

Central University of Haryana

Term End Examination March, 2023

(Regular/Reappear)

Name of Programme: B.Voc. (Industrial Waste Management)

Year & Semester : March, 2023, Semester-I

Course Name : Concepts in chemistry

Course Code : SLLLIWM1102C4004

Maximum Marks :50

Duration: 3Hrs

Attempt any five questions selecting one question from each unit. Question 1 is compulsory.

(2x5)

Question 1: Very short type or definitions:

- Write geometrical and optical isomers of MA_4B_2 .
- Arrange in increasing order of IE (B,C,N,O,F,Ne). Give reason.
- Define Third law of Thermodynamics.
- Define heterogeneous and homogeneous catalysis.
- Write three methods of formation of aldehydes.
- Define carbanion and write its structure.
- Define Accuracy and Precision..
- Define Molarity and Normality .

UNIT-I

Question 2:

(6,4)

a. Define electronegativity. On what factors it depend? How does the electronegativity of the elements vary as we move down a group and along a period?

b. What are the basic postulates of Werner's theory of coordination?

OR

a. Write down limitations of valence bond theory. Also find hybridization, structure, magnetic character of $\{Fe (H_2O)_6\}^{2+}$.

b. Write structural isomerism in coordination compounds.

UNIT-II

Question 3:

(6,4)

- Define equilibrium constant? Also derive relationship between K_p and K_c .
- Describe various factor on which rate of reaction depends.

OR

- Derive mathematical expression for Van't hoff reaction isotherm.
- State First law of thermodynamics and derive its mathematical formulation.

UNIT-III

Question 4:

(6,4)

a. What are carbocations? Discuss structure and relative stabilities of primary, secondary and tertiary carbocations.

- Write methods of formation of free radical and carbanion.

OR

- What are the main types of organic reactions? Explain, giving suitable examples.
- Write methods of synthesis and structure of alcohols?

UNIT-IV

Question 5:

(6,4)

- What is buffer solution? Also discuss buffer equation and buffer capacity.
- Differentiate between primary standard and secondary standard?

OR

- Explain redox reaction in detail?
- Define indicators and write applications of indicators.

I Semester UG Term End Semester Examination March, 2023

Name of Programme	: B. Voc. (Industrial Waste Management)	
Year & Semester	: March 2023, Semester-I	
Course Name	: English Communication	
Course Code	: SLLL IWM 1103C2002/IWM-103	
Maximum Marks	: 25	Duration: 3Hrs

Attempt any five questions selecting one question from each unit. Question 1 is compulsory.

Question 1. Do any five:- (1*5)

- a. Name types of communication.
- b. What is Encoding and Decoding in Communication?
- c. What is a subject line? Give an example.
- d. Why do you need to be a better listener?
- e. What is non-verbal communication? Give examples.
- f. What is the difference between a CV and a resume?
- g. What according to you is the most important skill for an interview?
- h. Comment on the dress code to be followed during a job interview.

UNIT-I

Question 2.

(3, 2)

- A. . What is communication? Discuss its types and importance.
- B. . Elaborate the process of communication.

OR

- A. . What are the barriers of communication?
- B. . What is effective communication? What are its perspectives?

UNIT-II

Question 3.

- A. . Define: Face to face communication.
- B. . Define Systematic Communication

OR

- A. . What are the different styles of communication? Elaborate.
- B. . Differentiate between verbal and physical communication?

UNIT-III

Question 4.

(6, 4)

- A. . How can you use self awareness as a tool to improve listening skills? Elaborate.
- B. . Discuss 5 key aspects of becoming an active listener.

OR

- A. . What is formal communication? How can you make written communication (emails) effective?
- B. . Briefly describe all the factors that decide when and when not to use written communication.

UNIT-IV

Question. 5.

(6, 4)

- A. . What are the things to be followed during a job interview? Explain.
- B. . What is the role of non-verbal communication during a job interview?

OR

- C. . You are Tapas/Tapasya of A - 150, Mount Road, Chennai. You have seen an advertisement in the newspaper, 'The Chennai Times' for the post of Manager (Accounts) in Sundaram Westside, Chennai. Draft a job application letter with your complete resume.
- D. . How will you create a healthy atmosphere in a group discussion?

I Semester UG Term End Semester Examination March, 2023

Name of Programme	: B. Voc. (Industrial Waste Management)	
Year & Semester	: March 2023, Semester-I	
Course Name	: English Communication	
Course Code	: SLLL IWM 1103C2002	
Maximum Marks	: 25	Duration: 3Hrs

Attempt any five questions selecting one question from each unit. Question 1 is compulsory.

Question 1. Do any five:- (1*5)

- a. Name types of communication.
- b. What is Encoding and Decoding in Communication?
- c. What is a subject line? Give an example.
- d. Why do you need to be a better listener?
- e. What is non-verbal communication? Give examples.
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(Regular/Reappear)

Name of Programme: B.Voc (Industrial Waste Management)

Year & Semester : March, 2023, Semester-I

Course Name : Concepts in chemistry

Course Code :IWM-102

Maximum Marks :50

Duration: 3Hrs

Attempt any five questions selecting one question from each unit. Question 1 is compulsory.

(2x5)

Question 1: Very short type or definitions:

- Write geometrical and optical isomers of MA_4B_2 .
- Arrange in increasing order of IE (B,C,N,O,F,Ne). Give reason.
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- g. Define Accuracy and Precision..
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UNIT-I

Question 2: (6,4)

- a. Define electronegativity. On what factors it depend? How does the electronegativity of the elements vary as we move down a group and along a period?
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OR

- a. Write down limitations of valence bond theory. Also find hybridization, structure, magnetic character of $\{\text{Fe}(\text{H}_2\text{O})_6\}^{2+}$.
- b. Write structural isomerism in **coordination** compounds.

UNIT-II

Question3: (6,4)

- a. Define equilibrium constant? Also derive relationship between K_p and K_c .
- b. Describe various factor on which rate of reaction depends.

OR

- a. Derive mathematical expression for Van't hoff reaction isotherm.
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UNIT-III

Question 4: (6,4)

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- b. Write methods of formation of free radical and carbanion.

OR

- a. What are the main types of organic reactions? Explain, giving suitable examples.
- b. Write methods of synthesis and structure of alcohols?

UNIT-IV

Question 5: (6,4)

- a. What is buffer solution? Also discuss buffer equation and buffer capacity.
- b. Differentiate between primary standard and secondary standard?

OR

- a. Explain redox reaction in detail?
- b. Define indicators and write applications of indicators.

I Semester UG Term End Semester Examination March, 2023

Name of Programme	: B. Voc. (Industrial Waste Management)	
Year & Semester	: March 2023, Semester-I, Regular/Reappear	
Course Name	: Introductory Biology	
Course Code	: SLLL IWM1101C4004	
Maximum Marks	: 50	Duration: 3Hrs

Attempt any five questions selecting one question from each unit. Question 1 is compulsory.

