



**Q.3 a)** Bring out the process of communication by illuminating different constituents of communication. **10**

**OR**

**b)** Elaborate different channels of communication.

**Q.4** Write a detailed note on the intrapersonal skills. **10**



- Q.2 Answer any Four of the following. 08**
- a) Define Entrepreneurship
  - b) Define Agricultural Entrepreneur.
  - c) Define Innovation.
  - d) Define Joint Stock Company.
  - e) What is Economic Activity?
  - f) What is Women entrepreneur?
- Q.3 Write short notes on any Two of the following. 08**
- a) Characteristics of entrepreneurship
  - b) Self Help Group.
  - c) Indian Institute of Entrepreneurship (IIE).
  - d) Managerial Vs. Entrepreneurial Approach.
- Q.4 Answer any Two of the following. 08**
- a) Explain types of entrepreneur.
  - b) Write note on SIDBI.
  - c) Functions of DIC.
- Q.5 Answer any One of the following. 08**
- a) Explain importance of entrepreneurship.
  - b) Explain need and problems faced by rural entrepreneurs.



**Q.2 Answer any four of the following.**

08

- a) Define Book Keeping.
- b) Define Accounting terminologies.
- c) Define Price Elasticity.
- d) Define Imperfect competition.
- e) Define Business Economics.
- f) Define Demand.

**Q.3 Write short notes on any two of the following.**

08

- a) Describe types of Income Elasticity Demand.
- b) Describe perfect Competition market.
- c) Jeyaseeli is a sole proprietor having a provisions store. Following are the transactions during the month of January, 2018. Journalise them.

Jan.	Rs.
1	Commenced business with cash 80,000
2	Deposited cash with bank 40,000
3	Purchased goods by paying cash 5,000
4	Purchased goods from Lipton & Co. on credit 10,000
5	Sold goods to Joy and received cash 11,000
6	Paid salaries by cash 5,000
7	Paid Lipton & Co. by cheque for the purchases made on 4th Jan.
8	Bought furniture by cash 4,000
9	Paid electricity charges by cash 1,000
10	Bank paid insurance premium on furniture as per standing instructions 300

**Q.4 Answer any Two of the following.**

08

- a) Describe types of Price Elasticity Demand.
- b) Define concept of Demand and its Law of Demand.
- c) Arun is a trader dealing in automobiles. For the following transactions, pass journal entries for the month of January, 2018.

Jan.	
1	Commenced business with cash Rs. 90,000
2	Purchased goods from X and Co. on credit Rs. 40,000
3	Accepted bill drawn by X and Co. Rs. 20,000
4	Sold goods to D and Co. on credit Rs. 10,000
5	Paid by cash the bill drawn by X and Co. Rs. 20000
6	Received cheque from D and Co. in full settlement and deposited the same in bank Rs. 9,000
7	Commission received in cash Rs. 5,000
8	Goods costing Rs. 40,000 was sold and cash received Rs. 50,000
9	Salaries paid in cash Rs. 4,000
10	Building purchased from Kumar and Co. for Rs. 1,00,000 and an advance of Rs. 20,000 is given in cash.

**Q.5 Answer any one of the following.**

- a) Define Nature & scope of accounting.  
 b) From the following balances obtained from the books of Siva, prepare trading and profit and loss account.

Particulars	₹	Particulars	₹
Stock on 01.01.2016	9,000	Bad debts	1,200
Purchases	22,000	Sundry expenses	1,800
Sales	42,000	Discount allowed	1,700
Expenses on purchases	1,500	Expenses on sale	1,000
Bank charges paid	3,500	Repairs on office furniture	600

Adjustments:

- 1) Closing stock on, 31st December, 2016 was Rs. 4,500
- 2) Manager is entitled to receive commission @ 5% of net profit after providing such commission.





- Q.3 Write short notes on any Two of the following.** **08**
- a) Molecular orbital
  - b) Postulates of VSEPR theory
  - c) Formation of ionic bond
- Q.4 Answer any Two of the following.** **08**
- a) Explain the Born Haber cycle for NaCl.
  - b) Draw the molecular diagram of oxygen molecule.
  - c) Explain the ionization potential.
- Q.5 Answer any One of the following.** **08**
- a) Explain the radius ratio and its effect with respect to octahedral geometry.
  - b) Explain the formation of methane molecule on the basis of hybridization concept.



