRC.
- ShehVimal P (1982). The *educational problems of scheduled caste and scheduled tribe school and college students in India*
- Subramanyam, R. (2003): Gender equality in education: Definitions and measurements. *International Journal of Educational Development*.
- Thamasseri, I. (2018). *Elementary education of socially disadvantaged groups*. Germany: Lambert Publications

PROFESSIONAL DEVELOPMENT AND COMMUNICATION SKILLS

COURSE CODE:SOE010428DCEC3014

Year :II **Credit : 4**

Semester: IV **Marks: 100 (Theory: 70, Internal: 30)**

Objectives : After the completion of this course, the students will-

- Practice all communication skills
- Learn the art of effective communication
- Understand the 7C'S of effective communication
- Understand the 4C'S of effective teaching
- Be aware about the various techniques of stress management

Course Content / Syllabus

Unit-1 : Communication Skills

- Listening
- Speaking
- Reading
- Presenting
- Writing

Unit-2 : Art of Communication

- Importance of Effective Communication
- 7Cs of Effective Communication
- Verbal and Non-verbal Communication
- Group Discussion
- Body language and Gestures

Unit-3 : Personality Development

- ●Development of Self: Physical development, Spiritual development, Emotional development, Social development, Moral Development
- ●Time Management
- ●Basic Personality Traits: Values, Beliefs, Interactions, Experience and Environmental Influence
- ●Personality and Career choice (Teaching)
- ●SWOT analysis

Unit-4 : Development of Teaching Proficiency

- ●Ethics of teaching as a profession
- ●Mental Health and Adjustment
- ●Preparation for facing interviews and Mock Interview
- ●Simulation
- ●Managing Anxiety and Conflict
- ●4Cs of Effective Teaching: Choice, Critical Thinking, Creativity and Care

Transactional Strategies : Discussions, debates, research trends analysis, case studies

Internal Assessment Strategies :

A total of thirty marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

Practicum:

- ●Case study of one student with adjustment problems
- ●Studying the personality characteristics of some successful individuals.
- ●Visiting institutes dealing with mental health problems of individuals, interaction with faculty and preparation of report
- ●Project work on identified themes.
- ●Visit to schools and classroom located in rural/urban/tribal contexts- exposure, observation, critical analysis of events and presentation before a small group

Suggested Readings:

- ●Atkinson, Richard C., et.al (1983). *Introduction to Psychology*. New York: Harcourt Brace Joranovich Inc.,
- ●Bandura, A. (1977). *Social learning theory*. Cliff. N. J: Prentice Hall.
- ●Bickhard, M.H. & Christopher, J.C. (1994). *The influence of early experience on human personality development*. *New ideas in psychology*.

- Bickhard, M.H. (1992). How does the environment affect the person? In L.T. Winegar, J. Valsiner (Eds.). *Children's development within social contexts*: *Meta theory and theory*. Erlbaum.
- Bourne, L.E. (1985). *Psychology: Its principles and meaning*. New York: Holt, Rinehart and Winston.
- Brown, R. (2000). Group *processes: Dynamics within and between groups*. (2nd Ed). New York: Blackwell Publishers.
- Cole, R. (1997). *Themoral intelligence of the children*. London: Bloomsbury.
- Cruickshank, W.M. (1980). *Psychology of exceptional children and youth.* N.J.: Prentice Hall.
- Dutt, Suresh (1997). *Society and education*. New Delhi: Anmol Publications.
- Erickson, E.H. (1968). *Identity, youth and crisis*. New York: W.W. Norton.
- Klausmeier, H. (1985). *Educational psychology*. New York: Harper and Row, Publication.
- Singh, K.K. (2018). The art of public speaking. New Delhi: APH Publishing House.
- Usha, R. (2018). *Life skills*. New Delhi: Sankalp Publications

MEASUREMENT & EVALUATION

COURSE CODE:SOE010429DCEC3014

Year : II **Credit: 4**

Semester: IV **Marks: 100 (Theory : 70, Internal : 30)**

Objective : On the completion of this course the students will be able to:

- Understand the meaning, concept, trends and functions of measurement & evaluation.
- Relates educational objectives with evaluation.
- Plan, prepare, administer researcher made test.
- Use appropriate statistical concepts for analysis of test scores.
- Get acquainted with various examination reforms and alternative assessment.
- Get develop ability to apply theoretical knowledge gained through the course.
- Familiarize the students with theoretical background of educational measurement and evaluation.
- Develop competencies in standardizing different types of measuring instrument.

				L+T+P			
	Lecture (L)	**Tutorial (T)**	**Practicum (P)**		**Internal Assessment**	**External Assessment**	**Total Marks**
I	12	4	0	16	30	70	100
II	12	2	1	15			
III	12	3	2	17			
IV	12	3	1	16			
Total	**48**	**12**	**04**	**64**	**30**	**70**	**100**

Course Content / Syllabus

Unit–1 : Basics of Measurement and Evaluation

- Concept, meaning, types and importance of measurement and evaluation.
- Differentiation between measurement and evaluation
- Role of measurement and evaluation in education
- Scales of measurement –ordinal, nominal, interval and ratio

Unit-2 : Characteristics of Good Measuring Instruments

- Validity: concept and types, factors affecting validity of test
- Reliability: concept and types, factors affecting reliability of test
- Objectivity: concept and techniques of maintain objectivity
- Norms: Meaning and significance, developmental-norms, age-norms, grade-norms

Unit-3 : Test Construction &Strandardization

- Norms and Criterion referenced test: Concept, difference and applications.
- Teacher made and standardized test: Concept, difference and applications.
- Steps involved in the standardization of an achievement test.
- Basic requirement in preparing a test, test specification and table of specifications, planning about constructing a test- blue print.
- Preparation of norms for the final test, preparation of manual and reproductions of test.

Unit-4 : Recent trends in Evaluation

- Grading, marking and credit system.
- Alternative assessment strategies – rubric, performance based assessment.
- Question Bank.
- Continuous and comprehensive evaluation.
- Moderation and revaluation.
- Online assessment tools.

Transactional Strategies Lectures, Assignments, Projects, Power Point Presentations, Survey, Test Construction.

Internal Assessment Strategies :

A total of thirty marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

Practicum:

1.Prepare an evaluation tool for any of the variables related to cognitive domain.

2. Prepare an evaluation tool for any of the variables related to affective domain.

3.Make a survey on problems in continuous and comprehensive Evaluation.

