CENTRAL UNIVERSITY OF HARYANA
IInd Semester U.G. (B.Voc.) Term End Examination August- September 2022

Programme	:	B. Voc. - Retail and Logistics Management (RLM)
Semester	:	II (Regular)
Paper Name	:	Organisational Behaviour
Paper Code	:	RLM-203
Max Marks	:	37.5
Max Time	:	3 hours
Batch	:	2021

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

Q1. Attempt any five questions: (5x1.5=7.5)
    a) What is work-force diversity?
    b) Define organizational effectiveness.
    c) What is stereotyping?
    d) State the components of attitude.
    e) Define democratic leadership.
    f) What is the role of motivation in an organisation?
    g) Define group norms.
    h) Explain the meaning of storming in the stages of group development.

UNIT-I
Q2. a) What is personality? Explain the determinants of personality. How personality influences OB.   (5)
    b) Explain Sigmund Freud's Psychoanalytic theory of personality.   (2.5)

or

Q3. a) Describe Five-Factor Model of personality.   (5)
    b) Discuss operant conditioning theory of learning   (2.5)

UNIT-II
Q4. a) Discuss the factors influencing attitude formation.   (5)
    b) Discuss the process of perception.   (2.5)
or
Q.5. a) Discuss how an understanding of attitudes is useful for the study of organisational behaviour.   (5)
    b) Briefly explain the barriers to attitude.   (2.5)

UNIT-III
Q6. a) Discuss Herzberg's two factor theory.   (5)
    b) What is leadership? Explain various leadership styles.   (2.5)
or
Q7. a) Explain Maslow's need hierarchy theory in detail.   (5)
    b) Distinguish between formal and informal leadership.   (2.5)

UNIT-IV
Q8. a) Discuss steps and nature of decision making process.   (5)
    b) Distinguish between individual decision making and group decision making.   (2.5)

or

Q9. a) What is Johari Window and how can it be used to help a team?   (5)
    b) How to improve interpersonal communication in the workplace?   (2.5)

CENTRAL UNIVERSITY OF HARYANA

IInd Semester U.G. (B.Voc.) Term End Examination August-September 2022

Programme	:	B. Voc. - Retail and Logistics Management (RLM)
Semester	:	II (Regular)
Paper Name	:	Business Communication-I
Paper Code	:	RLM-204
Max Marks	:	37.5
Max Time	:	3 hours
Batch	:	2021

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

Q1. Attempt any five questions: (5x1.5=7.5)
 a) Define downward communication.
 b) Define decoding.
 c) Define verbal communication with two examples.
 d) What do you understand by proxemics?
 e) Define verb with two examples.
 f) What are negotiation skills?
 g) What do you understand by electronic mail?
 h) Explain the meaning of social media.

UNIT – I
Q2. a) Elaborate the process and cycle of communication. (5)
 b) Highlight the role of communication in business. (2.5)

or

Q3. a) Discuss the relevance of 7Cs of effective communication. (5)
 b) What are the barriers of communication? (2.5)

UNIT – II
Q4. a) Describe non-verbal (KOPPACT) communication. (5)
 b) Explain the importance of language competency. (2.5)
or
Q5. a) Describe the importance of speaking and reading skills of communication. (5)
 b) Briefly explain the strategies for developing listening skills. (2.5)

UNIT-III
Q6. a) Explain various types of reports. (5)
 b) What is the role of video-conferencing in communication? (2.5)

or

Q7. a) What is a business meeting? Explain the advantages and disadvantages of meeting. (5)
 b) Explain the meaning of business memo with example. (2.5)

UNIT – IV
Q8. a) Discuss parts of speech with examples. (5)
 b) Define present perfect tense with two examples. (2.5)
or
Q9 a) Explain past tense with rules and examples. (5)
 b) Discuss articles with examples. (2.5)

CENTRAL UNIVERSITY OF HARYANA

IInd Semester U.G. (B.Voc.) Term End Examination August-September 2022

Programme	:	B. Voc. - Retail and Logistics Management (RLM)
Semester	:	II (Regular)
Paper Name	:	Business Economics
Paper Code	:	RLM-202
Max Marks	:	37.5
Max Time	:	3 hours
Batch	:	2021

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

Q1. Attempt any five questions: (5x1.5=7.5)
- a) What is law of demand?
- b) What is demand schedule?
- c) What do you mean by supply function?
- d) What is price effect?
- e) Differentiate between long run and short run costs.
- f) How will you define economies of scale?
- g) What is imperfect competition and its forms?
- h) Compare oligopoly and monopoly markets.