Question 1. Do any five:- (2*5)

- a. What do you mean by life and living system?
- b. Define metabolism and its types.
- c. Give the examples of kingdom Monera.
- d. Give the Structure and function of ATP molecule.
- e. Write a short note on Enzyme-Substrate complex?
- f. Differentiate aerobic and anaerobic respiration.
- g. Give the significance of mitosis division.
- h. Give the differences between Analogous and Homologous organs.

UNIT-I

Question 2.

(6, 4)

- A. Explain Darwin theory of evolution in detail.
- B. Explain human evolution with all stages.

OR

- A. Define origin of life in detail.
- B. Define mutation theory with criticism and significance.

UNIT-II

Question 3.

(6,4)

- A. Give the characteristics of animal kingdom with classification.
- B. Explain Animal cell with well labelled diagram.

OR

- A. Give the structure and life history of parasite plasmodium.
- B. Explain general structure and life history of amoeba and silkworm.

UNIT-III

Question 4.

(6, 4)

- A. Explain all stages of mitosis and meiosis division with significance.
- B. Give the difference between plant cell and animal cell.

OR

- A. Explain structure and functions of biomolecules- carbohydrate and protein.
- B. What is difference between enzymes and cofactor, also explain factors affecting enzyme activity.

UNIT-IV

Question. 5.

(6, 4)

- A. Define fermentation and glycolysis with all steps.
- B. Grouping of organisms based on energy need and mineral nutrition.

OR

- C. Define respiration and its types.
- D. Explain the process of photosynthesis in detail. Also give the factors affecting photosynthesis.

CENTRAL UNIVERSITY OF HARYANA
1st Semester U.G. (B.Voc.) Term End Examination March 2023

Programme	:	B. Voc. - Retail and Logistics Management (RLM)
Semester	:	I (Reappear)
Paper Name	:	BUSINESS STATISTICS
Paper Code	:	RLM-103
Maximum Marks	:	37.5
Maximum Time	:	3 hours

Note: Question No.1 is compulsory. Attempt one question from each Unit.

Q1. Attempt any five questions: (5x1.5=7.5)

- a) What is meant by manifold table?
- b) What is the scope of statistics in Economics?
- c) Explain the meaning of one way table.
- d) Define pareto principle.
- e) What are the various assumptions of Karl Pearson's coefficient of correlation.
- f) Differentiate between primary and secondary sources of data.
- g) Find the mode from the following size of shoes:

Size of shoes	1	2	3	4	5	6	7	8	9
Frequency	1	1	1	1	2	3	2	1	1

- h) What are the features of Lorenz curve?

UNIT I

- Q2. A) What is the scope of statistics in various fields? (5)
B) Explain frequency distribution. (2.5)

or

- Q3. A) Prepare 'Less than' and 'More than' cumulative frequency distributions from the following distribution. Also obtain relative frequency table. (5)

Wages (Rs.)	240-250	250-260	260-270	270-280	220-290	290-300
No. of workers	5	10	18	27	35	5

- B) Define different types of tables and construct them. (2.5)

UNIT II

Q4. A) Explain the meaning and objective of central tendency. (5)

B) Find out the arithmetic mean from the following data: (2.5)

Marks (less than)	5	10	15	20	25	30
No. of students	10	23	30	54	69	80

or

Q5. A) The first and third quartiles of the following data are given to be 25 marks and 50 marks respectively out of the data given below: (5)

Marks	0 -10	10 -20	20 -30	30 -40	40 -50	50-60	60-70	70-80
Frequency	4	8	-----	19	-----	10	5	-----

Find the missing frequencies when $N=72$.

B) Write down the definition of mean and median. (2.5)

UNIT III

Q6. A) Calculate the standard deviation for the following table: (5)

Class	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Frequency	5	10	20	40	30	20	10	5

B) Discuss the concept of coefficient of variation. (2.5)

or

Q7. A) Explain the concept of quartile deviation, mean deviation and standard deviation in Statistics. (5)

B) Mention the merits and demerits of mean deviation. (2.5)

UNIT IV

Q8. A) In a fancy-dress competition, two judges accorded the following ranks to eight participants (5)

Judge X:	8	7	6	3	2	1	5	4
Judge Y:	7	5	4	1	3	2	6	8

Calculate coefficient of rank correlation.

B) Explain Spearman's coefficient of correlation. (2.5)

or

Q9. A) What are the various properties of correlation co-efficient? (5)

B) Explain the concept of probable error. (2.5)

CENTRAL UNIVERSITY OF HARYANA
First Semester U.G. (B.Voc.) Term End Examination March 2023

Programme	:	B. Voc. - Retail and Logistics Management (RLM)
Semester	:	1st (Regular/Reappear)
Paper Name	:	Business Environment
Paper Code	:	SLLL RLM 11 03 C 2103
Maximum Marks	:	37.5
Maximum Time	:	3 hours
Batch	:	2022

Note: Question No.1 is compulsory. Attempt one question from each Unit.

Q1. Attempt any five questions: (5x1.5=7.5)

- a) Define the concept of business environment.
- b) Explain the steps of SWOT analysis.
- c) What are major functions of stock exchange of India?
- d) State any four objectives of monetary policy of India.
- e) Explain the concept of Special Economic Zones (SEZs).
- f) Explain the term CSR in business.
- g) Define the term 'Globalisation'.
- h) Give a brief explanation of EXIM bank.

UNIT-I

Q2.A) What do you understand by business environment? Describe various elements of business environment. (5)

B) Discuss the importance of business environment. (2.5)

OR

Q3.A) What is environmental scanning? Discuss various techniques of environmental scanning and monitoring. (5)

B) What is economic environment of business? Explain the various elements of it. (2.5)

UNIT-II

Q4.A) What is SEBI? Discuss the important functions of SEBI. (5)

B) What is Goods and Service Tax (GST)? What are the differences between CGST, SGST and IGST? (2.5)

OR

Q5.A) Define Monetary Policy of India. Also explain various credit control measures. (5)

B) Explain the functions of RBI. (2.5)

UNIT-III

Q6.A) Discuss the social, economic and plant level implications of technology. (5)

B) Describe the concept of technological environment and its impact on business. (2.5)

OR

Q7.A) Define social responsibility and explain its models. (5)

B) What are critical elements of socio-cultural environment? (2.5)

UNIT-IV

Q8.A) Discuss the drivers of globalisation. (5)

B) Explain the nature of Foreign Direct Investment (FDI). (2.5)

OR

Q9.A) Describe the benefits and problems of MNCs to host country and home country. (5)

B) Elaborate various functions of EXIM Bank. (2.5)

CENTRAL UNIVERSITY OF HARYANA
Ist Semester U.G. (B.Voc.) Term End Examination March 2023

Programme	:	B. Voc. - Retail and Logistics Management (RLM)
Semester	:	I (Reappear)
Paper Name	:	RETAIL MANAGEMENT-I
Paper Code	:	RLM-102
Maximum Marks	:	37.5
Maximum Time	:	3 hours

Note: Question No.1 is compulsory. Attempt one question from each Unit.