Suggested Readings:

- Allen, M.J. &Yen,W.M.(2004). *Introduction to measurement theory*. Illinois: Waveland Press, INC.
- Anastasi, A. & Urbina, S. (1997). *Psychological testing*. (7th ed.). New Delhi: PHI Learning Pvt. Ltd.
- Anastasi, A. (1976). *Psychological testing*. (4th ed.). New York: McMillan Publishing Company.
- Cronbach, L.J. (1970). *Essentials of psychological testing*. (3rd. ed.). New York: Harper & Row Publishers.
- Garrett, H. E. (2005). *Statistics in psychology and education.* New Delhi: Paragon International Publishers.
- Guba,E.G. &Lincon,Y.S.(1989). *Fourth generation evaluation*. London:Sage Publications.
- Guilford, J. P. &Fruchter, B. (1978*). Fundamental statistics in psychology and education*. New York: McGraw Hill.
- Guilford, J.P. (1979). *Psychometric methods.* New Delhi: Tata McGraw-Hill Publishing Company Ltd.
- Gupta, S. P. & Gupta, A. (2004). *Statistical methods*. New Delhi: Sultan Chand and Sons.
- Hinkle, D.E., Wiersma, W. &Jurs, S.G. (1994). *Applied statistics for behavioral sciences.* Boston: Houghton Mifflin Company.
- Kanvaria, V. K. (2011). *Developing a standardized achievement test*. Germany: LAP.
- Kault, D. (2003). *Statistics with common sense*. Westport: Greenwood Press.
- Mangal, S. K. (2009). *Statistics in psychology and education*. New Delhi: PHI Learning Pvt. Ltd.
- Marshall, H. & Addison, W. (1971). *Classroom test construction.* London: Publishing Company
- Murphy (2018). *Psychological testing: principle and applications.* New Delhi: Pearson Educations
- Nunnally,J.C. (1981*). Psychometric theory (2nd ed.).* New Delhi: Tata McGraw-Hill Publishing Company Ltd.
- Popham, J.W. &Sirotnik,K.A. (1996). *Understanding statistics in education*. Illinois: F.E.PeacockPublishers,Inc.
- Rathore (2019). *Anusandhanvidhievamtaknik.* New Delhi: Sankalpprakashan.
- Robson, C. (1994). *Experiment, design and statistics in psychology (3rd ed.).* England: Penguin Books.
- Sani, F. &Todman, J. (2006). *Experimental design and statistics for psychology*: *A first course.* MA, USA: Blackwell Publishing.
- Sethi, M.K. (2018). *Measurement and evaluation in education.* New Delhi: APH Publications
- Sharma, R. A. (2004). *Essentials of scientific behavioural research*. Meerut: Surya Publication.
- Singh, A. K. (1992). *Research methods in psychology, sociology and education*. Delhi: MotilalBanarasidas.
- Singh, A. K. (2001). *Test, measurements and research methods in behavioural sciences*. Delhi: Bharati Bhawan.
- Singh, K. (2007). *Quantitative social research methods.* Los Angeles: SAGE Publications.
- Thorndike, R. L. (1951). Reliability. In E. F. Lindquist (Ed), *Educational measurement*. Washington DC: American Council on Education.
- Wiersma, W. (1991). *Research methods in education.* Boston: Allyn and Bacon.

(Elective-II)

(At any one of the school stages–Elementary and Secondary)

EDUCATIONAL POLICY, ECONOMICS AND PLANNING AT ELEMENTARY LEVEL

COURSE CODE:SOE010430DCEC3014

Year **II** **Credit:4**

Semester **IV** **Marks :100 (Theory: 70, Internal: 30)**

Objectives : On the completion of this course the students will be able to:

- Know and appreciate the policies related to education in India at central and state level
- Understand the financing of education in India.
- Understand the concept and nature of educational planning.
- Define education as an investment
- Understand issues pertaining to the issues of quality at secondary level.
- Critically analyze some of governmental plans and policies of education.

Teaching Scheme				L+T+P	Examination Scheme		
Unit	**Lecture (L)**	**Tutorial (T)**	**Practicum (P)**		**Internal Assessment**	**External Assessment**	**Total Marks**
I	12	4	0	16	30	70	100
II	12	2	1	15			
III	12	3	2	17			
IV	12	3	1	16			
Total	**48**	**12**	**04**	**64**	**30**	**70**	**100**

Course Content / Syllabus

Unit-1 : Educational Policy at Elementary Level

- ●Concept and Types of Educational Policy- State level Institutional ,Short –term, Long- term at Elementary Level
- ●Need and Importance of Educational Policy at Elementary Level
- ●Linkage between national Educational Policy and State Development Policy at Elementary Level
- ●Constitutional Provisions for Education and significance
- ●Government Initiatives: NPE (1986); POA (1992); DPEP (1994); SSA; RTE; LokJumbish Projects, ShikshaKarni Projects, Kasturba Gandhi ShikshaYojana, Sharde Hostels)

Unit -2 : Economics of Education

- ●Meaning, Significance and Scope
- ●Education as Consumption
- ●Education as investment and Cost Analysis in Education
- ●Education and Economic Development
- ●Financing of Education in India: Center- State relationship, mobilization of resources
- ●Financial Contribution of community to school.
- ●Central and State Level Expansion on Elementary Education w.r.t. SC, ST, Minority Groups and Girls
- ●Models of development based on free market economies

Unit -3 : Educational Planning at Elementary Level

- ●Concept, needs and goals of Educational Planning
- ●Principles of Educational Planning.
- ●Approaches of Educational Planning
- ●Educational Planning in India since independence at elementary stage

Unit- 4 : Inspection, Supervision and Monitoring

- ●Monitoring and Supervision at Elementary Level
- ●Research and Evaluation of specific schemes like Mid-Day Meals, establishments of Village Education Committee and different incentive schemes and achievement levels
- ●Quality concern at elementary Education and assessment of quality
- ●Factors affecting quality and literacy achievement

Transactional Strategies: Discussions, debates, analysis of plans and policies, suggestions for improvement

Internal Assessment Strategies :

A total of thirty marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of Marks
1	Two Sessional tests will be conducted (Better one will be considered)	Test	10
2	Preparation of an assignment on various topics and it is followed by presentation in the classroom (Group activity) & Practicum	Assignment & Presentation (PPT)	05+10
3	Percentage of attendance		05
Total Marks			**30**

Practicum :

- Preparation of research design on a theme, discipline and RTE act. 2009
- Visit a school for reporting on access, and enrolment/ retentions of girl students and give suggestions for improvement.
- Critical Analysis of Research Studies on programs and policies related to elementary education (Survey a Govt school nearby and Prepare of report on critically analyze the SSA and Mid May Meal programme)
- Any other assignment/ project given by the Institute.
- Annual Status of Education Report (ASER); Achievement surveys; PROBE; Pratichi Report on Education; Global Monitoring; Report of UNESCO

Suggested Readings:

- Althusser, L. (1971). Ideology and ideological state apparatuses, in L. Althusser (eds), *Lenin and philosophy and other essays*. London: New Left Review.
- Apple, M. (2004). *Ideology and curriculum*. New York: Routledge Falmer.
- Banerjee, S. Cole, E. Duflo and L. Linden. (2003). *Improving the quality of education in India: Evidence from three randomized experiments*. NBER mimeo.
- Becker, Gary (1993). Nobel Lecture: The Economic Way of Looking at Behavior. *Journal of Political Economy* 101, pp. 385-409.
- Becker, Gary S. (1964). Human capital (eds).*Investment in Human Capital: Effects on Earning*. NBER: New York.
- Belfield. Clive. (2000). *Economic principles for education.* Edward Elgar.
- Blaug, Mark. (1970). Where are we now in Economics of Education?. *Economics of Education Review.*
- Blaug, Mark. (1972). *An introduction to economics of education*. London: Penguin.
- Caplin, B. (2018). *The case against education: why education is waste of time and money*. USA: Princeton university press.
- Chattopadhyay, S. (2012) .*Education and Economics*. London: Oxford University Press.
- Clarke, S. (2005). The neoliberal theory of society, In A. Saad-Filho& D. Johnston (eds.) *Neoliberalism: A Critical Reader*. Ann Arbour, MI: Pluto Press, 50-59.
- Coombs, P.H. (1969). *What is Educational Planning?*. Paris: International Institute of Educational Planning (IIEP).
- Fereeti, R. (2018). *Teachers, teaching and reforms; perspectives on reforms to improve educational outcomes.* India: Routledge.
- Giroux, H. (2005). *The terror of neoliberalism: cultural politics and the promise of democracy*. Boulder: Paradigm Publishers.
- H. Levin.(1987). Education as a Public and Private Good. *Journal of Policy Analysis and Management*, Summer.
- Harvey, D. (2005). *A brief history of neoliberalism*. New York: Oxford University Press.
- Hayek, F. A. (1979). *Law, legislation and liberty: a new statement of the liberal principles and political economy*; *the political order of a free people*,(3rd ed.).. London: Routledge.
- Naik, J.P.(1975) .*Equality, quality and quantit: The elusive triangle in Indian education.*Bombay:Allied.
- Oreopoulos, P.,&Kjell S. (2011). Priceless: the non-pecuniary benefits of schooling. *Journal of Economic Perspectives* 25(1), 159-184.
- Padmanabhan,C.B.(1986). *Economics of Educational planning in India*. New Delhi: Arya Book Depot.
- Palley, T.I. (2005). From Keynisianism to Neoliberalism: shifting paradigms in economics,' in A. Saad-Filho& D. Johnston (eds.,) *Neoliberalism: A critical Reader*. Ann Arbour, MI: Pluto Press.
- Parkash S. (1999). *Educational planning*. New Delhi: Gyan Publishing House.
- Prakash, V. &K. B. (2008). *Perspectives on Education and Development*. Delhi: NUEPA.
- Psacharapoulos, George. (1996). *The profitability of investment in education: Concepts and methods, human development and operations policy*, working Paper No. 15280. Washington, DC: The World Bank.
- Psacharopolous, G. (1985). *Planning of education: Where do we stand*?. Washington: World Bank.
- Saad-Filho, A. & D. Johnston. (eds.) (2005). *Neoliberalism: A critical reader*. Ann Arbour, MI: Pluto Press.

- Schultz, T.W. (1961). Investment in Human Capital, *American Economic Review*.
- Sen, Amartya and Dreze. (1996). *India: Economic development and social opportunity*. Oxford: University Press.
- Tilak, Jandhyala B. G. (2002). Education and Poverty. *Journal of Human Development (New York: UNDP), 3 (2),* 191-207.
- Tilak, Jandhyala B.G. (2006). Economics of Human Capital in India. *Indian Economic Journal,* 3(20).
- Tilak, Jandhyala B.G. (2008). "Education, Growth and Development, Keynote Address". 91st IEA Annual Conference 705 (19).

EDUCATIONAL POLICY, ECONOMICS AND PLANNING (SECONDARY LEVEL)

COURSE CODE:SOE010431DCEC3014

Year: II **Credit : 4**

Semester: IV **Marks: 100 (Theory: 70, Internal: 30)**

Objectives : On the completion of this course the students will be able to:

- Know and appreciate the policies related to education in India at central and state level
- Understand the financing of education in India.
- Understand the concept and nature of educational planning.
- Define education as an investment
- Understand issues pertaining to the issues of quality at secondary level.
- Critically analyze some of governmental plans and policies of education analyze some of governmental plans and policies of education

Teaching Scheme				L+T+P	Examination Scheme		
Unit	**Lecture (L)**	**Tutorial (T)**	**Practicum (P)**		**Internal Assessment**	**External Assessment**	**Total Marks**
I	12	4	0	16	30	70	100
II	12	2	1	15			
III	12	3	2	17			
IV	12	3	1	16			
Total	**48**	**12**	**04**	**64**	**30**	**70**	**100**

Course Content / Syllabus

Unit-1: Educational Policy at Secondary Level

- ●Concept and Types of educational policies- National, State Level Institutional ,Short–Term and Long- Term at Secondary Level
- ●Need and Importance of Educational Policy at Secondary Level
- ●Linkage between Educational Policy and National Development Policy at Secondary Level
- ●Constitutional Provisions for Education and significance
- ●Govt initiatives (DraftNEPNPE, 1986; POS, 1992; DPEP, 1994; SSA; RMSA; RTE; Lok-Jumbish Projects, ShikshaKarni Projects, Kasturba Gandhi ShikshaYojana, Sharde Hostels)

Unit-2 : Economics of Education: Meaning, aims, scope and significance

- ●Education as Consumption and Investment
- ●Cost Benefit Analysis Vs Cost Effective Analysis in Education.
- ●Education and Economic Development; Signalling theory Vs Human Capital theory
- ●Financing of Education in India: Center- National Relationship, Mobilization of Resources.

Unit-3 : Educational Planning and Five-Year Plan in Education at Secondary Level

- ●Concept, needs, goals and principles of Educational Planning at Secondary Level
- ●Main features of five year plans with special reference to education, impact of five year plans
- ●Perspective planning at central, state and local levels: concepts of macro, and micro level planning.
- ●Priorities to be given at central and state levels.
- ●Perspective plan for education in the 12th Five Year plan.
- ●Recent initiatives in educational planning.

Unit-4 : Educational Expenditure

- ●Availability of educational statistics at central, state and district levels.
- ●Educational Expenditure and its Source of finance Government grants (central, state, local) Tuition fee, Taxes Endowment Donation and gifts, Foreign aids.
- ●School Budgetary and accounting procedure. Central grants, state grants and allocation of grants by U.G.C. Grant-in-aid policy in India and the states. Monitoring of expenditure control and utilization of funds, accounting and auditing. Central-State Relationship in Financing of Education.
- ●Financial estimates by Tapas Mazumdar Committee (GoI, 1998)

Transactional Strategies: Discussions, debates, analysis of plans and policies, suggestions for improvement

Tasks and Assignment : Any one of the Following:

- Estimation of opportunity cost on a sample of working school age children.
- Preparation of a blue-print for expenditure control in a school
- Preparation of a school budget
- Any other given assignment by the teacher educators

Suggested Readings :

- Becker, Gary (1993). Nobel Lecture: The Economic Way of Looking at Behavior. *Journal of Political Economy* 101, pp. 385-409.
- Becker, Gary S. (1964). Human capital (eds).*Investment in Human Capital: Effects on Earning*. NBER: New York.
- Belfield. Clive. (2000). *Economic principles for education.* Edward Elgar.
- Blaug, Mark. (1970). Where are we now in Economics of Education?. *Economics of Education Review.*
- Blaug, Mark. (1972). *An introduction to economics of education*. London: Penguin.
- Caplin, B. (2018). *The case against education: why education is waste of time and money*. USA: Princeton university press.
- Chattopadhyay, Saumen. (2012) .*Education and Economics*. London: Oxford University Press.
- Clarke, S. (2005). The neoliberal theory of society,in A. Saad-Filho& D. Johnston (eds.) *Neoliberalism: A Critical Reader*. Ann Arbour, MI: Pluto Press, 50-59.
- Coombs, P.H. (1969). *What is Educational Planning?*. Paris: International Institute of Educational Planning (IIEP).
- Fereeti, R. (2018). *Teachers, teaching and reforms; perspectives on reforms to improve educational outcomes*. India: Routledge.
- Giroux, H. (2005). *The terror of neoliberalism: cultural politics and the promise of democracy*. Boulder: Paradigm Publishers.
- H. Levin.(1987). Education as a Public and Private Good. *Journal of Policy Analysis and Management*. Summer.
- Harvey, D. (2005). *A brief history of neoliberalism*. New York: Oxford University Press.
- Hayek, F. A. (1979). *Law, legislation and liberty: a new statement of the liberal principles and political economy*; *the political order of a free people*,(3rd ed.).. London: Routledge.
- Naik, J.P.(1975) .*Equality, quality and quantity: The elusive triangle in Indian education*.Bombay:Allied.
- Oreopoulos, P.,&Kjell S. (2011). Priceless: the non-pecuniary benefits of schooling.*Journal of Economic Perspectives* 25(1), 159-184.
- Padmanabhan,C.B.(1986). *Economics of Educational planning in India*. New Delhi: Arya Book Depot.
- Palley, T.I. (2005). From Keynisianism to Neoliberalism: shifting paradigms in economics,' in A. Saad-Filho& D. Johnston (eds.,) *Neoliberalism: A critical Reader*. Ann Arbour, MI: Pluto Press.