UNIT I
Q2. a) What do you understand by business economics? Discuss its nature. (5)
b) Discuss any four factors influencing demand for a product. (2.5)

or

Q3. a) What do you mean by elasticity of demand? Explain various degrees of price elasticity of demand with illustrations. (5)
b) Why measurement of elasticity of demand is important? (2.5)

UNIT II
Q4. a) What do you mean by market supply? What are the various determinants of market supply? (5)
b) What is income effect? Discuss with example. (2.5)

or

Q5. a) Define the concept of utility. Highlight the differences in the concepts of total utility, average utility and marginal utility. (5)
b) What is the reason for the negative slope of a demand curve? (2.5)

UNIT III
Q6. a) What do you mean by cost function? Explain the determinants of costs. (5)
b) Illustrate the relation between average cost and marginal cost. (2.5)

or

Q7. a) Distinguish between laws of return to variables proportion and laws of returns to scale. (5)
b) What do you mean by cost and production analysis? (2.5)

UNIT IV
Q8. a) Define market structure. What are the various forms of markets? (5)
b) Explain the nature of AR and MR curves under monopolistic competition. (2.5)

or

Q9. a) Explain price output determination under perfect competition for short run. (5)
b) What is monopoly and what are its characteristics? (2.5)

CENTRAL UNIVERSITY OF HARYANA
IInd Semester U.G. (B.Voc.) Term End Examination August-September 2022

Programme	:	B. Voc. - Retail and Logistics Management (RLM)
Semester	:	II (Regular)
Paper Name	:	Supply chain and Logistics Management
Paper Code	:	RLM-201
Max Marks	:	37.5
Max Time	:	3 hours
Batch	:	2021

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

Q1. Attempt any five questions: (5x1.5=7.5)
   a)   What do you mean by value flow in supply chain management?
   b)   What is the objective of a supply chain?
   c)   Why logistics management is important for business?
   d)   State the role of warehouse in the logistics system.
   e)   What is just in time analysis?
   f)   Define inventory.
   g)   What is Bullwhip effect?
   h)   What is collaborative CRM?

UNIT I
Q2. a) Discuss conflict resolutions strategies for harmonious relationship in supply chain.   (5)
    b) Explain economic and non-economic benefits of transportation.   (2.5)

or

Q3. a) Elaborate basic modes of transport.   (5)
    b) Explain various features of supply chain management.   (2.5)

UNIT II
Q4. a) Discuss the components and functions of logistics management.   (5)
    b) Distinguish between centralized warehouse strengths and decentralized warehouse strengths. (2.5)

or

Q5. a) Elaborate the concept of logistical competitive advantage.   (5)
    b) What are various functions of warehouses?   (2.5)

UNIT III
Q6. a) What are the various types of inventories? Elaborate the functions of inventory in logistics and supply
    chain management.   (5)
    b) What are the benefits of distribution requirement planning (DRP)?   (2.5)

or

Q7. a) Discuss various elements of inventory cost.   (5)
    b) What is VED analysis?   (2.5)

UNIT IV
Q8. a) Discuss how IT plays important role in supply chain management.   (5)
    b) Differentiate between supply chain management and customer relationship management.   (2.5)

or

Q9. a) What is customer relationship management? Discuss its benefits.   (5)
    b) Discuss various features of benchmarking.   (2.5)

CENTRAL UNIVERSITY OF HARYANA

Second Semester Term End Examinations August-September 2022

Programme: **B.Voc. Biomedical Sciences**

Session: **2021-22**

Semester: **II**

Max. Time: **3 Hours**

Course Title: **Pharmaceutical Physical Chemistry**

Max. Marks: **50**

Course Code: **BMS-201**

Instructions:

1. Question no. 1 has eight parts and students are required to answer any five. Each part carries two Marks.

2. Question no. 2 to 5 have three parts and student are required to answer any two parts of each question. Each part carries five marks.
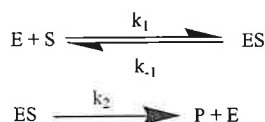
Q 1. (5X2=10)

a) Draw the plot of rate versus concentration for a second order reaction.

b) The rate constant for a first order reaction is $1.54 \times 10^{-3} \, s^{-1}$. Calculate its half-life.

c) Define heterogeneous and homogeneous catalysis. Also give one example of each.

d) What is the effect of temperature on Enzyme catalysis?

e) What is Brownian motion? How does it originate?

f) What is the difference between an alcosol and hydrosol?

g) What are chelates? Give example.

h) Name two naturally occurring metalloporphyrins.