Q1. Attempt any five questions: (5x1.5=7.5)

- a) What is impulse buying?
- b) What do you understand by post purchase experience?
- c) What is the meaning of trade area section?
- d) What is transnational retailing?
- e) How retail information system is useful in evaluating critical success factor?
- f) Who is the CEO of Wal-Mart Stores, Inc.?
- g) What do you understand by internet retailing?
- h) What is the future of retail sector in India?

UNIT I

- Q2. A) "Retailing provides benefits to society and consumes." Discuss. (5)
B) Enumerate how retailing is important to the consumer. (2.5)
- or
- Q3. A) Discuss the main factors which are responsible for growth of retailing in India. (5)
B) What are the various features of retailing? (2.5)

UNIT II

- Q4. A) Discuss cyclical theories of retailing. (5)
B) Differentiate between store based and non store based retailing. (2.5)
- or
- Q5. A) Explain the different types of organized retail format on the basis of ownership with suitable examples. (5)
B) List down various tools of visual merchandising. (2.5)

UNIT III

- Q6. A) Define consumer behaviour. How do culture, social and personal factors affect consumer behaviour? (5)
- B) Explain the importance of consumer behaviour to retailer. (2.5)
- or
- Q7. A) Describe the shopping decision process by the customers in retail sector. (5)
- B) Discuss how various reference groups influence consumer behaviour? (2.5)

UNIT IV

- Q8. A) Define free standing sites/isolated store location with its advantages and disadvantages. (5)
- B) Enumerate the role of culture in understanding international market. (2.5)
- or
- Q9. A) What are the various steps involved in choosing the retail location? (5)
- B) What are the different types of retail location? (2.5)

CENTRAL UNIVERSITY OF HARYANA
Ist Semester U.G. (B.Voc.) Term End Examination March 2023

Programme	:	B. Voc. - Retail and Logistics Management (RLM)
Semester	:	I (Regular/Reappear)
Paper Name	:	Business Communication
Paper Code	:	SLLL RLM 11 04 C 2103
Maximum Marks	:	37.5
Maximum Time	:	3 hours
Batch	:	2022

Note: Question No.1 is compulsory. Attempt one question from each Unit.

Q1. Attempt any five questions: (5x1.5=7.5)

- a) Mention the components of business proposal.
- b) Why is visual presentation important in business presentation?
- c) What is one way and two way communication?
- d) Differentiate between business letter and business reports.
- e) Explain the meaning of a rejection letter.
- f) What are the 5W's of communication?
- g) What is the meaning of solicited and unsolicited inquiry letters?
- h) What is understood by gateways to communication?

UNIT-I

- Q2. A) Describe the process and elements of the communication. (5)
B) Explain the 7'C of effective communication. (2.5)

OR

- Q3. A) What are the characteristics of communication? Explain the importance of communication in management? (5)
B) Explain the communication barriers in brief. (2.5)

UNIT-II

- Q4. A) What is written communication? Explain the pros and cons of written communication. (5)
B) Define active listening. Explain the tips for effective listening. (2.5)

OR

- Q5. A) Explain verbal communication. What are the principles of verbal communication? (5)
B) What are the principles of effective writing? (2.5)

UNIT-III

- Q6. A) What is daily routine letter? How to write daily routine letter to your employees? (5)
B) Define visual aid and explain the types of visual aid. (2.5)

OR

- Q7. A) What are the presentation skills? Explain the elements and process of presentation. (5)
B) Explain persuasive letter and write the impact of persuasive letter in organization. (2.5)

UNIT-IV

- Q8. A) Write a summary and review of your favourite movie. (5)
B) What is the work vocabulary? Explain with example. (2.5)

OR

- Q9. A) Explain past continuous tense. Write the rules of past continuous tense with examples. (5)
B) What is an article? Write rules of articles with examples. (2.5)

CENTRAL UNIVERSITY OF HARYANA
Ist Semester U.G. (B.Voc.) Term End Examination March 2023

Programme	:	B. Voc. - Retail and Logistics Management (RLM)
Semester	:	I (Reappear)
Paper Name	:	RETAIL MANAGEMENT-I
Paper Code	:	RLM-102
Maximum Marks	:	37.5
Maximum Time	:	3 hours

Note: Question No.1 is compulsory. Attempt one question from each Unit.

Q1. Attempt any five questions: (5x1.5=7.5)

- a) What is impulse buying?
- b) What do you understand by post purchase experience?
- c) What is the meaning of trade area section?
- d) What is transnational retailing?
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- Q8. A) Define free standing sites/isolated store location with its advantages and disadvantages. (5)
B) Enumerate the role of culture in understanding international market. (2.5)
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- Q9. A) What are the various steps involved in choosing the retail location? (5)
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CENTRAL UNIVERSITY OF HARYANA
1st Semester U.G. (B.Voc.) Term End Examination March 2023

Programme	:	B. Voc. - Retail and Logistics Management (RLM)
Semester	:	I (Reappear)
Paper Name	:	BUSINESS STATISTICS
Paper Code	:	RLM-103
Maximum Marks	:	37.5
Maximum Time	:	3 hours

Note: Question No.1 is compulsory. Attempt one question from each Unit.

Q1. Attempt any five questions: (5x1.5=7.5)

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B) Write down the definition of mean and median. (2.5)

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Q6. A) Calculate the standard deviation for the following table : (5)

Class	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Frequency	5	10	20	40	30	20	10	5

B) Discuss the concept of coefficient of variation. (2.5)

or

Q7. A) Explain the concept of quartile deviation, mean deviation and standard deviation in Statistics. (5)

B) Mention the merits and demerits of mean deviation. (2.5)

UNIT IV

Q8. A) In a fancy-dress competition, two judges accorded the following ranks to eight participants (5)

Judge X:	8	7	6	3	2	1	5	4
Judge Y:	7	5	4	1	3	2	6	8

Calculate coefficient of rank correlation.

B) Explain Spearman's coefficient of correlation. (2.5)

or

Q9. A) What are the various properties of correlation co-efficient? (5)

B) Explain the concept of probable error. (2.5)

CENTRAL UNIVERSITY OF HARYANA
Ist Semester U.G. (B.Voc.) Term End Examination March 2023

Programme	:	B. Voc. - Retail and Logistics Management (RLM)
Semester	:	I (Regular/Reappear)
Paper Name	:	Fundamentals of Retailing
Paper Code	:	SLLL RLM 11 02 2103
Maximum Marks	:	37.5
Maximum Time	:	3 hours
Batch	:	2022

Note: Question No.1 is compulsory. Attempt one question from each Unit.