- Parkash S. (1999). *Educational planning*. New Delhi: Gyan Publishing House.
- Prakash, V. &K. B. (2008). *Perspectives on Education and Development*. Delhi: NUEPA.
- Psacharapoulos, George.(1996). *The profitability of investment in education: Concepts and methods, human development and operations policy,* working Paper No. 15280. Washington, DC: The World Bank.
- Psacharopolous, G. (1985). *Planning of education: Where do we stand*?. Washington: World Bank.
- Saad-Filho, A. & D. Johnston. (eds.) (2005). *Neoliberalism: A critical reader*. Ann Arbour, MI: Pluto Press.
- Schultz, T.W. (1961). Investment in Human Capital, *American Economic Review*.
- Sen, Amartya and Dreze. (1996). *India: Economic development and social opportunity*. Oxford: University Press.
- Tilak, Jandhyala B. G. (2002). Education and Poverty. *Journal of Human Development (New York: UNDP)*,3 (2), 191-207.
- Tilak, Jandhyala B.G. (2006). Economics of Human Capital in India.*Indian Economic Journal*, 3(20).
- Tilak, Jandhyala B.G. (2008). "Education, Growth and Development, Keynote Address". 91stIEA Annual Conference 705 (19).

(Elective-III)

(At any one of the school stages–Elementary and Secondary)

M.Ed. Semester-IV

EDUCATIONAL MANAGEMENT, ADMINISTRATION & LEADERSHIP AT ELEMENTARY LEVEL

COURSE CODE:SOE010432DCEC3014

Year : II **Credit: 4**

Semester: IV **Marks: 100 (Theory: 70, Internal: 30)**

Objectives : On the completion of this course the students will be able to:

- Know and understand the concepts of educational management, administration and leadership
- Understand various styles of leadership
- Develop some leadership qualities in themselves
- Understand educational administration in India at local, state and central level

Course Content / Syllabus

Unit- 1: Educational Management & Educational Planning and Supervision

- Concept, Needs, Objectives and Scope of Educational Management
- Approaches and Principles of Educational Management
- Concept of Educational Management Human Beings as inputs, Process & Product inputs
- Educational Manager: Functions, Roles, Skills&Competencies
- Managerial Creativity, Managerial Ethics
- Role and functions of Headmaster/ Principal/ Teacher: Basic functions of Administration, Planning, Organizing, Directing and Controlling in School Management & Administration
- Meaning, Nature and Approaches of Educational Planning
- Institutional Planning and Perspective Planning at Elementary Level
- Meaning , Nature and Scope of Educational Supervision
- Educational Supervision as : Service Activity, Process, Functions, Planning, Organizing and Implementing Supervisory Programmes at Elementary Level

Unit-2 : Introduction to Educational Administration & Communication in Educational Management &Administration

- Concept, Scope, Principles of Educational Administration
- Educational Administration Approaches and Emerging Trends
- Development of Modern Concept of Educational Administration from 1900 to Present Day: Taylorism, Administration as a Process, Human Relations Approach to Administration.
- Types of Communication
- Methods and Devices of Communication
- Selection of Appropriate Communication Strategies
- Barriers of Communication

Unit-3 : Leadership in Education & Theories of Leadership

- Concept of Leadership, Leader and Manager,
- Leadership Traits and Skills
- Functions and Styles of Leadership
- Measurements of Leadership
- Approaches of Leadership: Trait, Transformational, Transactional, Value -Based, Cultural, Psychodynamic, Charismatic, Community based and Social.
- Blake and Mouton's Managerial Grid, Fiedler's Contingency Model, Tridimensional Model
- Hersey and Blanchard's Situational Theory

Unit-4 : Educational Administrative Bodies in India at State & Local Level : Role & Functions

- State Bodies: State Council of Educational Research & Training (SCERT),
- State Institute of Education Technology (SIET),
- District Institute of Education& Training (DIET),
- Institute of Advance Studies in Education(IASE)
- Local Bodies: Municipal Councils/Corporation, ZillaParishads, Panchayats.

Transactional Strategies: Lectures, field visits to various educational institutions, case studies, assignments, discussions

Internal Assessment Strategies :

A total of thirty marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

Practicum :

- Compile articles from newspapers, magazines, and internet discussing present policies and operational strategies of central & state Govt. for Elementary Education. Prepare a report of entire activity.

- Review research on educational management or management of elementary schools
- Evaluation of management of SSA activities in a district.
- Collect data from relevant sources on student & teachers ratio at elementary level. Is it according to provision of RTE act? Prepare a report on it.
- Examine the effectiveness of any one programme run by central Govt. for elementary students. Present the report in a classroom seminar.
- Analyze quality & quantity of Mid-day meal in any rural school.

Suggested Readings:

- Altrichter, H. & Elliot, J. (2000). *Images of educational change*. *England*: Buckingham Open University.
- Bhattacharya, D.K. (2001). *Managing people*, New Delhi: Excel Books.
- Bush T., L. B. (2003). The *principles and practice of educational management*, (Eds.). New Delhi: Sage Publications.
- Bush, T. (2013). *Educational management, administration & leadership*. New Delhi: Sage Publications.
- Chauhan,S.(2012). *Educational management*. New Delhi: Pearson Publication.
- Dawra, S. (2003). *Management thought*. New Delhi: Mohit Publication.
- Dhillan, S.S. (2019). *Educational administration: management and leadership*. New Delhi: GyanGeeta Publications.
- Harigopal, K. (2001). *Management of organizational change*. New Delhi: Response Books.
- Lunenburg, F.C. & Orenstein, A.C. (2012).*Educational administration- Concept & practices*. Canada, USA: Wadsworth, Cengage Learning Solutions.
- Luthans, F. (2005). *Organisational behavior*. New York: McGraw-Hills Inc.
- McCaffery, P. (2004). *The higher education manager's handbook*. New York and Canada: Routledge.
- Nair, S.R. (2004).*Organizational behaviour- Texts and cases*. Mumbai: Himalaya Publication.
- Nangia, S.B. (2009). *Educational administration.* New Delhi: APH Publishing Corporation Publishing House.
- Northouse, P. (2018). *Leadership theory and practice.* New Delhi: Sage Publications.
- Owens, R.C. (2001). *Organizational behaviour in education*, Boston: Allyn and Bacon.
- Prasad, A. (2007). *University education administration and the law*. New Delhi: Deep& Deep Publications.
- Punia,V. (2004). *Managerial skills in educational administration*. New Delhi: Deep& Deep Publications Pvt. Ltd.
- Rita, S. (2004). *Assessment and accreditation in higher education*. New Delhi: Association of Indian Universities.
- Sayeed, O. B. and Pareek, U. (2000). *Actualizing managerial roles*. New Delhi: Tata McGraw-Hill Publishing Company Limited.
- Sharma, R. A. (2009). *Educational administration &management.* Meerut: R Lal Book Depot.
- Sindhu, I.S. (2012). *Educational administration & management.* New Delhi: Pearson Publications
- Srivastav, A.K. (2009). *Educational administration policy, planning and survey*. New Delhi: Kunal Books.