Q 2. (2X5=10)

a) Define order of a reaction, molecularity of a reaction and half-life period. Show that for first order reactions the half-life period is independent of the initial concentration.

b) Derive the integrated rate expression for the second- order reaction when concentrations of both the reactants are same.

c) Nitrous oxide, N_2O, decomposes into N_2 and O_2, the reactants and products being all gaseous. If the reaction is first-order, develop expression for the rate constant as a function of time, initial pressure and the total pressure.

Q3. (2X5=10)

a) Discuss Michaelis and Menten's enzyme mechanism in detail to express the rate of reaction. Derive the required equation.

b) Discuss the kinetics of unimolecular surface reactions.

c) The following mechanism has been proposed for enzyme catalysis:

$$E + S \underset{k_{-1}}{\overset{k_1}{\rightleftharpoons}} ES$$

$$ES \xrightarrow{k_2} P + E$$

Using steady state approximation for [ES], show that the reaction rate when $K_m \gg [S]$ and $K_m \ll [S]$.

Q 4.   (2X5=10)

a) Explain the difference between true solution, colloidal solution and suspension.

b) Explain how the purification of colloidal solutions is carried out.

c) Give applications of emulsions.

Q 5.   (2X5=10)

a) Write down the structure of EDTA. State its various applications.

b) State the applications of chelates in pharmaceutical preparations?

c) Write a short note on organic molecular complexes.

Name of Programme	: B.Voc. (Biomedical Sciences)
Year & Semester	: September, 2022, Semester-II
Course Name	: Environmental Science
Course Code	: BMS- 202
Maximum Marks	: 50 **Duration:3Hrs**

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

Question 1. Define/write a short note on any five:-   (2x5)
  a. Renewable sources
  b. Eutrophication
  c. Food chain
  d. Exsitu conservation of biodiversity
  e. Marine pollution
  f. Chernobyl Nuclear disaster
  g. Population explosion
  h. Deforestation

Section -I

Question 2.   (6,4)
  A. How is Environmental Studies multi-disciplinary in nature? Explain.
  B. Define desertification.What are the major causes of desertification?

<div align="center">OR</div>

  A. Discuss the scope and importance of Environmental Studies.
  B. Write , in detail, the control measures of soil erosion.

Section -II

Question 3.   (6,4)
  A. What are ecological pyramids? Discuss different types of ecological pyramids.
  B. Explain the nitrogen cycle with the help of a diagram.

<div align="center">OR</div>

  A. What are the hotspots of biodiversity? Discuss the hotspots found in India and their salient features?
  B. Discuss the models of energy flow in an ecosystem.

Section -III

Question 4.   (6,4)
  A. What adverse effects can solid waste cause? How can the solid waste be managed?
  B. Define radioactivity. Which type of damage can be caused by ionizing radiations?

<div align="center">OR</div>

  A. What are the salient features of Air (Prevention and Control of Pollution) Act, 1981?
  B. Briefly describe the sources, effects and control of water pollution.

Section -IV

Question 5.   (6,4)
  A. Specify the factors that affect human population growth rate.
  B. Discuss the salient features of Environmental Protection Act, 1986.

<div align="center">OR</div>

  A. What are the different methods to propagate environmental awareness in the society?
  B. Write a note on Chipko movement.

End Semester Exams (Regular), August-September- 2022

Programme   : B.Voc. Biomedical Sciences   Max Marks   : 25
Semester   : 2nd Semester   Max Time   : 3 hrs
Paper Name : Biomolecules
Paper Code   : BMS-203

Attempt all 5 questions. Each question carries 5 marks.

Q1. Define any five following terms. Each carry one marks   (05 marks)

(a) Epimers

(b) Zwitter ion

(c) Glycerophospholipid

(d) Palindrome

(e) Saturated fatty acid

(f) Reducing sugars

(g) Isoelectric point (pI)

Q2. (i) What is mutarotation in carbohydrates?   (02 marks)

(ii) What is the structural difference between starch and glycogen?   (02marks)

(iii) Differentiate between proteoglycan and glycoprotein.   (01 mark)

Or

Draw any two structure. Each is of 2.5 marks.