- Q.3 Write short notes on any two.** **08**
- a) Dehydration of alcohol
  - b) Polymerization of alkynes
  - c) Kekule's structure of benzene
  - d) Quantitative analysis of Carius methods
- Q.4 Answer any two of the following.** **08**
- a) How will you detect nitrogen by Kjeldahal's method?
  - b) Explain the acidity of alkynes.
  - c) Explain dehydrohalogenation of alkyl halide.
- Q.5 Answer any one of the following.** **08**
- a) Describe the various types of dienes and illustrate the reaction of 1,3 - butadiene.
  - b) Explain the mechanism involved in the halogenation of alkane.

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**B.Sc. (Entrepreneurship) (Semester - I) (New) (CBCS) Examination:  
March/April-2024**

**Fundamentals of Microbiology (Paper - I) (EN1106)**

Day & Date: Monday, 15-04-2024

Max. Marks: 40

Time: 12:00 PM To 02:00 PM

- Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.  
3) Draw neat labeled diagrams wherever necessary.

**Q.1 Choose the correct alternative and rewrite the sentences again. 08**

- 1) \_\_\_\_\_ is the father of antiseptic surgery.
 

a) Joseph Lister	b) Robert Koch
c) Louis Pasteur	d) None of above
- 2) The process of killing all microorganisms along with their spores is \_\_\_\_\_.
 

a) Sanitation	b) Sterilization
c) Antisepsis	d) Diainfection
- 3) Lag phase is also known as \_\_\_\_\_.
 

a) period of initial adjustment	b) transitional period
c) generation time	d) period of rapid growth
- 4) \_\_\_\_\_ of the following is best method to sterilize heat labile solutions.
 

a) Autoclave	b) Membrane filtration
c) Dry heat	d) Pasteurization
- 5) \_\_\_\_\_ are microscopic hair-like structures involved in the locomotion of a cell.
 

a) Flagella	b) Ribosomes
c) Cell wall	d) Cell Membrane
- 6) The cell reproduction in bacteria may occur by \_\_\_\_\_.
 

a) binary fission	b) mitosis
c) budding	d) meosis
- 7) \_\_\_\_\_ is the orderly arrangement of living things into groups on the basis of their similarities.
 

a) Identification	b) Classification
c) Growth	d) Pure culture
- 8) \_\_\_\_\_ are very small, multi-shaped bacteria lacking a true cell wall.
 

a) Bacteria	b) Viruses
c) Mycoplasma	d) Algae

**Q.2 Answer any four of the following. 08**

- a) Louis Pasteur contribution
- b) Characteristics of Virus
- c) Archaeobacteria
- d) Germ theory of disease
- e) Autotroph
- f) Sterilization

- Q.3 Write short notes on any two of the following. 08**
- a) Explain in brief contributions of Anton von Leeuwenhoek.
  - b) Describe in brief Binomial Nomenclature.
  - c) Write difference between prokaryotic and eukaryotic microorganisms.
- Q.4 Answer any two of the following. 08**
- a) Explain in detail Cell wall composition of Gram-positive cell wall.
  - b) Describe in details Microbial growth in response to environment.
  - c) Explain in detail general characteristics of Fungi.
- Q.5 Answer any one of the following. 08**
- a) Explain in detail microbial growth in response to nutrition and energy.
  - b) Describe in detail physical agents of sterilization.



- Q.2 Define any four of the following. 08**
- a) Define cold sterilization.
  - b) Define stain and enlist types of stain.
  - c) What is Numerical aperture?
  - d) Define disinfection.
  - e) Role of eye piece.
  - f) What are the practical applications of sterilization by halogens?
- Q.3 Write short notes on any two of the following. 08**
- a) Give a detailed account on principle and mechanism of capsule staining.
  - b) Describe in detail principle, construction and working of autoclaving.
  - c) Describe in brief mechanism Negative staining.
- Q.4 Answer any two of the following. 08**
- a) Describe in brief mechanism of simple staining.
  - b) Describe in brief sterilization by phenol and radiation.
  - c) Give a detailed account on applications of electron microscope.
- Q.5 Answer any one of the following. 08**
- a) Discuss in detail theories and mechanism of Gram staining.
  - b) Explain in detail ray diagram, working and principle of compound microscope.