EDUCATIONAL MANAGEMENT, ADMINISTRATION AND LEADERSHIP AT SECONDARY LEVEL

COURSE CODE:SOE010433DCEC3014

Year: II **Credit : 4**

Semester: IV **Marks: 100 (Theory: 70, Internal: 30)**

Objectives : On the completion of this course the students will be able to:

- Know and understand the concepts of educational management, administration and leadership
- Understand various styles of leadership
- Develop some leadership qualities in themselves
- Understand educational administration in India at local, state and central level

Teaching Scheme					Examination Scheme		
Unit	**Lecture (L)**	**Tutorial (T)**	**Practicum (P)**	**Total Lecture**	**Internal Assessment**	**External Assessment**	**Total Marks**
I	12	4	0	16	**30**	**70**	**100**
II	12	2	1	15			
III	12	3	2	17			
IV	12	3	1	16			
Total	**48**	**12**	**04**	**64**	**30**	**70**	**100**

Course Content / Syllabus

Unit-1 : Educational Management, Educational Planning & Supervision

- Concept, Needs, Objectives & Scope of Educational Management
- Approaches and Principles of Educational Management
- Concept of Educational Management Human Beings as inputs, Process & Product inputs
- Educational Manager: Functions, Roles, Skills& Competencies
- Managerial Creativity, Managerial Ethics
- Role and functions of Headmaster/ Principal/ Teacher: Basic functions of Administration, Planning, Organizing, Directing and Controlling in School Management and Administration
- Meaning, Nature and Approaches of Educational Planning
- Institutional Planning and Perspective Planning at secondary level
- Meaning , Nature and Scope of Educational Supervision
- Educational Supervision as : Service Activity, Process, Functions, Planning, Organizing and Implementing Supervisory Programmes at secondary level.

Unit-2 : Introduction to Educational Administration & Communication in Educational Management and Administration

- Concept, Scope, Principles of Educational Administration
- Educational Administration Approaches and Emerging Trends
- Development of Modern Concept of Educational Administration from 1900 to Present Day: Taylorism, Administration as a Process, Human Relations Approach to Administration.
- Types of Communication
- Methods and Devices of Communication
- Selection of Appropriate Communication Strategies
- Barriers of Communication

Unit-3 : Leadership in Education & Theories of Leadership

- Concept of Leadership, Leader and Manager,
- Leadership Traits and Skills
- Functions and Styles of Leadership
- Measurements of Leadership
- Approaches of Leadership: Trait, Transformational, Transactional, Value -Based, Cultural, Psychodynamic, Charismatic, Community based and Social.
- Blake and Mouton’s Managerial Grid, Fiedler’s Contingency Model, Tridimensional Model

- Hersey and Blanchard's Situational Theory.

Unit- 4 : Educational Administrative Bodies in India at National Level: Role & Functions

- University Grant Commission (UGC)
- National Council of Educational Research and Training (NCERT)
- National University of Educational Planning and Administration (NUEPA)
- Ministry of Human Resource Development (MHRD)
- National Council for Teacher Education (NCTE)
- Central Advisory Board For Education (CABE)

Transactional Strategies : Lectures, field visits to various educational institutions, case studies, assignments, discussions

Internal Assessment Strategies :

A total of thirty marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of Marks
1	Two Sessional tests will be conducted (Better one will be considered)	Test	10
2	Preparation of an assignment on various topics and it is followed by presentation in the classroom (Group activity) & Practicum	Assignment & Presentation (PPT)	05+10
3	Percentage of attendance		05
Total Marks			**30**

Practicum :

- Compile articles from newspapers, magazines, and internet discussing present policies and operational strategies of central and state Govt. for secondary education. Prepare a report of entire activity.
- Review research on educational management or management of secondary schools which are used in other countries but not in India.
- Evaluation of management of SSA activities in a district.
- Collect data from relevant sources on student & teachers ratio for secondary level school of your district. Is it according to provision of RTE act? Prepare a report and send it to authorities.
- Examine the effectiveness of any one programme run by central Govt. for secondary students. Present the report in a classroom seminar.

Suggested Readings:

- Altrichter, H. & Elliot, J. (2000). *Images of educational change*. England: Buckingham Open University.
- Bhattacharya, D.K. (2001). *Managing people*. New Delhi: Excel Books.
- Bush T., L. B. (2003). The *principles and practice of educational management*, (Eds.). New Delhi: Sage Publications.
- Bush, T. (2013). *Educational management, administration & leadership*. New Delhi: Sage Publications.
- Chauhan, S.(2012). *Educational management.*New Delhi: Pearson Publication.
- Dhillan, S.S. (2019). *Educational administration: management and leadership*. New Delhi: GyanGeeta Publications.
- Dawra, S. (2003). *Management thought*, New Delhi: Mohit Publication.
- Harigopal, K. (2001). *Management of organizational change*. New Delhi: Response Books.
- Lunenburg,F.C. & Orenstein, A.C. (2012).*Educational administration- Concept & practices*. Canada, USA: Wadsworth, Cengage Learning Solutions.
- Luthans, F. (2005). *Organizational behavior*. New York: McGraw-Hills Inc.
- McCaffery, P. (2004). *The higher education manager's handbook*. New York and Canada: Routledge.
- Nair, S.R. (2004).*Organizational behaviour-Texts and cases*. Mumbai: Himalaya Publication.
- Nangia, S.B. (2009). *Educational administration*. New Delhi: APH Publishing Corporation Publishing House.
- Northouse, P. (2018). *Leadership theory and practice*. New Delhi: Sage Publications.
- Owens, R.C. (2001). *Organizational behaviour in education*, Boston: Allyn and Bacon.
- Prasad, A. (2007). *University education administration and the law*. New Delhi: Deep & Deep Publications.
- Punia,V. (2004). *Managerial skills in educational administration*. New Delhi: Deep & Deep Publications Pvt. Ltd.
- Rita, S. (2004). *Assessment and accreditation in higher education*. New Delhi: Association of Indian Universities.
- Sayeed, O. B. and Pareek, U. (2000). *Actualizing managerial roles*. New Delhi: Tata McGraw-Hill Publishing Company Limited.
- Sharma, R. A. (2009). *Educational administration &management*. Meerut: R Lall Book Depot.
- Sindhu, I.S. (2012). *Educational administration & management*. New Delhi: Pearson Publications
- Srivastav, A.K. (2009). *Educational administration policy, planning and survey*. New Delhi: Kunal Books.