(i)   Agarose

(ii)   Sucrose

(iii)   Maltose

Q3. (i) Describe titration of glycine.   (04 marks)

(ii)Draw structure of tryptophan amino acid.   (01 mark)

Or

(i) Describe alpha helical structure of protein.   (04 marks)

(ii)Draw structure of histidine amino acid. (01 mark)

Q4. (i) Why Lauric acid has lower solubility in water than that of glucose ? (02 marks)

   (ii)Branched-chain fatty acids are found in some bacterial membrane lipids. Would their presence increase or decrease the fluidity of the membranes (that is, give them a lower or higher melting point)? Why? (02 marks)

   (iii)Draw structure of Arachidonic acid (01 mark)

Or

Draw any two structure. Each is of 2.5 marks.

(i)   Phosphatidylethanolamine
(ii)   Plasmalogen
(iii)   Sphingomyelin

Q5 (i) Differentiate between hairpin and cruciform DNA structure. (04 marks)

   (ii) Draw structure of Guanine. (01 marks)

Or

(i)   Why free pyrimidines and purines are called bases? (01 marks)
(ii)   How solubility of pyrimidines and purines change with pH? (01 marks)
(iii)   Draw three tautomeric forms of Uracil. (03 marks)

CENTRAL UNIVERSITY OF HARYANA

Second Semester Term End Examinations August-September 2022

Programme:	B.Voc. Biomedical Sciences	**Session: 2021-22**
Semester:	II	**Max. Time: 3 Hours**
Course Title:	Pharmaceutical Physical Chemistry	**Max. Marks: 50**
Course Code:	BMS-201	

Instructions:

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2. Question no. 2 to 5 have three parts and student are required to answer any two parts of each question. Each part carries five marks.
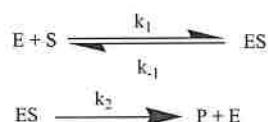
Q 1. (5X2=10)

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    b) The rate constant for a first order reaction is 1.54×10^{-3} s^{-1}. Calculate its half-life.

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    f) What is the difference between an alcosol and hydrosol?

    g) What are chelates? Give example.

    h) Name two naturally occurring metalloporphyrins.

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    a) Define order of a reaction, molecularity of a reaction and half-life period. Show that for first order reactions the half-life period is independent of the initial concentration.

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    a) Discuss Michaelis and Menten's enzyme mechanism in detail to express the rate of reaction. Derive the required equation.

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Using steady state approximation for [ES], show that the reaction rate when $K_m \gg [S]$ and $K_m \ll [S]$.

Q 4.   (2X5=10)

a) Explain the difference between true solution, colloidal solution and suspension.

b) Explain how the purification of colloidal solutions is carried out.

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Q 5.   (2X5=10)

a) Write down the structure of EDTA. State its various applications.

b) State the applications of chelates in pharmaceutical preparations?

c) Write a short note on organic molecular complexes.

Name of Programme	: B.Voc. (Biomedical Sciences)
Year & Semester	: September, 2022, Semester-II
Course Name	: Environmental Science
Course Code	: BMS- 202
Maximum Marks	: 50 Duration:3Hrs

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

Question 1. Define/write a short note on any five:-   (2x5)
  a. Renewable sources
  b. Eutrophication
  c. Food chain
  d. Exsitu conservation of biodiversity
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  f. Chernobyl Nuclear disaster
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Section -I
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OR

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Section -II
Question 3.   (6,4)
  A. What are ecological pyramids? Discuss different types of ecological pyramids.
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  B. Briefly describe the sources, effects and control of water pollution.

Section -IV
Question 5.   (6,4)
  A. Specify the factors that affect human population growth rate.
  B. Discuss the salient features of Environmental Protection Act, 1986.

OR

  A. What are the different methods to propagate environmental awareness in the society?
  B. Write a note on Chipko movement.

CENTRAL UNIVERSITY OF HARYANA

End Semester Exams (Regular), August-September- 2022

Programme : B.Voc. Biomedical Sciences   Max Marks : 25
Semester : 2nd Semester   Max Time : 3 hrs
Paper Name : Biomolecules
Paper Code : BMS-203

Attempt all 5 questions. Each question carries 5 marks.