Q1. Attempt any five questions: (5x1.5=7.5)

- a) Explain the functions of retailing.
- b) Define the meaning of hypermarket in retailing.
- c) Mention the driving forces of retailing in India.
- d) What is organised market in retail?
- e) Who is the initiator in consumer buying roles?
- f) What are the social factors influencing buying process?
- g) Explain etiquette of customer service interactions.
- h) Why retail promotional activities are important?

UNIT I

Q2. A) Enumerate the concept and characteristics of retailing. (5)

B) Explain the economic impact of retailing. (2.5)

OR

Q3. A) Discuss various challenges and opportunities of retailing. (5)

B) What is multi channel retailing? Explain with example. (2.5)

UNIT II

Q4. A) Describe the current scenario of retailing in India. (5)

B) How do market structures affect consumers? (2.5)

OR

Q5. A) Discuss various structural changes required for growth of Indian retail market. (5)

B) How does market structure affect pricing? (2.5)

UNIT III

- Q6. A) Discuss the factors most affecting consumer behaviour? (5)
B) Explain the buying roles of consumer. (2.5)

OR

- Q7. A) Describe various models of consumer behaviour. (5)
B) Explain internal and external variables influencing consumer behaviour in retailing. (2.5)

UNIT IV

- Q8. A) How do you establish and maintain retail store image. Give example to support your answer. (5)
B) Explain various methods of retail promotion. (2.5)

OR

- Q9. A) Write detailed note on promotional budget. (5)
B) Why retail advertising media is important in modern business? (2.5)

CENTRAL UNIVERSITY OF HARYANA
1st Semester U.G. (B.Voc.) Term End Examination March 2023

Programme	:	B. Voc. - Retail and Logistics Management (RLM)
Semester	:	1st (Regular/Reappear)
Paper Name	:	Business Environment
Paper Code	:	SLLL RLM 11 03 C 2103
Maximum Marks	:	37.5
Maximum Time	:	3 hours
Batch	:	2022

Note: Question No.1 is compulsory. Attempt one question from each Unit.

Q1. Attempt any five questions: (5x1.5=7.5)

- a) Define the concept of business environment.
- b) Explain the steps of SWOT analysis.
- c) What are major functions of stock exchange of India?
- d) State any four objectives of monetary policy of India.
- e) Explain the concept of Special Economic Zones (SEZs).
- f) Explain the term CSR in business.
- g) Define the term 'Globalisation'.
- h) Give a brief explanation of EXIM bank.

UNIT-I

Q2.A) What do you understand by business environment? Describe various elements of business environment. (5)

B) Discuss the importance of business environment. (2.5)

OR

Q3.A) What is environmental scanning? Discuss various techniques of environmental scanning and monitoring. (5)

B) What is economic environment of business? Explain the various elements of it. (2.5)

UNIT-II

Q4.A) What is SEBI? Discuss the important functions of SEBI. (5)

B) What is Goods and Service Tax (GST)? What are the differences between CGST, SGST and IGST? (2.5)

OR

Q5.A) Define Monetary Policy of India. Also explain various credit control measures. (5)

B) Explain the functions of RBI. (2.5)

UNIT-III

Q6.A) Discuss the social, economic and plant level implications of technology. (5)

B) Describe the concept of technological environment and its impact on business. (2.5)

OR

Q7.A) Define social responsibility and explain its models. (5)

B) What are critical elements of socio-cultural environment? (2.5)

UNIT-IV

Q8.A) Discuss the drivers of globalisation. (5)

B) Explain the nature of Foreign Direct Investment (FDI). (2.5)

OR

Q9.A) Describe the benefits and problems of MNCs to host country and home country. (5)

B) Elaborate various functions of EXIM Bank. (2.5)

CENTRAL UNIVERSITY OF HARYANA
Ist Semester U.G. (B.Voc.) Term End Examination March 2023

Programme	:	B. Voc. - Retail and Logistics Management (RLM)
Semester	:	I (Regular/Reappear)
Paper Name	:	Business Communication
Paper Code	:	SLLL RLM 11 04 C 2103
Maximum Marks	:	37.5
Maximum Time	:	3 hours
Batch	:	2022

Note: Question No.1 is compulsory. Attempt one question from each Unit.

Q1. Attempt any five questions: (5x1.5=7.5)

- a) Mention the components of business proposal.
- b) Why is visual presentation important in business presentation?
- c) What is one way and two way communication?
- d) Differentiate between business letter and business reports.
- e) Explain the meaning of a rejection letter.
- f) What are the 5W's of communication?
- g) What is the meaning of solicited and unsolicited inquiry letters?
- h) What is understood by gateways to communication?

UNIT-I

- Q2. A) Describe the process and elements of the communication. (5)
B) Explain the 7'C of effective communication. (2.5)

OR

- Q3. A) What are the characteristics of communication? Explain the importance of communication in management? (5)
B) Explain the communication barriers in brief. (2.5)

UNIT-II

- Q4. A) What is written communication? Explain the pros and cons of written communication. (5)
B) Define active listening. Explain the tips for effective listening. (2.5)

OR

- Q5. A) Explain verbal communication. What are the principles of verbal communication? (5)
B) What are the principles of effective writing? (2.5)

UNIT-III

- Q6. A) What is daily routine letter? How to write daily routine letter to your employees? (5)
B) Define visual aid and explain the types of visual aid. (2.5)

OR

- Q7. A) What are the presentation skills? Explain the elements and process of presentation. (5)
B) Explain persuasive letter and write the impact of persuasive letter in organization. (2.5)

UNIT-IV

- Q8. A) Write a summary and review of your favourite movie. (5)
B) What is the work vocabulary? Explain with example. (2.5)

OR

- Q9. A) Explain past continuous tense. Write the rules of past continuous tense with examples. (5)
B) What is an article? Write rules of articles with examples. (2.5)

CENTRAL UNIVERSITY OF HARYANA
1st Semester U.G. (B.Voc.) Term End Examination March 2023

Programme	:	B. Voc. - Retail and Logistics Management (RLM)
Semester	:	1st (Regular/Reappear)
Paper Name	:	PRINCIPLES & PRACTICES OF MANAGEMENT
Paper Code	:	SLLL RLM 11 01 C 2103
Maximum Marks	:	37.5
Maximum Time	:	3 hours
Batch	:	2022

Note: Question No.1 is compulsory. Attempt one question from each Unit.

Q1. Attempt any five questions: (5x1.5=7.5)

- a) What are the functions of a manager?
- b) Mention various features of management by objectives.
- c) What is the concept of span of control?
- d) What are the objectives of decentralization?
- e) What are the five qualities of effective leaders?
- f) Explain the difference of a manager and a leader.
- g) Explain the basic concept of controlling.
- h) What are various limitations of budgetary control?

