



# CENTRAL UNIVERSITY OF HARYANA

## Mahendergarh

### Department of Computer Science

### Master of Computer Applications (MCA)

(Comprehensive Structure of Syllabi as per CBCS)

Scheme to be followed by students admitted in 2015-16 session

#### **CORE COURSE (CC) (Exclusively for MCA Students)**

SN	Course code	Course title	L	T	P	Credit
1.	SCS CSC 01 01 C 01 4004	Computer Fundamentals and Problem Solving through C	4	0	0	4
2.	SCS CSC 01 01 C 02 3003	Discrete Mathematical Structures	3	0	0	3
3.	SCS CSC 01 01 C 03 4004	Linux and Shell Programming	4	0	0	4
4.	SCS CSC 01 01 C 04 0044	Computer Lab I	0	0	4	4
5.	SCS CSC 01 02 C 05 3003	Object Oriented Systems and C++	3	0	0	3
6.	SCS CSC 01 02 C 06 3003	Digital Design and Computer Organisation	3	0	0	3
7.	SCS CSC 01 02 C 07 4004	Data Structures using C/C++	4	0	0	4
8.	SCS CSC 01 02 C 08 0044	Computer Lab II	0	0	4	4
9.	SCS CSC 01 03 C 09 4004	Database Management Systems	4	0	0	4
10.	SCS CSC 01 03 C 10 4004	Operating Systems	4	0	0	4
11.	SCS CSC 01 03 C 11 4004	Computer Networks	4	0	0	4
12.	SCS CSC 01 03 C 12 0044	Computer Lab III	0	0	4	4
13.	SCS CSC 01 04 C 13 3003	Web Engineering	3	0	0	3
14.	SCS CSC 01 04 C 14 3003	Theory of Computation	3	0	0	3
15.	SCS CSC 01 04 C 15 4004	Programming in JAVA	4	0	0	4
16.	SCS CSC 01 04 C 16 0044	Computer Lab IV	0	0	4	4
17.	SCS CSC 01 05 C 17 4004	Computer Graphics	4	0	0	4
18.	SCS CSC 01 05 C 18 4004	Mobile Communication and Android Application Development	4	0	0	4
19.	SCS CSC 01 05 C 19 4004	Compiler Design	4	0	0	4
20.	SCS CSC 01 05 C 20 0044	Computer Lab V	0	0	4	4

#### **GENERIC ELECTIVE COURSE (GEC)**

(Offered to other departments and can be taken also by MCA Students)

SN	Course code	Course title	L	T	P	Credit
1.	SCS CSC 01 01 GEC 01 3003	Fundamentals of IT	3	0	0	3
2.	SCS CSC 01 02 GEC 02 3003	Computer Oriented Optimization Techniques	3	0	0	3
3.	SCS CSC 01 02 GEC 03 3003	Internet Fundamentals	3	0	0	3
4.	SCS CSC 01 03 GEC 04 3003	Fundamentals of Web Design	3	0	0	3
5.	SCS CSC 01 04 GEC 05 3003	Emerging Trends and Technologies	3	0	0	3
6.	SCS CSC 01 05 GEC 06 3003	E- Commerce	3	0	0	3
7.	SCS CSC 01 05 GEC 07 3003	Multimedia Technologies	3	0	0	3



## DISCIPLINE CENTRIC ELECTIVE COURSES (DCEC)

(Offered to the students of MCA)

SN	Course code	Course title	L	T	P	Credit
1.	SCS CSC 01 01 DCEC 01 0022	Seminar I (Compulsory)	0	0	2	2
2.	SCS CSC 01 01 DCEC 02 3003	Computer Oriented Numerical and Statistical Methods	3	0	0	3
3.	SCS CSC 01 01 DCEC 03 3003	Software Engineering	3	0	0	3
4.	SCS CSC 01 02 DCEC 04 3003	System Modeling and Simulation	3	0	0	3
5.	SCS CSC 01 02 DCEC 05 3003	Software Project Management	3	0	0	3
6.	SCS CSC 01 03 DCEC 06 3003	Design and Analysis of Algorithm	3	0	0	3
7.	SCS CSC 01 03 DCEC 07 3003	Cryptography	3	0	0	3
8.	SCS CSC 01 04 DCEC 08 0022	Seminar/ Presentation (Compulsory)	0	0	2	2
9.	SCS CSC 01 04 DCEC 09 3003	Digital Image Processing	3	0	0	3
10.	SCS CSC 01 04 DCEC 10 3003	Advanced Computer Architecture	3	0	0	3
11.	SCS CSC 01 05 DCEC 11 3003	Data Warehousing and Data Mining	3	0	0	3
12.	SCS CSC 01 05 DCEC 12 3003	Artificial Intelligence	3	0	0	3

**Skill Enhancement Elective Course (Compulsory and exclusively for MCA students who will pursue their project work from outside the university)**

SN	Course code	Course title	L	T	P	Credit
1.	SCS CSC 01 06 SEEC 01 0066	Project Work	0	0	24	24

**Skill Enhancement Elective Course (Compulsory and exclusively for MCA students who will pursue their project work from the university itself)**

SN	Course code	Course title	L	T	P	Credit
1.	SCS CSC 01 06 SEEC 01 0066	Project Work	0	0	18	18
2.		Any two Electives of the Department which were not opted earlier	3	0	0	3
			3	0	0	3
						24