Q1. Define any five following terms. Each carry one marks   (05 marks)

(a) Epimers

(b) Zwitter ion

(c) Glycerophospholipid

(d) Palindrome

(e) Saturated fatty acid

(f) Reducing sugars

(g) Isoelectric point (pI)

Q2. (i) What is mutarotation in carbohydrates?   (02 marks)

(ii) What is the structural difference between starch and glycogen?   (02marks)

(iii) Differentiate between proteoglycan and glycoprotein.   (01 mark)

Or

Draw any two structure. Each is of 2.5 marks.

(i)   Agarose

(ii)   Sucrose

(iii)   Maltose

Q3. (i) Describe titration of glycine.   (04 marks)

(ii)Draw structure of tryptophan amino acid.   (01 mark)

Or

(i) Describe alpha helical structure of protein.   (04 marks)

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Q4. (i) Why Lauric acid has lower solubility in water than that of glucose ?   (02 marks)

(ii)Branched-chain fatty acids are found in some bacterial membrane lipids. Would their presence increase or decrease the fluidity of the membranes (that is, give them a lower or higher melting point)? Why?   (02 marks)

(iii)Draw structure of Arachidonic acid   (01 mark)

Or

Draw any two structure. Each is of 2.5 marks.

(i)   Phosphatidylethanolamine

(ii)   Plasmalogen

(iii)   Sphingomyelin

Q5 (i) Differentiate between hairpin and cruciform DNA structure.   (04 marks)

(ii) Draw structure of Guanine.   (01 marks)

Or

(i)   Why free pyrimidines and purines are called bases?   (01 marks)

(ii)   How solubility of pyrimidines and purines change with pH?   (01 marks)

(iii)   Draw three tautomeric forms of Uracil.   (03 marks)

Course Code: BMS-501   Max Time: 3h
Course Title: Medical Genetics (Regular/Reappear)   Max Marks: 50

Instructions:
Question Number **one (PART-I)** is compulsory and carries total 10 marks (Each sub Question carries one Mark).
Question Numbers 2(two) to 5(five) carry ten marks each with internal choice.

PART -I

Q. No.1 Fill in the blank (Attempt **any ten**)   **(10 marks)**
  a) Expand LOD
  b) Huntington disease is a genetic disease. (True/False)
  c) Individualized drug therapy
  d) Oncogenes
  e) Genetic drift
  f) Barr bodies
  g) Genomic imprinting
  h) How many genes are present in mitochondrial genome in humans?
  i) Karyogram
  j) Full form of FISH is ………
  k) Pharmacogenomics
  l) Multifactorial disorder
  m) If the centromere occurs in the middle of chromosome, the chromosome is said to be…….
  n) Founder effect

PART –II

Q. No.2
    Write short note on any four of the following? (2.5X4=10)

  a) Triple repeat mutation
  b) SNPs
  c) Tandem repeat polymorphism
  d) SINEs
  e) Microsatellite

OR

Q. No 2
    Describe in detail how we can detect and measure the genetic variation? (10)

Q. No.3
  a) Write a short note on Mendelian principles? (5)
  b) Write a short note on mitochondrial genes and mitochondrial disorders? (5)

Q. No 3

    a) Write a note on sex linked inactivation? (3)

    b) What are the factors that affect the expression of disease-causing genes? Explain one. (7)

Q. No.4

    a) What is banding. Describe its different types? (5)

    b) Describe how recombination frequency help us determine the location of genes? (5)

OR

Q. No .4

    Write a detailed note on the abnormalities related to chromosome structure and number? (10)

Q. No .5

    a) Write a short note on disorders caused by defects in protein metabolism? (5)

    b) Write a note on prenatal diagnosis of genetic disorders (5)

OR

Q. No .5

    a) Describe any three classes of cancer genes? (5)

    b) Write a detailed note on disorders caused by defects in lipid metabolism? (5)

Course Code: BMS-502   **Max Time:** 3h
Course Title: Molecular Biology (Regular/Reappear)   **Max Marks:** 37.5

Instructions:
Question Number **one (PART-I)** is compulsory and carries total 7 marks (Each sub Question carries one Mark).
Question Numbers 2(two) to 4(four) carry ten marks each with internal choice.