UNIT-I

Q2.A) Explain the nature of management process. Why management process is called social and consequential process? (5)

B) What is management? Explain the characteristics of management. (2.5)

OR

Q3.A) Discuss the contribution of Henry Fayol to modern management. (5)

B) Explain the steps in the process of planning. (2.5)

UNIT-II

Q4. A) Elaborate the factors determining centralization of authority. Also explain advantages and disadvantages of centralization. (5)

B) Explain the concept and importance of organizing function. (2.5)

OR

Q.5 A) Discuss concept and elements of delegation of authority. Also highlight various barriers of delegation. (5)

B) Explain meaning and types of organizational structure. (2.5)

UNIT-III

Q6.A) Discuss Blake and Mouton's managerial grid. (5)

B) Give reasons why staffing is considered as placing the right men for the right job. (2.5)

OR

Q7.A) Discuss the nature and elements of direction in management. (5)

B) Explain the process of staffing. (2.5)

UNIT-IV

Q8.A) Discuss PERT and CPM methods of controlling. (5)

B) Explain the advantages and disadvantages of controlling. (2.5)

OR

Q9.A) Describe the process and types of controlling. (5)

B) Elaborate the limitations of controlling. (2.5)



Central University of Haryana
Term End Examination March 2023
B. Voc. Biomedical Sciences Programmes

Program: B. Voc. Biomedical Sciences
Course Code: SLLL BMS 1103 C 2002/BMS-103
Course Title: English Communication

Semester: First
Max Time: 3 hours
Max Marks: 25

Instructions:

Question Number **one (PART-I)** is compulsory and carries total 5 marks (Each sub Question carries one Mark).

Question Numbers 2(two) to 5(five) (**PART-II**) carry five marks each with internal choice.

PART -I

Q. No.1 Attempt any 5 questions. Each question carries 1 marks

- (a) Sender
- (b) Feedback
- (c) Language barriers
- (d) Face to face communication
- (e) Interview
- (f) Self awareness
- (g) Formal Communication

PART -II

Q. No.2) Define and discuss about the features of communication.

OR

Q. No.2) Outline and explain the barriers to communication.

Q. No.3 Differentiate between Oral and Written communication.

OR

Q. No 3) Discuss in brief about the following:

- a) Direct communication style
- b) Systematic communication style

Q. No.4) Discuss the basic listening skills.

OR

Q. No.4) Explain about effective writing communication.

Q. No.5) Discuss in detail about purpose of Interview.

OR

Q. No.5) Discuss in detail about dealing with fears.

THE UNIVERSITY OF CHICAGO
DEPARTMENT OF CHEMISTRY
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Central University of Haryana

End Semester Examination March 2023

Program: B. Voc. Biomedical Sciences Semester: I
Paper Name: Concepts in Chemistry-I Paper code: BMS -102
Max Marks: 50 Max Time: 3 hours

Question No. 1 is compulsory. Attempt one question from each Unit

Question No.1: Attempt any 5 questions. Each question carries 2 marks.

1. Define the law of mass action.
2. Define Lewis acid and Base. Give examples.
3. What are Buffers. Give example.
4. Define Electronegativity and Ionisation Enthalpy.
5. Give the IUPAC Name of (a) $\text{CH}_3\text{CH}_2\text{CH}_2\text{CHO}$ (b) $\text{CH}_3\text{CH}_2\text{COOCH}_3$
6. What are Electrophiles. Give examples.
7. Draw the structure of (a) Naphthalene (b) Anthracene.
8. What are aromatic compounds. Give examples.

Unit 1

Question No 2 (10 marks): Explain the factors which influence the equilibrium state of and reaction.

OR

Question No 3 (10 marks): Derive Henderson-Hasselbalch Equation for weak acid and its salt.

Unit 2

Question No 4 (10 marks): Write a note on the Diagonal Relationship between the elements in the periodic table.

OR

Question No 5 (10 marks): Write a note on the anomalous behavior of the first member of each group.

QUESTION 1

1. The following table shows the results of a survey of 100 people.

Age Group	Gender	Preference
18-25	Male	15
18-25	Female	10
26-35	Male	12
26-35	Female	8
36-45	Male	10
36-45	Female	7
46-55	Male	8
46-55	Female	6
56-65	Male	6
56-65	Female	5
66+	Male	4
66+	Female	3

2. Calculate the probability that a randomly selected person is a female aged 18-25.

3. Calculate the probability that a randomly selected person is a male aged 26-35.

1. Calculate the probability that a randomly selected person is a female aged 18-25.
2. Calculate the probability that a randomly selected person is a male aged 26-35.
3. Calculate the probability that a randomly selected person is a female aged 36-45.
4. Calculate the probability that a randomly selected person is a male aged 46-55.
5. Calculate the probability that a randomly selected person is a female aged 56-65.
6. Calculate the probability that a randomly selected person is a male aged 66+.

QUESTION 2

1. The following table shows the results of a survey of 100 people.

OR

2. Calculate the probability that a randomly selected person is a female aged 18-25.

QUESTION 3

1. The following table shows the results of a survey of 100 people.

OR

2. Calculate the probability that a randomly selected person is a female aged 18-25.

Unit 3

Question No 6 (10 marks): Write a note on the formation, stability, and reactivity of carbocations.

OR

Question No 7 (10 marks): Write a note on the formation, stability, and reactivity of carbanions.

Unit 4

Question No 8 (10 marks): Write a note on the preparation, properties, and reactivity of Benzene.

OR

Question No 9 (10 marks): What are soaps and detergents? Give examples. Explain the mechanism of removal of dirt and oil stains from clothes.

Table 1

Question 1: The number of people who are... Answer: 120
Question 2: The number of people who are... Answer: 150

Table 2

Question 3: The number of people who are... Answer: 180
Question 4: The number of people who are... Answer: 200

Central University of Haryana
End Semester Examination (Reappear), March 2023

Program : B Voc Biomedical Sciences
Semester : I
Paper Name : Basic Organic Chemistry
Paper code : BMS -102
Max Marks : 50
Max Time : 3 hours

Question No. 1 is compulsory. Attempt one question from each Unit

Question No.1: Attempt any 5 questions. Each question carries 2 marks.

1. Explain why benzylic carbocation is more stable than allylic carbocation.
2. Define Nucleophile.
3. Write IUPAC Name of the following compounds: (a) $\text{CH}_3\text{CH}_2\text{CH}_2\text{CHO}$ (b) $\text{CH}_3\text{CH}_2\text{COOCH}_3$
4. What are aromatic compounds. Give examples.
5. Draw the structure of (a) Naphthalene (b) Anthracene.
6. Explain why formaldehyde doesnot undergo aldol condensation?
7. How would you test that alkenes undergo an addition reaction.

Unit 1

Question No 2 (10 marks)

Write a note on formation, stability, and reactivity of reactive intermediates.