# CENTRAL UNIVERSITY OF HARYANA

## Mahendergarh

### Department of Computer Science Master of Computer Applications

(Semester-wise structure as per CBCS)

**Total Credit: 130, Semester wise distribution of credits: 20 + 20 + 22 + 22 + 22 + 24**

#### SEMESTER – I

SN	Course code	Course title	L	T	P	Credit
1.	SCS CSC 01 01 C 01 4004	Computer Fundamentals and Problem Solving through C	4	0	0	4
2.	SCS CSC 01 01 C.02 3003	Discrete Mathematical Structures	3	0	0	3
3.	SCS CSC 01 01 C 03 4004	Linux and Shell Programming	4	0	0	4
4.	SCS CSC 01 01 C 04 0044	Computer Lab I	0	0	4	4
5.	SCS CSC 01 01 DCEC 01 4004	Seminar I (Compulsory)	0	0	2	2
6.		<b>Any one of the following courses:</b>	3	0	0	3
	SCS CSC 01 01 GEC 01 3003	Fundamentals of IT				
	SCS CSC 01 01 DCEC 02 3003	Computer Oriented Numerical and Statistical Methods				
	SCS CSC 01 01 DCEC 03 3003	Software Engineering				

#### SEMESTER – II

SN	Course code	Course title	L	T	P	Credit
1.	SCS CSC 01 02 C 05 3003	Object Oriented Systems and C++	3	0	0	3
2.	SCS CSC 01 02 C 06 3003	Digital Design and Computer Organisation	3	0	0	3
3.	SCS CSC 01 02 C 07 4004	Data Structures using C/C++	4	0	0	4
4.	SCS CSC 01 02 C 08 0044	Computer Lab II	0	0	4	4
5.		<b>To be taken from other department</b>	3	0	0	3
6.		<b>Any one of the following courses:</b>	3	0	0	3
	SCS CSC 01 02 GEC 02 3003	Computer Oriented Optimization Techniques				
	SCS CSC 01 02 GEC 03 3003	Internet Fundamentals				
	SCS CSC 01 02 DCEC 04 3003	System Modeling and Simulation				
	SCS CSC 01 02 DCEC 05 3003	Software Project Management				



### SEMESTER – III

SN	Course code	Course title	L	T	P	Credit
1.	SCS CSC 01 03 C 09 4004	Database Management Systems	4	0	0	4
2.	SCS CSC 01 03 C 10 4004	Operating Systems	4	0	0	4
3.	SCS CSC 01 03 C 11 4004	Computer Networks	4	0	0	4
4.	SCS CSC 01 03 C 12 0044	Computer Lab III	0	0	4	4
5.		<i>To be taken from other department</i>	3	0	0	3
6.		<i>Any one of the following courses</i>				
	SCS CSC 01 03 GEC 04 3003	Fundamentals of Web Design	3	0	0	3
	SCS CSC 01 03 DCEC 06 3003	Design and Analysis of Algorithm				
	SCS CSC 01 03 DCEC 07 3003	Cryptography				

### SEMESTER – IV

SN	Course code	Course title	L	T	P	Credit
1.	SCS CSC 01 04C 13 3003	Web Engineering	3	0	0	3
2.	SCS CSC 01 04C 14 3003	Theory of Computation	3	0	0	3
3.	SCS CSC 01 04C 15 4004	Programming in JAVA	4	0	0	4
4.	SCS CSC 01 04C 16 0044	Computer Lab IV	0	0	4	4
5.	SCS CSC 01 04 DCEC 08 0022	Seminar/ Presentation (Compulsory)	0	0	2	2
6.		<i>To be taken from other department</i>	3	0	0	3
7.		<i>Any one of the following courses:</i>				
	SCS CSC 01 04GEC 05 3003	Emerging Trends and Technologies	3	0	0	3
	SCS CSC 01 04DCEC 09 3003	Digital Image Processing				
	SCS CSC 01 04DCEC 10 3003	Advanced Computer Architecture				

### SEMESTER – V

SN	Course code	Course title	L	T	P	Credit
1.	SCS CSC 01 05 C 17 4004	Computer Graphics	4	0	0	4
2.	SCS CSC 01 05 C 18 4004	Mobile Communication and Android Application Development	4	0	0	4
3.	SCS CSC 01 05 C 19 4004	Compiler Design	4	0	0	4
4.	SCS CSC 01 05 C 20 0044	Computer Lab V	0	0	4	4
5.		<i>Any two of the following courses:</i>				
	SCS CSC 01 05 GEC 06 3003	E- Commerce	3	0	0	3
	SCS CSC 01 05 GEC 07 3003	Multimedia Technologies				
	SCS CSC 01 05 DCEC 11 3003	Data Warehousing and Data Mining				
	SCS CSC 01 05 DCEC 12 3003	Artificial Intelligence	3	0	0	3

**SEMESTER – VI****Skill Enhancement Elective Course (Compulsory and exclusively for MCA students who will pursue their project work from outside the university)**

SN	Course code	Course title	L	T	P	Credit
1.	SCS CSC 01 06 SEEC 01 0066	Project Work	0	0	24	24

**Skill Enhancement Elective Course (Compulsory and exclusively for MCA students who will pursue their project work from the university itself)**

SN	Course code	Course title	L	T	P	Credit
1.	SCS CSC 01 06 SEEC 01 0066	Project Work	0	0	18	18
2.		Any two Electives of the Department which were not opted earlier	3 3	0 0	0 0	3 3
						24