PART -I

Q. No.1 Fill in the blank (Attempt **any seven**)   **(7 marks)**
   a) .... is enzyme of involved in polyadenylation.
   b) Repressor always binds to the sequence called................
   c) Initiator t-RNA bind to .... site of ribosome
   d) DNA replication is carried in direction..............
   e) ....,.......... and....... are three start codon in prokaryotes.
   f) DNA transcription takes place in...............
   g) .... pair of nucleotides are present in one helical turn of DNA
   h) Fredrick Griffith experiment involving streptococcus pneumonia lead to the discovery of ....
   i) .... main DNA replication enzyme in prokaryotes
   j) .... and .... are two elongation factor.

PART –II

Q. No.2
Write Function of any five following factors: **(10 marks)**
   (i) Sigma factor   **(ii)** RNA polymerase

   (iii) DNA polymerase   **(iv)** Dicer

   (v) Topoisomerase   **(vi)** Spliceosome

   (vii) CAP site   **(viii)** Solution I (Glucose, EDTA, TRIS)

OR

Q. No.2
   a) What is genetic code? Discuss the characteristics of genetic code.   **(5 marks)**
   b) Discuss Meselson and Stahl experiment.   **(5 marks)**

Q. No.3
   a) Draw diagram of t-RNA molecule.   **(4 marks)**
   b) Draw prokaryotic promoter.   **(3 marks)**
   c) Draw ribosome indications with all sites involved in translation.   **(3 marks)**

OR

Q. No 3
Explain the mechanism of 5' capping of tRNA in eukaryotes?   **(10 marks)**

Q. No.4
Discuss prokaryotic gene regulation with respect of lac operon?   **(10.5 marks)**

OR

Q. No .4
Discuss prokaryotic gene regulation with respect of tryptophan operon?   **(10.5 marks)**

Central University of Haryana
Semester V Term End Examination, December 2022
B.Voc. Programmes
Branch: Biomedical Sciences
Course Code: BMS-503   Max Time: 3h
Course Title: Medical Biotechnology (Regular/Reappear)   Max Marks: 50

Instructions:
Question Number **one (PART-I)** is compulsory and carries total 7 marks (Each sub-question carries one Mark).
Question Numbers 2 (two) to 4 (four) carry ten marks each with internal choice.

PART -I

Q. No.1 Define the following (Attempt **any seven**)   **(7 marks)**
   a) Nude mice
   b) Expand ADA
   c) DNA probes
   d) Antisense molecules
   e) Oncomouse
   f) cDNA library
   g) Cosmids
   h) Knockout mice
   i) Vegetable vaccines
   j) Expand HAC

PART –II

Q. No.2
   a) Mention different types of cloning vectors and the size of the insert DNA that can be accommodated in these cloning vectors? (5)

   b) What is difference between endonuclease and exonuclease? (2.5)

   c) Describe the difference between bacterial plasmids and chromosome? (2.5)

OR

Q. No.2
   a) Describe the procedure for obtaining a desired gene? (5)

   b) What are restriction enzymes? How they are named? (5)

Q. No.3
   a) Explain how insulin can be formed by the principle of recombinant DNA technology? (6)

   b) Describe in detail the process of PCR? (4.5)

OR

Q. No 3
   a) Explain the difference between DNA vaccine, mRNA vaccine and subunit vaccine? (6)

   b) Explain how the SARS-CoV-2 can be detected by using diagnostic kits (4.5)

Q. No.4

    a) What are transgenic animals? Describe the techniques by which they can be produced? (5)

    b) Citing one disease, describe the application of gene therapy? (5)

<div align="center">Or</div>

Q. No.4

    a) Describe how thymidine kinase is used as a biomarker to confirm the transfer DNA into new cells? (5)

    b) What is the principle of gene therapy? How it has been used in the treatment of ADA? (5)

Name of Programme	: B.Voc (Industrial Waste Management)
Year & Semester	: Sept. 2022, Semester-II
Course Name	: Instrumentation and techniques-1
Course Code	: IWM-201
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:

A. Define triple point of water. At what pressure and temperature triple point exists?

B. Write down the significance of good laboratory practices (GLP).

C. Differentiate between strong and weak acids.

D. Define sterilization.

E. Define sampling.

F. What is chemical oxygen demand? Write its acceptable limit in drinking water.

G. Why buffer solutions are important?

H. Why dissolved oxygen (DO) is important for aquatic organisms?

UNIT-I

Question 2: (6, 4)