(Elective-IV)

(At any one of the school stages–Elementary and Secondary)

M.Ed. Semester-IV

VALUE EDUCATION

COURSE CODE:SOE010434DCEC3014

Year **II** **Credit** **4**

Semester **IV** **Marks** **100 (Theory: 70, Internal: 30)**

Objectives : On the completion of this course the students will be able to:

- Understand importance and need for value education
- Appreciate various activities organized by the schools to develop desirable values in the students
- Conduct various talks and programs for value education
- Gain knowledge of various models for value education
- Understand role of teachers for inculcation of values in the students

Unit	Lecture (L)	Tutorial (T)	Practicum (P)	L+T+P	Internal Assessment	External Assessment	Total Marks
I	12	4	0	16	30	70	100
II	12	2	1	15			
III	12	3	2	17			
IV	12	3	1	16			

Total	**48**	**12**	**04**	**64**	**30**	**70**	**100**

Course Content / Syllabus

Unit-1 : Value Education & Need

- Concept of Values and Value Education; Historical Background of Value Education
- Aims and Objectives of Value Education
- Need, Importance and Role of Value Education in the present emerging Indian society
- Classification of Values

Unit-2 : Theories & Model of Value Development

- Theories of Value Development: Psycho-analytic, Learning theory – social learning Cognitive development , Piaget and Kohlberg
- Models of Value Development : Value Analysis, Rationale Building, Social Action , The Consideration Model

Unit-3 : Types of Values & Profession

- Constitutional or national values - Democracy, socialism, secularism, equality, justice, liberty, freedom and fraternity.
- Professional Values-Knowledge thirst, sincerity in profession, regularity, punctuality and faith.
- Religious Values - Tolerance, wisdom, character.
- Modernity vs. Value crisis, Issues and challenges
- Value orientation of Teacher education curricula in India

Unit-4 : Value & Character Building

- Concept of Morality and Moral Judgment
- Aspects of Moral Education – Liberal, Social, Religious, Psychological
- Development of Moral Character And Attitude
- Role of Media in developing values and morality

TransactionalStrategies :Discussions, lectures, debates, workshops, conduct of various speeches and talks etc.

Internal Assessment Strategies :

A total of thirty marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of Marks
1	Two Sessional tests will be conducted (Better one will be considered)	Test	10
2	Preparation of an assignment on various topics and it is followed by presentation in the classroom (Group activity) & Practicum	Assignment & Presentation (PPT)	05+10
3	Percentage of attendance		05
Total Marks			**30**

Practicum :

- Organize any programme (Morning Assembly, Celebration of Important Days etc.) for school children for inculcating different values.
- Create a programme for awareness among the school/college students about value education.
- Study of the comparison of values among students of one urban school with one rural school.
- Making a project report on role of formal and informal agencies for inculcating values among children

Selected Readings:

- Goel (2018). Value education and spiritual elevation. New Delhi: Khandelwal publications.
- Guber, F.C.(1963). *Aspects of value*. Phildelphia: University of Pennsylvania Press.
- Josta,H.R.(1991).*Spiritual values and education*. Ambala Cantt: Associated Publishers.
- Jamal, N. (2018). *Baudhikevamnaitikshiksha*. New Delhi: DPS Publishers.
- Kluckhokhn, C.(1961). *The Study of Values*. In D.N. Barett (ed), *value in America*. Norte Dame: University of Norte Dame Press.
- Kothari D.S. Education and Values, Report of the orientation course-cum-workshop on Education in Human Values. New Delhi.
- Malhotra P.L. *Education, Social Values and Social Work-the Task for the New Generation*, New Delhi: NCERT.

- Morris, C. (1956). *Varieties of human values*. Chicago: University of Chicago press.
- Mukerjee, R. K. (1969). *Social structure of values*. New Delhi: S. Chand and Co.
- NCERT (1992). *Education in values*, New Delhi.
- Rokeach, M. (1978). *The nature of human values*. New York: Jessy Brass.
- Ruhela, S.P. (1986). *Human values and education*. New Delhi: Sterling Publications,
- Sprod, T. (1998). *Philosophical discussion in moral education, the community of ethical inquiry: Routledge International Studies in the Philosophy of Education*. New York: Routledge.
- Venkataiah. N. (1998). *Value Education*. Delhi: APH Publishing.

DISTANCE & OPEN LEARNING

COURSE CODE:SOE010435DCEC3014

Year **II** **Credit** **4**

Semester **IV** **Marks** **100 (Theory : 70, Internal : 30)**

Objective : To enable the pupil teachers to :

- Understand the philosophy of open and distance learning.
- Understand the distance and open modes of learning
- Differentiate different modes of learning.
- Understand the need and importance of distance and open learning.
- Understand the role of mass media and various other technologies in distance and open learning.
- Understand the procedure of self-instructional material development and student support services for open and distance learning.
- Develop the understanding of management of open and distance learning.
- Know various evaluation techniques in distance education.

	Lecture (L)	**Tutorial (T)**	**Practicum (P)**	**L+T+P**	**Internal Assessment**	**External Assessment**	**Total Marks**
I	12	4	0	16	30	70	100
II	12	2	1	15			
III	12	3	2	17			
IV	12	3	1	16			
Total	**48**	**12**	**04**	**64**	**30**	**70**	**100**

Course Content / Syllabus

Unit – I : Growth & Philosophy of Distance Education

- Concept, meaning, nature of distance and open learning.
- Growth and philosophy of distance education and open learning – International and National.
- Need, importance, scope, advantages and limitations of distance and open learning.
- Correspondence and open education: Development, objectives and modes.
- Param Inter University: An Indian Perspective of open learning.

Unit – II : Communication aspects of Distance & Open Learning

- Communication Technology for Distance Education.
- Audio Technology, Video Technology, satellite based communication system, Mobile Technology.
- Role of Mass Media.
- Computer Technology.

Unit –III : Instructional Process of Distance & Open Learning

- Research for distance education.
- Curriculum Development for distance education.
- Distance Education: Economic perspective.
- Staff training and Development in Distance Education, Professional Training in Distance Education.

Unit – IV : Evaluation Procedure in Distance Education

- Learner Support Services.
- Management of Distance Education.
- Recommendations of NPE (1986) and NKC (2005) regarding distance education and recent developments in Distance Education.
- Evaluation techniques in Distance Education.
- Comprehensive and continuous evaluation in Distance Education & Open Learning.

Transactional Strategies Web based learning, Lectures, Debates, Assignments, Projects, Power Point Presentations, and Demonstration.

Internal Assessment Strategies :

A total of thirty marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of Marks
1	Two Sessional tests will be conducted (Better one will be considered)	Test	10
2	Preparation of an assignment on various topics and it is followed by presentation in the classroom (Group activity) & Practicum	Assignment & Presentation (PPT)	05+10
3	Percentage of attendance		05
Total Marks			**30**

Practicum :

·Review of a book on distance education.
·Assignment on the need and relevance of distance education system, in India at elementary/secondary/higher levels.
·Review of CIET/UGC/IGNOU TV Programmes, and preparation of report.

Suggested Readings:

●Crompton, H. (2018). *Mobile learning and higher education: challenges and context.* India: Routledge

●Criscito Pat (2004). *Barron's guide to distance learning.* London: Barron's E. Publisher.

●Garrison, D. R. (1989).*Understanding distance education framework for future*. Chapman and Hall, London: Routledge.