OR

Question No 3 (10 marks)

Write note on (a) Inductive effect and (b) mesomeric effect.

Unit 2

Question No 4 (10 marks)

Write a note on conformations of butane. Draw the potential energy diagram also.

OR

Question No 5 (10 marks)

Write a note on physical properties, preparations and reactions of alkene.

Unit 3

Question No 6 (10 marks)

Write a note on (a) aldol condensation and (b) Cannizzaro reaction.

OR

Question No 7 (10 marks)

Write a note on preparation and reactions of ketones.

Unit 4

Question No 8 (10 marks)

Write a note on Friedel craft acylation.

OR

Question No 9 (10 marks)

Write a note on properties, preparation, and reaction of benzene.

1. The following are the main components of the system:
- The system is designed to be user-friendly and easy to use.
- It is designed to be secure and reliable.

2. The system is designed to be user-friendly and easy to use.
3. It is designed to be secure and reliable.

4. The system is designed to be user-friendly and easy to use.

5. The system is designed to be user-friendly and easy to use.
6. It is designed to be secure and reliable.
7. The system is designed to be user-friendly and easy to use.
8. It is designed to be secure and reliable.
9. The system is designed to be user-friendly and easy to use.
10. It is designed to be secure and reliable.

11. The system is designed to be user-friendly and easy to use.

12. The system is designed to be user-friendly and easy to use.
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17. The system is designed to be user-friendly and easy to use.
18. It is designed to be secure and reliable.
19. The system is designed to be user-friendly and easy to use.
20. It is designed to be secure and reliable.

21. The system is designed to be user-friendly and easy to use.

22. The system is designed to be user-friendly and easy to use.
23. It is designed to be secure and reliable.
24. The system is designed to be user-friendly and easy to use.
25. It is designed to be secure and reliable.

26. The system is designed to be user-friendly and easy to use.

27. The system is designed to be user-friendly and easy to use.
28. It is designed to be secure and reliable.
29. The system is designed to be user-friendly and easy to use.
30. It is designed to be secure and reliable.

Central University of Haryana
End Semester Examination (Regular), March 2023

Program: B. Voc. Biomedical Sciences Paper code: SLLL BMS 1102 C 4004
Paper Name: Physical and Inorganic Chemistry Semester: 1st
Max Marks: 50 Max Time: 3 hours

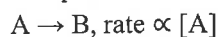
Instructions: All questions carry equal marks. All Questions are compulsory.

Question No 1: Each sub-question carries 2 marks. Attempt any five.

- a) Derive the expression for the half-life time of zero-order reaction.
- b) Derive the law of mass action for the reaction:



- c) What is the difference between an alcosol and hydrosol?
- d) Define turn over number.
- e) Explain the properties of gels.
- f) What are associated colloids.
- g) Give two examples of metalloporphyrins.
- h) Derive an expression for the half-life period of the following reaction:



Question No 2:

- a) Calculate the heat of the formation of potassium hydroxide from the following data. (3)
 - (i) $K(s) + H_2O(aq) \rightarrow KOH + 1/2 H_2$ $\Delta H = -48.0 \text{ kcal}$
 - (ii) $H_2(g) + 1/2 O_2(g) \rightarrow H_2O(l)$ $\Delta H = -68.5 \text{ kcal}$
 - (iii) $KOH(s) \rightarrow KOH(aq)$ $\Delta H = -14.0 \text{ kcal}$
- b) The rate constant for the second-order reaction is $3.33 \times 10^{-2} \text{ dm}^3 \text{ mol}^{-1} \text{ s}^{-1}$. If the initial concentration of the reactant is 0.05 mol dm^{-3} , Calculate its half-lifetime. (2)
- c) Discuss Michaelis and Menten's enzyme mechanism in detail to express the rate of reaction. Derive the required equation. (5)

OR

Question No 3:

- a) Derive the integrated rate expression for the second-order reaction when concentrations of both reactants are the same. (5)
- b) Write a short note on Phase transfer catalysis. (5)

Question No 4:

- a) Derive the following equation: (3)
$$pH = pK_a + \log\left\{\frac{[\text{Salt}]}{[\text{Acid}]}\right\}$$
- b) Calculate the % of NaCl required to render a 0.5% solution of KCl iso-osmotic with blood plasma. ($E_{KCl} = 0.76$) (2)

- c) Write a short note on the use of buffers in pharmaceutical preparations. (5)

OR

Question No 5:

- a) The buffer solution of $\text{pH} = 5$ is to be prepared by using acetic acid and sodium acetate. Calculate the ratio $[\text{Salt}] : [\text{Acid}]$ that must be used. $K_a = 1.8 \times 10^{-5}$. (3)
- b) Derive the relation between K_p and K_c (3)
- c) Write a short note on the common ion effect. (4)

Question No 6:

- a) What is electrophoresis? How does this phenomenon provide information about the sign of the charge on particles? (5)
- b) Write a short note on the purification of sols. (5)

OR

Question No 7:

- a) Discuss the factors responsible for the instability in emulsion and suggest their preservative measure. (5)
- b) Write a short note on the properties of sols. (5)

Question No 8:

- a) State the applications of chelates in pharmaceutical preparations? (5)
- b) Write a short note on organic molecular complexes. (5)

OR

Question No 9:

- a) Give classification of complexes. (5)
- b) State the mechanisms or principles for the formation of organic molecular complexes. (5)

Central University of Haryana
End Semester Examination (Regular), March 2023

Program:	B. Voc. Biomedical Sciences	Paper code:	SLLL BMS 1102 C 4004
Paper Name:	Physical and Inorganic Chemistry	Semester:	1 st
Max Marks:	50	Max Time:	3 hours

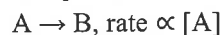
Instructions: All questions carry equal marks. All Questions are compulsory.

Question No 1: Each sub-question carries 2 marks. Attempt any five.

- Derive the expression for the half-life time of zero-order reaction.
- Derive the law of mass action for the reaction:



- What is the difference between an alcosol and hydrosol?
- Define turn over number.
- Explain the properties of gels.
- What are associated colloids.
- Give two examples of metalloporphyrins.
- Derive an expression for the half-life period of the following reaction:



Question No 2:

- Calculate the heat of the formation of potassium hydroxide from the following data. (3)
 - $K(s) + H_2O(aq) \rightarrow KOH + 1/2 H_2$ $\Delta H = -48.0 \text{ kcal}$
 - $H_2(g) + 1/2 O_2(g) \rightarrow H_2O(l)$ $\Delta H = -68.5 \text{ kcal}$
 - $KOH(s) \rightarrow KOH(aq)$ $\Delta H = -14.0 \text{ kcal}$
- The rate constant for the second-order reaction is $3.33 \times 10^{-2} \text{ dm}^3 \text{ mol}^{-1} \text{ s}^{-1}$. If the initial concentration of the reactant is 0.05 mol dm^{-3} , Calculate its half-lifetime. (2)
- Discuss Michaelis and Menten's enzyme mechanism in detail to express the rate of reaction. Derive the required equation. (5)