A. Write collection and preservation methods of water sample.

B. Write down precautionary measures while collecting water sample for drinking purpose.

OR

A. What is the difference between high and low volume air samplers?

B. Discuss air sampling methods in detail.

UNIT-II

Question 3: (6, 4)

A. Why water chemistry is important?

B. Differentiate between autoclave and oven sterilization techniques.

OR

A. Write importance and use of incubation techniques.

B. Write physical properties of water in details.

UNIT-III

Question 4:   **(6, 4)**

    A. Define pH and how to measure it. Also explain pH meter in detail with diagram.

    B. Explain Arrhenius concepts of acids and bases.

<div align="center">OR</div>

    A. Differentiate between acidic and alkaline buffers and how to prepare them.

    B. What causes conductivity in water and how to measure it?

UNIT-IV

Question 5:   **(6, 4)**

    A. Discuss confocal microscopy with diagram.

    B. Write applications of UV VIS spectroscopy.

<div align="center">OR</div>

    A. Explain working of UV-VIS spectroscopy. Also draw a working diagram.

    B. Explain microscope parts with their functions.

Name of Programme	: B. Voc (Industrial Waste Management)
Year & Semester	: September. 2022, Semester-II
Course Name	: Environmental Pollution
Course Code	:IWM-203
Maximum Marks	:25 Duration : 3Hrs

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

Question 1. Define/write a short note on any five:-   (1x5)

    a. Particulates

    b. Organic air pollutants

    c. Examples of gaseous air pollutants

    d. Marine pollution

    e. Characteristics of agricultural waste waste

    f. Heavy metals

    g. Fertilizers

    h. E waste

    i. Noise pollution

UNIT-I

Question 2.   (3, 2)

    A. What is water pollution? Explain various sources of water pollution.

    B. Write a short note on thermal pollution

OR

    A. What are the various causes of water pollution? Discuss any two in detail.

    B. What is nutrient effect on water pollution? How it contribute in eutrophication of water bodies?

UNIT-II

Question 3.   (3, 2)

    A. What is soil pollution? Explain various sources of soil pollution.

B. How soil polluted from use of fertilizer and pesticides.

OR

A. What are various effects of polluted soil on crops?

B. Describe various remedial measures of soil pollution,

UNIT-III

Question 4. (3, 2)

A. What is air pollution? Discuss various sources of air pollution?

B. Give classification of air pollutants according to chemical composition.

OR

A. What are criteria air pollutants? Write characteristics of criteria air pollutants.

B. Discuss effects of air pollution on economy.

UNIT-IV

Question. 5. (3, 2)

A. Discuss about the measuring devices of sound level? Discuss it's various functional parts.

B. What are the various effects due to noise pollution? Discuss in detail.

OR

A. Write approaches on noise pollution control with examples.

B. What is radioactive pollution? Explain various sources of radioactive pollution.

Name of Programme	: B.Voc. (Industrial Waste Management)
Year & Semester	: September, 2022, Semester-II
Course Name	: Environmental Science
Course Code	: IWM- 202
Maximum Marks	: 50 Duration:3Hrs

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

Question 1. Define/write a short note on any five:-   (2x5)
  a. Desertification
  b. Shifting cultivation
  c. Eutrophication
  d. Ecological pyramid
  e. Insitu conservation of biodiversity
  f. Bhopal gas tragedy
  g. Sustainable development
  h. Population explosion

Section -I

Question 2.   (6,4)
  A. How do different disciplines contribute to environmental studies?
  B. What are the major causes and consequences of deforestation?

OR

  A. What is soil erosion? Discuss its types.
  B. What are the environmental impacts of excess usage of ground water?

Section -II

Question 3.   (6,4)
  A. Explain the process of ecological succession.
  B. What are the major threats to biodiversity?

OR

  A. What are the hotspots of biodiversity? Discuss the hotspots found in India and their salient features?
  B. What are the different zones in a lake ecosystem?

Section -III

Question 4.   (6,4)
  A. Discuss adverse effects and control of water pollution.
  B. Discuss various measures for waste land reclamation.

OR

  A. What are the salient features of Water (Prevention and Control of Pollution) Act, 1974.
  B. Briefly describe sources, effects and control of noise pollution.

Section -IV

Question 5.   (6,4)
  A. What are the factors influencing population size?
  B. Write a note on Wildlife (Protection) Act, 1972.

OR

  A. What is meant by population stabilization? Discuss the family welfare and family program in Indian context.
  B. What are the major implications of enhanced global warming?