●Holmberg, B. (1985).*Status and structure of distance education* (2nd Ed.). Lector Publishing.

●IGNOU (1988). *Growth and philosophy of distance education, (*Block 1, 2 & 3*).* New Delhi: IGNOU.

●Mohanty, J. (2001). *Studies in distance education*. New Delhi: Deep & Deep Publication.

●Nandra, I.S. (2010): *Distance and open education*; Patiala: Century Publication.

●Pandey, U. (2017). Optimizing open and distance learning in higher education institutions. New Delhi. IPI Global

●Prarad D. Chandra (2007). *Distance education*. New Delhi: K.S.K. Publishers.

●Race, Phil (1994).*The open learning handbook*, Second Edition. London: Kogan Page.

●Rathore, H.C.S. (1993).*Management of distance education in India*. New Delhi: Ashish Publishing House.

●Sharma S. (2002).*Modern methods of lifelong learning and distance education*. Meerut: International Publishing House

●Sharma, R.A. (2008). *Distance Education*. Meerut: International Publishing House.

COMPARATIVE EDUCATION

COURSE CODE:SOE010436DCEC3014

Year **II** **Credit** **4**

Semester **IV** **Marks** **100 (Theory: 70, Internal: 30)**

Objectives : On the completion of this course the students will be able to:

- Acquaint the student with concept, scope, Need, History and development of Comparative Education.
- Acquaint the student with the methods of Comparative Education
- Study the Problems of Education in World perspective.
- Understand the factors and forces and forces influencing practice of Education.
- Create awareness and develop understanding of system of Education in developing and developed countries.
- Develop the sense of international understanding.
- Acquaint the students with the current trends and problems in world in world Education.

	Lecture (L)	**Tutorial (T)**	**Practicum (P)**	**L+T+P**	**Internal Assessment**	**External Assessment**	**Total Marks**
I	12	4	0	16	30	70	100
II	12	2	1	15			
III	12	3	2	17			
IV	12	3	1	16			
Total	**48**	**12**	**04**	**64**	**30**	**70**	**100**

Course Content / Syllabus

Unit -1 : Conceptual Understanding of Comparative Education & Historical Development

- ·Concept, scope and aims of Comparative Education.
- ·Principles behind analysing educational system of different countries
- ·Historical development of comparative Education
- ·Approaches to Comparative Education: Historical, Philosophical, Sociological and Problem Approach
- ·Factors influencing Education system in any country

Unit-2 : Elementary Education and secondary Education (U.K., U.S.A. and India)

- •Salient Features of Pre-Primary Education in UK, USA and India
- •Salient Features of Elementary Education in UK, USA and India
  - •Aims, content, Methods of Instructions and Evaluation strategies
  - •Concept of Universalization of Elementary Education in India and its implementation, SSA and DPEP
- •Salient Features of Secondary Education in UK, USA and India
  - •Aims, Content, Methods of Instructions and Evaluation strategies
  - •RastriyaMadyamikSikhsha Abhiyan
- •Educational Administration in UK, USA and India

Unit-3 : Higher Education and Distance Education and Continuing Education

- •Salient Features of Higher Education in UK, USA and India
  - •Aims, content, Methods of Instructions and Evaluation strategies
  - •RUSA
- •Salient Features of Distance and continuing Education in UK, Australia and India
  - •Aims, Content, Methods of Instructions, Modes of Communication and Evaluation strategies
  - •Its Need and Various Concepts

Unit 4 : Teacher Education and Vocationalization of Education

- •Salient Features of Teacher Education in Finland and India
  - •Aims, content, Methods of Instructions and Evaluation strategies
- •Salient Features of Vocationalization of Education in UK, USA and India

- Meaning and Needs of Vocationalization of Education
- Aims, Content, Methods of Instructions and Evaluation strategies
- Research trends in Comparative Education

Transactional Strategies **Internal Assessment Strategies :**

A total of thirty marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of Marks
1	Two Sessional tests will be conducted (Better one will be considered)	Test	10
2	Preparation of an assignment on various topics and it is followed by presentation in the classroom (Group activity) & Practicum	Assignment & Presentation (PPT)	05+10
3	Percentage of attendance		05
Total Marks			**30**

- Develop comparative chart in elementary school with help of their teachers, students and community.
- Critical appraisal/analysis of existing syllabi and textbooks on elementary level at national levels.
- Make a study of the evaluation practices in selected schools critical analysis of facilities provided in elementary levels.

Suggested Readings:

- Cramer, J.F. & Browne, C.S. (1965). *Contemporary education: A comprehensive study of national system.* New York: Brace and world, Inc.

●Humbersone, T.H. (2018). A short history of education in great britain and ireland. England: Forgotten books.
●Karen M., Kathy B. &Hayhoe R. (2017). *Comparative and International Education, (2nd Eds.).* Canada: Canadian Scholars' Press
●Naseema, C. &Jibin, V.K. (2012). *Comparative education*. Shipra Publication.
●Sharma, Y. K. (2004). *Comparative education-Comparative study of educational system*. Guwahati: Eastern Book House.
●Sodi, T.S. (2018). *Textbook of Comparative Education (6thEd.),* New Delhi: Vikas Publication.
●UNESCO (1971). *Developing of Education in Asia*.Paris: Unesco, Mineda's.
●Young, D. (1995).*Introduction of American public education*. New York: McGraw-Hills Inc.
●TulanatmakShikshan – Dr. Seeteram Jaiswal, Dr. RamdasBarkale, Dr, NaliniPichad

GUIDANCE AND COUNSELLING

COURSE CODE:SOE010437DCEC3014

Year **II** **Credit** **4**

Semester **IV** **Marks** **100 (Theory: 70, Internal: 30)**

Objectives : On the completion of this course the students will be able to:

- Know the history of guidance and counseling in India
- Realize the importance of guidance and counseling
- Understand various techniques adopted for guidance and counseling
- Be sensitized to the need and importance of mental health
- Gain knowledge of various techniques and tools for assessing mental health of learners

	Lecture (L)	**Tutorial (T)**	**Practicum (P)**	**L+T+P**	**Internal Assessment**	**External Assessment**	**Total Marks**
I	12	4	0	16	30	70	100
II	12	2	1	15			
III	12	3	2	17			
IV	12	3	1	16			
Total	**48**	**12**	**04**	**64**	**30**	**70**	**100**

Course Content / Syllabus

Unit -1 : Introduction to Guidance

- Concept, Principles & Functions of Guidance
- Types of Guidance: Educational, Vocational, Social, Personal, health and Social Guidance.
- Contemporary Models of Guidance; Mathewson Model, Sholen's Model

Unit -2 : Introduction to Counseling

- Concept, Principles, Techniques & Procedure of Counseling
- Counselor: Characteristics, Functions & Ethics
- Skills of Counseling: Building Trust, Listening, Observation & Empathy

Unit -3 : Approaches and theories of counselling

- Approaches of Counseling: Directive, Non-Directive, Eclectic Counseling, Cognitive-behavioural approach, Albert Ellis-REBT, Humanistic (Rogers)
- Theories of Counseling: Freud's Psychoanalytic, Behaviouristic, Emotive

Unit 4: Mental Health and Hygiene

- Concept of Well Being
- Concept of Mental Health
- Factor Affecting Mental Health
- Role of Guidance in Personnel in Promoting Positive Mental Health at Work Place

Transactional Strategies : Lectures, discussions, use of psychological tests, observation of students, conducting career guidance in the schools, counsel students by identifying their mental health problems such as lack of concentration, anxiety, anger etc.