OR

Question No 3:

- Derive the integrated rate expression for the second-order reaction when concentrations of both reactants are the same. (5)
- Write a short note on Phase transfer catalysis. (5)

Question No 4:

- Derive the following equation: (3)
$$pH = pK_a + \log \left\{ \frac{[\text{Salt}]}{[\text{Acid}]} \right\}$$
- Calculate the % of NaCl required to render a 0.5% solution of KCl iso-osmotic with blood plasma. ($E_{KCl} = 0.76$) (2)

- c) Write a short note on the use of buffers in pharmaceutical preparations. (5)

OR

Question No 5:

- a) The buffer solution of $\text{pH} = 5$ is to be prepared by using acetic acid and sodium acetate. Calculate the ratio $[\text{Salt}] : [\text{Acid}]$ that must be used. $K_a = 1.8 \times 10^{-5}$. (3)
- b) Derive the relation between K_p and K_c (3)
- c) Write a short note on the common ion effect. (4)

Question No 6:

- a) What is electrophoresis? How does this phenomenon provide information about the sign of the charge on particles? (5)
- b) Write a short note on the purification of sols. (5)

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- a) Discuss the factors responsible for the instability in emulsion and suggest their preservative measure. (5)
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- a) State the applications of chelates in pharmaceutical preparations? (5)
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OR

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- a) Give classification of complexes. (5)
- b) State the mechanisms or principles for the formation of organic molecular complexes. (5)

CENTRAL UNIVERSITY OF HARYANA
Term End Examinations, March 2023

Programme: B. Voc. (Biomedical Sciences)
Course Title: Human Physiology
Course Code: SLLL BMS 11 01 C 4004

Semester: I
Max. Time: 3 Hour
Max. Marks: 50

Instructions: Question No. 1 is compulsory.

Question No.1 Attempt any 5 questions. Each question carries 2 marks.

- a) Write the location and function of pseudostratified ciliated columnar epithelium.
- b) Name any four plasma proteins found in the Human blood.
- c) Enlist the functions of bone tissue.
- d) How Parietal cells are involved in digestion process?
- e) Write the structural classification of Neurons.
- f) What is the physiological significance of Juxtaglomerular cells?
- g) How hypothalamus is involved in the maintenance of body water balance.
- h) Name any two hormones secreted by Placenta.

Unit 1 and 2

Question No 2 (10 marks)

- a) Describe different types of epithelial membranes. (5 Marks)
- b) Write a short note on Tissue injury. (3 Marks)
- c) Highlight the main features of dense regular connective tissue. (2 Marks)

OR

Question No 3 (10 marks)

- a) Discuss the significance of Haemopoietic growth factors. (5 Marks)
- b) Explain the mechanism involved in platelet plug formation. (3 Marks)
- c) Differentiate granular and agranular leukocytes. (2 Marks)

Unit 3 and 4

Question No 4 (10 marks)

- a) Describe the significance of osteoblasts and osteoclasts in bone tissue. (5 Marks)
- b) Define bone remodelling. Discuss the role of various hormones that affect bone growth. (5 Marks)

OR

Question No 5 (10 marks)

- a) Write the composition and functions of Pancreatic juice. (5 Marks)
- b) Explain the neural and hormonal regulation of gastric phase of digestion. (5 Marks)

Unit 5 and 6

Question No 6 (10 marks)

- a) Explain signal transmission process at a chemical synapse. (5 Marks)
- b) Describe the structure of a multipolar neuron with the help of diagram. (5 Marks)

OR

Question No 7 (10 marks)

- a) Discuss the hormonal regulation of tubular reabsorption and secretion. (5 Marks)
- b) Describe the internal anatomy of kidney with the help of diagram. (5 Marks)

Unit 7 and 8

Question No 8 (10 marks)

- a) What is Acid-base balance? Write a note on buffer systems in the body. (5 Marks)
- b) Discuss the common causes of Respiratory acidosis and alkalosis along with their compensatory mechanisms. (5 Marks)

OR

Question No 9 (10 marks)

- a) Write down the types of anterior pituitary cells and their hormones. (5 Marks)
- b) Describe the two general mechanisms of hormone action. (5 Marks)

Central University of Haryana
Semester Term End Examination March, 2023
B.Voc. Biomedical Sciences

Course Code: BMS-101

Course Title: Human Physiology (Reappear)

Max Time: 3h

Max Marks: 50

Instructions:

Question Number **one (PART-I)** is compulsory and carries total 10 marks (Each sub Question carries **two** Marks).

Question Numbers 2(two) to 5(five) carry ten marks each with internal choice.

PART -I

Q. No.1 Attempt any five

(10 marks)

- a) Name any type of epithelial membrane and explain.
- b) Differentiate between muscle tissue and nervous tissue.
- c) What is aging?
- d) What are the characteristics of blood?
- e) What are the functions of skeletal system?
- f) What is calcium homeostasis?
- g) Write the function of liver and gall bladder.

PART -II

Q. No.2

- a) Describe the life cycle of erythrocytes with the help of diagram. (5)
- b) Write difference between Apoptosis and Neurosis. (5)

OR

Q. No.2

- a) Discuss the process of bone formation and development. (5)
- b) Discuss in detail the structure and classification of bone. (5)

Q. No.3

Describe the process of digestion and its regulation in detail. (10)

OR

Q. No.3

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PART I

PHYSICAL CHEMISTRY
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PART II

PHYSICAL CHEMISTRY

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PHYSICAL CHEMISTRY

Describe in detail the central nervous system. (10)

Q. No.4

a) Diagrammatically explain the anatomy of kidney. (10)

OR

Q. No.4

What do you mean by neurotransmitters and write its properties and examples? (10)

Q. No .5

Discuss the function and regulation of hormones secreted by thyroid and pituitary gland. (10)

OR

Q. No .5

Explain the buffer systems in the body. (10)

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Central University of Haryana
Term End Examination March 2023
B. Voc. Biomedical Sciences Programmes

Program: B. Voc. Biomedical Sciences
Course Code: SLLL BMS 1103 C 2002
Course Title: English Communication

Semester: First
Max Time: 3 hours
Max Marks: 25

Instructions:

Question Number **one (PART-I)** is compulsory and carries total 5 marks (Each sub Question carries one Mark).

Question Numbers 2(two) to 5(five) (**PART-II**) carry five marks each with internal choice.