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**B.Sc. (Entrepreneurship) (Semester - I) (New) (CBCS) Examination:  
March/April-2024  
Cell Biology (Paper - I) (EN1108)**

Day & Date: Thursday, 18-04-2024  
Time: 12:00 PM To 02:00 PM

Max. Marks: 40

- Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.  
3) Draw neat & well labeled diagram wherever necessary.

**Q.1 Multiple Choice Questions.**

**08**

- 1) Chemicals, that can induce cancer are called \_\_\_\_\_.  
a) carcinogens and produce malignant tumour  
b) carcinogens and produce non-malignant tumour  
c) mutagenic agents and do not produce malignant tumour  
d) mutagenic agents and produce benign tumour
- 2) Inner mitochondrial membrane has \_\_\_\_\_.  
a) cytochrome oxidase complex  
b) b-c 1 complex  
c) NADH dehydrogenase complex  
d) all of the above
- 3) \_\_\_\_\_ cell organelle does not contain DNA.  
a) Nucleus  
b) Mitochondria  
c) Lysosomes  
d) Chloroplast
- 4) \_\_\_\_\_ is the study of, its type, structure, function and its organelle.  
a) Cell biology  
b) Biotechnology  
c) Microbiology  
d) Biology
- 5) \_\_\_\_\_ Cell organelle absent in prokaryotic cell.  
a) Nucleus  
b) Lysosome  
c) Endoplasmic reticulum  
d) all of these
- 6) The meiotic division is takes place in \_\_\_\_\_.  
a) Meristematic cells  
b) Conductive cells  
c) Reproductive cells  
d) Vegetative cells
- 7) Meiosis I is reductional division and meiosis II is equational division because of \_\_\_\_\_.  
a) Separation of chromatids  
b) Crossing over  
c) The disjunction of homologous chromosomes  
d) The pairing of homologous chromosomes
- 8) \_\_\_\_\_ scientists proposed the fluid mosaic model of the cell membrane.  
a) Schleiden and Schwann  
b) Hershey and Chase  
c) Singer and Nicholson  
d) Watson and Crick



- Q.2 Answer any four of the following. 08**
- a) Define Cell membrane.
  - b) Define Metaphase.
  - c) Define Microtubule.
  - d) Two examples of Prokaryotic cell
  - e) Define Nucleus.
  - f) Sarcoma
- Q.3 Write short notes any two of the following. 08**
- a) Fluid mosaic model
  - b) Schematic representation of Animal cell
  - c) Explain structure and function of Endoplasmic reticulum.
- Q.4 Answer any two of the following. 08**
- a) Schematic representation of Mitochondria
  - b) Write note on Chemical component of biological membrane.
  - c) Difference between Mitosis and Meiosis.
- Q.5 Answer any one of the following. 08**
- a) Describe in detail characteristics of cancer and its type.
  - b) Explain in detail Eukaryotic cell with its example.



- Q.3 Write short notes on any two of the following. 08**
- a) What is Transpiration and explain mechanism of opening and closing of stomata.
  - b) Discuss in detail about plant growth hormones (Auxin and gibberlins).
  - c) Define Respiration and explain Transport of O<sub>2</sub> and CO<sub>2</sub>.
- Q.4 Answer any two of the following. 08**
- a) Add a note on Mechanism of digestion & absorption.
  - b) Define Diffusion and explain Plant water relations.
  - c) Explain inorganic & molecular nitrogen fixation.
- Q.5 Answer any one of the following. 08**
- a) Define Photophosphorylation and add a note on Calvin cycle.
  - b) Define Circulation and add a note on Mechanism of working of heart.