Internal Assessment Strategies :

A total of thirty marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of Marks
1	Two Sessional tests will be conducted (Better one will be considered)	Test	10
2	Preparation of an assignment on various topics and it is followed by presentation in the classroom (Group activity) & Practicum	Assignment & Presentation (PPT)	05+10
3	Percentage of attendance		05
Total Marks			**30**

Practicum :

- Draw a plan for the assessment of ability, aptitude, interest or personality of students. Explore two tests
- One each for the assessment of intelligence and aptitude at the elementary and secondary stage through different sources and prepare critical write-ups.
- Prepare a script of a session with a client student communicating either low ability or high ability scores highlighting the skills used by you in the session.
- Prepare a sociometric test. Administer the test on a group of students. Draw a sociogram and describe in details the group climate.

Suggested Readings:

- Aggarwal, J.C. (2005). *Career information in career guidance theory & practice.* Delhi: Doaba House.
- Aggarwal, R. (2010).*Elementary guidance and counselling*. New Delhi: Shipra Publication.

- Bala, Rajni. (2007).*Guidance and counselling: Modern Review*. New Delhi: Afa Publication.
- Burnard, P. (2005). *Counselling Skills Training*. New Delhi: Viva Book Private Limited.
- Chandra, R. (2009). *Career information and guidance and counselling*. Delhi: Isha Books.
- Chandanpat (2018). *Guidance and counselling*. ND: Educational Publisher & Distributor.
- Chauhan, S.S. (2007). *Principle and techniques of guidance.* New Delhi: Vikas Publishing House.
- Dev, K. (2005). *Educational guidance*. New Delhi: Pragun Publication.
- Gibson, R. L. & Mitchell, M. (2008). *Introduction counselling and guidance*. New Delhi: PHI Learning Pvt. Ltd.
- Gibson, Robert L. & Mitchell, Marianne, H. (2016). *Introduction to counselling and guidance*. New Delhi: Pearson Prentice Hall in India.
- Gladding, R. (2018). Introduction to counselling. ND: Pearson.
- Gupta, M. (2005). *Effective guidance & counselling.* Jaipur: Mangaldeep publications.
- Kochhar, S. K. (2006). *Educational and vocational guidance in secondary education*. Delhi: Sterling Publications.
- Kochhar, S.K. (2009). *Guidance & counselling in colleges & universities*. New Delhi: Sterling Publishers Pvt Ltd.
- Koshy, J. (2007). *Guidance and counselling*. New Delhi: Dominant Pub. & Distributors.
- Kottler, J. A. & Shepard, D. S. (2008). *Counselling theories & practices*. Cenage Learning: 1st Edition.
- Madhukumar, I. (2007). *Guidance and counselling***.** New Delhi: Authors Press.
- Mathur, S. S. (2008). *Fundamentals of guidance & counselling, (*2nd ed.). Agra: Aggarwal Publication.
- Mishra, R.C. (2004). *Guidance & counselling*. New Delhi: APH Publishing Corporation.
- Naik, D. (2007). *Fundamentals of guidance and counselling*. New Delhi: Adhyayan publishers.
- Pandey, V.C. (2006). *Educational guidance & counselling.* Delhi: Isha Books.
- Rao, S N. (2006). *Counselling and guidance.* Delhi: McGraw hill Publication.
- Rao, S. N. & Hari, H. S. (2004).*Guidance and counselling*. New Delhi: Discovery Pub. House.
- Safaya, B.N. (2002). *Guidance & counselling.* Chandigarh: Abhishek Publications.
- Saxena, A. (2006). *Organization of Guidance Service*. Delhi: Rajat Publications.
- Saxena, A. (2007). *Introduction to educational & vocational guidance*. Delhi: Rajat Publications.
- Sexena, A. (2007). *Modern techniques of counselling.* New Delhi: Rajat Publications.
- Sharma, R. A.(2011).*Fundamentals of guidance and counselling*. Meerut: R. Lal Book Depot.
- Sharma, S.P. (2008). *Career guidance & counselling*. New Delhi: Kanishka Publishers & Distributors.
- Sharma, T.C. (2002). *Modern methods of guidance & counselling*. New Delhi: Sarup& Sons.
- Sharma, Y.K. (2005). *Principles of educational & vocational guidance*. New Delhi: Kanishka Publishers.
- Shrivastava, K.K. (2003). *Principles of guidance & counselling*. New Delhi: Kanishka Publishers.
- Singh, R. (2002). *Educational & Vocational Guidance*. New Delhi: Commonwealth Publishers.
- Varky, B. G. &Mukhopadhyay, M. (2006). *Guidance and Counselling.* New Delhi: Sterling Publications.
- Vashist, S.R. (2004). *Evaluation of Guidance.* New Delhi: Anmol Publications Pvt. Ltd.
- Yadav, R.H. (2012). *Guidance & Counselling*. New Delhi: APH Publishing Corporation.

DISSERTATION

COURSE CODE:SOE010438C0044

Year	**II**	**Credit**	**4**
Semester	**IV**	**Marks**	**100**

Objectives : After the completion of the dissertation work , students will be able to:

- Understand the process of conducting research.
- Know various statistical techniques used for analysing the data.
- Critically analyse the related literature
- Contribute to new knowledge.
- Learn the process of publishing research output
- Suggest desirable changes in their area of study.

60	40 (Report Presentation & Viva-Voce)	100
60	**40**	**100**

- **Transactional Strategies :**The dissertation is a compulsory 4 credit component of the M.Ed. programme. A dissertation is distinguished from other writing assignments in the programme on the basis of the expectations and processes involved therein. It is visualized as a curricular space where students (with close mentorship/guidance of a faculty member) learn to plan and conduct research, and write a thesis. It is also a space where students come to see and draw linkages between education theory (transacted through taught courses) and research. Thus, while the product or the outcome of this component (i.e. the thesis) is important, the process through which it is arrived at is equally (if not more) significant. This makes a case for this component to be guided or mentored closely by a faculty mentor:

(i.) Related to specialization / foundations Students (in close mentorship of a faculty member) learn to plan and conduct a research, and write a thesis.

(ii.) The word limit for the dissertation may be between 15,000 to 20,000 words.

(iii.) Each student has to submit a Dissertation on a topic, preferably from the Specialization Courses or in the areas introduced in the perspective courses at the end of the M.Ed. course before the commencement of the Theory Examination.

- While a dissertation may be submitted at the end of the Semester 4 of the programme, the process of arriving at it should begin early on, ideally in the Semester 1 onwards. This also means that the assessment of this component should be spread over various stages in this process, viz., developing a research proposal, presenting it, conducting the research, developing the first draft, finalizing the dissertation and presenting it in a viva-voce situation. All these stages should be given due weightage in the assessment of the dissertation.

Internal Assessment Strategies :

A total of thirty marks have been allotted under Internal Assessment. The nature of the activity, mode and weightage of marks are as follows.

S. No.	Activity	Mode	Weightage of Marks
1	Report Writing	Report Writing	40
2	Presentation	PPT	10
3	Viva-Voce		10
Total Marks			**60**