PART -I

Q. No.1 Attempt any 5 questions. Each question carries 1 marks

- (a) Sender
- (b) Feedback
- (c) Language barriers
- (d) Face to face communication
- (e) Interview
- (f) Self awareness
- (g) Formal Communication

PART –II

Q. No.2) Define and discuss about the features of communication.

OR

Q. No.2) Outline and explain the barriers to communication.

Q. No.3 Differentiate between Oral and Written communication.

OR

Q. No 3) Discuss in brief about the following:

- a) Direct communication style
- b) Systematic communication style

Q. No.4) Discuss the basic listening skills.

OR

Q. No.4) Explain about effective writing communication.

Q. No.5) Discuss in detail about purpose of Interview.

OR

Q. No.5) Discuss in detail about dealing with fears.

U.S. DEPARTMENT OF JUSTICE
FEDERAL BUREAU OF INVESTIGATION
WASHINGTON, D. C. 20535



TO : SAC, NEW YORK
FROM : SAC, NEW YORK
SUBJECT: [Illegible]

RE: [Illegible]

[Illegible text block]

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- (a) [Illegible]
- (b) [Illegible]
- (c) [Illegible]
- (d) [Illegible]
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CENTRAL UNIVERSITY OF HARYANA
Term End Examinations, March 2023

Programme: B. Voc. (Biomedical Sciences)
Course Title: Human Physiology
Course Code: SLLL BMS 11 01 C 4004

Semester: I
Max. Time: 3 Hour
Max. Marks: 50

Instructions: Question No. 1 is compulsory.

Question No.1 Attempt any 5 questions. Each question carries 2 marks.

- a) Write the location and function of pseudostratified ciliated columnar epithelium.
- b) Name any four plasma proteins found in the Human blood.
- c) Enlist the functions of bone tissue.
- d) How Parietal cells are involved in digestion process?
- e) Write the structural classification of Neurons.
- f) What is the physiological significance of Juxtglomerular cells?
- g) How hypothalamus is involved in the maintenance of body water balance.
- h) Name any two hormones secreted by Placenta.

Unit 1 and 2

Question No 2 (10 marks)

- a) Describe different types of epithelial membranes. (5 Marks)
- b) Write a short note on Tissue injury. (3 Marks)
- c) Highlight the main features of dense regular connective tissue. (2 Marks)

OR

Question No 3 (10 marks)

- a) Discuss the significance of Haemopoietic growth factors. (5 Marks)
- b) Explain the mechanism involved in platelet plug formation. (3 Marks)
- c) Differentiate granular and agranular leukocytes. (2 Marks)

Unit 3 and 4

Question No 4 (10 marks)

- a) Describe the significance of osteoblasts and osteoclasts in bone tissue. (5 Marks)
- b) Define bone remodelling. Discuss the role of various hormones that affect bone growth. (5 Marks)

OR

Question No 5 (10 marks)

- a) Write the composition and functions of Pancreatic juice. (5 Marks)
- b) Explain the neural and hormonal regulation of gastric phase of digestion. (5 Marks)

Unit 5 and 6

Question No 6 (10 marks)

- a) Explain signal transmission process at a chemical synapse. (5 Marks)
- b) Describe the structure of a multipolar neuron with the help of diagram. (5 Marks)

OR

Question No 7 (10 marks)

- a) Discuss the hormonal regulation of tubular reabsorption and secretion. (5 Marks)
- b) Describe the internal anatomy of kidney with the help of diagram. (5 Marks)

Unit 7 and 8

Question No 8 (10 marks)

- a) What is Acid-base balance? Write a note on buffer systems in the body. (5 Marks)
- b) Discuss the common causes of Respiratory acidosis and alkalosis along with their compensatory mechanisms. (5 Marks)

OR

Question No 9 (10 marks)

- a) Write down the types of anterior pituitary cells and their hormones. (5 Marks)
- b) Describe the two general mechanisms of hormone action. (5 Marks)

Central University of Haryana
End Semester Examination (Regular), March 2023

Program: B. Voc. Biomedical Sciences Paper code: SLLL BMS 1102 C 4004
Paper Name: Physical and Inorganic Chemistry Semester: 1st
Max Marks: 50 Max Time: 3 hours

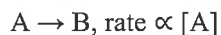
Instructions: All questions carry equal marks. All Questions are compulsory.

Question No 1: Each sub-question carries 2 marks. Attempt any five.

- a) Derive the expression for the half-life time of zero-order reaction.
- b) Derive the law of mass action for the reaction:



- c) What is the difference between an alcosol and hydrosol?
- d) Define turn over number.
- e) Explain the properties of gels.
- f) What are associated colloids.
- g) Give two examples of metalloporphyrins.
- h) Derive an expression for the half-life period of the following reaction:



Question No 2:

- a) Calculate the heat of the formation of potassium hydroxide from the following data. (3)
 - (i) $K(s) + H_2O(aq) \rightarrow KOH + 1/2 H_2$ $\Delta H = -48.0 \text{ kcal}$
 - (ii) $H_2(g) + 1/2 O_2(g) \rightarrow H_2O(l)$ $\Delta H = -68.5 \text{ kcal}$
 - (iii) $KOH(s) \rightarrow KOH(aq)$ $\Delta H = -14.0 \text{ kcal}$
- b) The rate constant for the second-order reaction is $3.33 \times 10^{-2} \text{ dm}^3 \text{ mol}^{-1} \text{ s}^{-1}$. If the initial concentration of the reactant is 0.05 mol dm^{-3} , Calculate its half-lifetime. (2)
- c) Discuss Michaelis and Menten's enzyme mechanism in detail to express the rate of reaction. Derive the required equation. (5)

OR

Question No 3:

- a) Derive the integrated rate expression for the second-order reaction when concentrations of both reactants are the same. (5)
- b) Write a short note on Phase transfer catalysis. (5)

Question No 4:

- a) Derive the following equation: (3)
$$pH = pK_a + \log \left\{ \frac{[\text{Salt}]}{[\text{Acid}]} \right\}$$
- b) Calculate the % of NaCl required to render a 0.5% solution of KCl iso-osmotic with blood plasma. ($E_{KCl} = 0.76$) (2)

- c) Write a short note on the use of buffers in pharmaceutical preparations. (5)

OR

Question No 5:

- a) The buffer solution of pH = 5 is to be prepared by using acetic acid and sodium acetate. Calculate the ratio [Salt] : [Acid] that must be used. $K_a = 1.8 \times 10^{-5}$. (3)
- b) Derive the relation between K_p and K_c . (3)
- c) Write a short note on the common ion effect. (4)

Question No 6:

- a) What is electrophoresis? How does this phenomenon provide information about the sign of the charge on particles? (5)
- b) Write a short note on the purification of sols. (5)

OR

Question No 7:

- a) Discuss the factors responsible for the instability in emulsion and suggest their preservative measure. (5)
- b) Write a short note on the properties of sols. (5)

Question No 8:

- a) State the applications of chelates in pharmaceutical preparations? (5)
- b) Write a short note on organic molecular complexes. (5)

OR

Question No 9:

- a) Give classification of complexes. (5)
- b) State the mechanisms or principles for the formation of organic molecular complexes. (5)