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**B.Sc. (Entrepreneurship) (Semester - II) (New) (CBCS) Examination:  
March/April-2024  
ENGLISH (Comp.)  
Communication Skill (EN1201)**

Day & Date: Friday, 10-05-2024  
Time: 09:00 AM To 11:00 AM

Max. Marks: 40

**Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.

**Q.1 Choose the correct alternative from given option. 08**

- 1) What did the famous naturalist Buffon write an account on?
  - a) Education
  - b) Books
  - c) Science
  - d) Squirrels
- 2) In the age of monarchy, who gets manipulated to achieve their own personal interests?
  - a) The people
  - b) The ministers
  - c) The king
  - d) The courtiers
- 3) Who wrote the poem "Our Earth Will not Die"?
  - a) Alexander Pope
  - b) William Wordsworth
  - c) Niyi Osunder
  - d) William Shakespeare
- 4) Who is the poet in the poem "Remember" addressing to?
  - a) Her Family
  - b) Her friends
  - c) Her Readers
  - d) Her Lover
- 5) Write synonyms of the word – Large.
  - a) Big
  - b) Small
  - c) Heavy
  - d) Blowing
- 6) Write antonyms of the word – Freedom.
  - a) Brave
  - b) Captivity
  - c) Heavy
  - d) Charming
- 7) Write antonyms of the word – Beautiful.
  - a) Useful
  - b) Small
  - c) Charming
  - d) Ugly
- 8) Identify tense of the following sentence.  
'He is reading a novel'
  - a) simple sentence
  - b) present continuous tense
  - c) Past tense
  - d) present perfect tense

**Q.2 Write the answer in short. (Any Four) 12**

- a) What is difference between being original and being right according to Russel?
- b) What is the true sense of freedom?
- c) Discuss the theme of the poem "Our Earth Will Not Die"
- d) What picture of a farmer does Pope present in the poem?
- e) Who is happy man according to Alexander Pope?
- f) What are Rossetti's thoughts about remembering the dead persons?

**Q.3 Answer the following questions. (Any One)**

**10**

- a) You are writing to a person called Ankit Malhotra who is the manager at Winters & Wools. You want to complain about the winter jacket you bought. The colour has faded away after one wash. Write a letter to Ankit Malhotra, The Manager, Winter & Wools, 49, Phoenix Market City, F, 92, LBS Road, Pune, Maharashtra- 400070.
- b) Write a formal letter to the principal regarding leaving the school and asking for Transfer Certificate.

**Q.4 State three (For each) such situations from your personal life when you have felt following emotions.**

**10**

- a) Mad
- b) Gland
- c) Sad

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**B.Sc. (Entrepreneurship) (Semester - II) (New) (CBCS) Examination:  
March/April-2024**

**Entrepreneurship Science (Paper – III)**

**Fundamental of Marketing & Management accounting (EN1202)**

Day & Date: Saturday, 11-05-2024

Max. Marks: 40

Time: 09:00 AM To 11:00 AM

- Instructions:**
- 1) All questions are compulsory.
  - 2) Figures to the right indicate full marks.
  - 3) Draw neat labeled diagrams and give equations wherever necessary.
  - 4) Use of logarithmic table and calculator is allowed.

**Q.1 Choose the correct alternatives from the options.**

**08**

- 1) Management Accounting deals with what kind of information
  - a) Qualitative
  - b) Quantitative
  - c) Both
  - d) None of these
- 2) Call Centre is \_\_\_\_\_.
  - a) A Meeting Place of DSA
  - b) Data Centre
  - c) A Meeting place for Customer
  - d) A back office setup where customer Queries are answer
- 3) Management Accounting help management in \_\_\_\_\_.
  - a) Preparation of Final Account
  - b) Raising Finance
  - c) Filling Tax return
  - d) Decision Making
- 4) Who is the father of Modern Marketing?
  - a) Philip Kotler
  - b) Peter F Drucker
  - c) Abraham Maslow
  - d) Raymand Krock
- 5) A Major objective of any marketing activity is to?
  - a) Sell
  - b) Promote
  - c) Create
  - d) Increase awareness
- 6) Good marketing is a result of careful planning & \_\_\_\_\_.
  - a) Research
  - b) Sales
  - c) Execution
  - d) Strategies
- 7) Which of the following is also called a Super Market?
  - a) Self Service Store
  - b) Retail Store
  - c) Hyper Market
  - d) All of the above
- 8) "Many people want BMW, only few are able to buy" this is an Example of \_\_\_\_\_.
  - a) Need
  - b) Want
  - c) Demand
  - d) Status

**Q.2 Answer any four of the following:**

**08**

- a) Define Marketing?
- b) What is mean by Segmentation?
- c) Define Ratio Analysis?
- d) Define Capital?
- e) What is Accounting

- Q.3 Write short notes any two of the following. 08**
- a) Selling Vs Marketing
  - b) Advantage of Market Segmentation
  - c) Objective of Management Accounting
- Q.4 Answer any two of the following. 08**
- a) Write down Feature of E-Marketing.
  - b) Write down Classification of Working Capital.
  - c) Write down Financial Statement Analysis.
- Q.5 Answer any one of the following. 08**
- a) Explain the Types and Scope of Marketing.
  - b) What is Working Capital? Write down problem of Working Capital.

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**B.Sc. (Entrepreneurship) (Semester - II) (New) (CBCS) Examination:  
March/April-2024**

**ENTREPRENEURSHIP SCIENCE (Paper - IV)  
Cost Accounting and Project Management (EN1203)**

Day & Date: Monday, 13-05-2024  
Time: 09:00 AM To 11:00 AM

Max. Marks: 40

- Instructions:** 1) All questions are compulsory.  
2) Draw neat diagrams and give equations wherever necessary.  
3) Figures to the right indicate full marks.  
4) Use of logarithmic table and Calculator is allowed.

**Q.1 Multiple choice questions.****08**

- 1) Prime cost is \_\_\_\_\_.
  - a) The total of direct cost
  - b) The total of indirect cost
  - c) The material cost of a product
  - d) The labour cost of a product
- 2) Cost accounting discloses \_\_\_\_\_.
  - a) The Financial position
  - b) profit/loss of a product or job
  - c) Tax amount
  - d) Dividend amount
- 3) Director's remuneration is a part of \_\_\_\_\_.
  - a) works on cost
  - b) selling overhead
  - c) distribution overhead
  - d) administrative overhead
- 4) A document which provides for the detailed cost center and cost unit is \_\_\_\_\_.
  - a) Tender
  - b) Cost sheet
  - c) Invoice
  - d) Profit statement
- 5) A project is a sequence of \_\_\_\_\_ activities.
  - a) Unique
  - b) Complex
  - c) Connected
  - d) All the above
- 6) Resources refer to \_\_\_\_\_.
  - a) Manpower
  - b) Machinery
  - c) Materials
  - d) All of the above
- 7) Project performance consists of \_\_\_\_\_.
  - a) Time
  - b) Cost
  - c) Quality
  - d) All the above
- 8) Project management is helpful to \_\_\_\_\_.
  - a) Individuals
  - b) Businesses
  - c) Government
  - d) All the above

**Q.2 Answer any four of the following.****08**

- a) Define Cost.
- b) Define fixed cost.
- c) What do you mean by project?
- d) What do you mean by project manager?
- e) What is project report?



- Q.3 Write short notes on any two of the following.** **08**
- a) Elements of Cost.
  - b) Characteristics of Project.
  - c) Project Life Cycle.
- Q.4 Answer any Two of the following.** **08**
- a) The following expenses are related to the product 'A' during the month of Aug. 2013:
- Direct materials Rs. 12,000
  - Direct Wages Rs. 10,000
  - Factory rent Rs. 1,000
  - Depreciation on machinery Rs. 1,000
  - Office salary Rs.2,000
  - Office expenses Rs. 1,500
  - Indirect labour Rs. 500
  - Printing and stationary Rs. 500
  - Selling expenses Rs. 2,500
- Prepare Cost Sheet.**
- b) Discuss Types of Project.
  - c) Roles and responsibilities of project manager.
- Q.5 Answer any one of the following.** **08**
- a) Explain methods of Costing.
  - b) What is project report? Explain contents of project report.

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**B.Sc. (Entrepreneurship) (Semester - II) (New) (CBCS) Examination:  
March/April-2024**

**INDUSTRIAL CHEMISTRY (Paper - III)  
Fundamentals of Physical Chemistry (EN1204)**

Day & Date: Tuesday, 14-05-2024  
Time: 09:00 AM To 11:00 AM

Max. Marks: 40

- Instructions:** 1) All questions are compulsory.  
2) Draw neat diagrams and give equations wherever necessary.  
3) Figures to the right indicate full marks.  
4) Use of logarithmic table and calculator is allowed.  
(At. Wts H=1, C=12, O=16, N= 14, Na=23, Cl=35.5)

**Q.1 Multiple choice questions.****08**

- 1) The photochemical reaction between  $H_2$  and  $Cl_2$  is an example of \_\_\_\_\_ order.
  - a) zero
  - b) first
  - c) second
  - d) third
- 2) The unit of surface tension is \_\_\_\_\_.
  - a) dyne cm
  - b) dyne  $cm^{-1}$
  - c)  $dyne^{-1} cm$
  - d) none of these
- 3) Joule- Thomson expansion of an ideal gas produces \_\_\_\_\_.
  - a) heating
  - b) cooling
  - c) no change in temperature
  - d) none of these
- 4) The compressibility factor Z for an ideal gas is \_\_\_\_\_.
  - a) zero
  - b) less than one
  - c) greater than one
  - d) equal to one
- 5) Rate of reaction \_\_\_\_\_.
  - a) increases with increase in temperature
  - b) decrease with increase in temperature
  - c) is independent on temperature
  - d) is independent of concentration
- 6) The temperature at which a real gas obeys the ideal gas behaviour over a wide range of pressure is \_\_\_\_\_.
  - a) critical temperature
  - b) Boyle's temperature
  - c) reduced temperature
  - d) inversion temperature
- 7)  $A + B \rightarrow \text{Product}$  is \_\_\_\_\_ reaction.
  - a) unimolecular
  - b) bimolecular
  - c) termolecular
  - d) tetramolecular
- 8) The unit of second order rate constant are \_\_\_\_\_.
  - a)  $\text{mole dm}^{-3} \text{s}^{-1}$
  - b)  $\text{s}^{-1}$
  - c)  $\text{dm}^3 \text{mole}^{-1} \text{s}^{-1}$
  - d)  $\text{s}^{+1}$

- Q.2 Answer any four of the following. 08**
- a) Name the factors affecting on rate of reaction.
  - b) Define ideal and non ideal gas.
  - c) Write the Macleod equation for parachor.
  - d) What do you mean by continuity of state?
  - e) What are the advantages of stalagmometer or drop-pipette?
  - f) What is half life period reaction of a reaction.
- Q.3 Write short notes on any two of the following. 08**
- a) Order and molecularity of chemical reaction.
  - b) Joule-Thomson effect.
  - c) Liquefaction of gases.
- Q.4 Answer any Two of the following. 08**
- a) Explain the term parachor.
  - b) Explain qseudo - unimolecular with its example.
  - c) Explain in detail Joule Thomson effect.
- Q.5 Answer any one of the following. 08**
- a) What is Macleod's equation? Give its modification by Sugden.
  - b) Determine the rate constant for second order reaction with unequal initial concentration of reactant.



- Q.2 Answer Any Four of the following.** **08**
- a) Define calorific value and heating value.
  - b) Define elastomer with example.
  - c) Write any four qualities of ideal drug.
  - d) Distinguish between thermoplastic and thermosetting polymer.
  - e) What is mean by soft water and hard water.
  - f) Define milk. Give the chemical composition of milk.
- Q.3 Write short notes on any Two of the following.** **08**
- a) Vulcanisation
  - b) Role of magnesium hydroxide as a antacid
  - c) Types of fuels.
- Q.4 Answer any Two of the following.** **08**
- a) What are the types of water? Explain the term fresh water.
  - b) Explain essential nutrients of plants with their classification.
  - c) What is refining? Give the different constituent obtained from refining of petroleum.
- Q.5 Answer any One of the following** **08**
- a) What are polymers? Explain various types of polymers with suitable example.
  - b) What is mean by cracking and hydroforming?

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**B.Sc. (Entrepreneurship) (Semester - II) (New) (CBCS) Examination:  
March/April-2024**

**INDUSTRIAL MICROBIOLOGY –III  
Fundamentals of Industrial Microbiology (EN1206)**

Day & Date: Thursday, 16-05-2024  
Time: 09:00 AM To 11:00 AM

Max. Marks: 40

- Instructions:** 1) All questions are compulsory.  
2) Draw neat labeled diagrams wherever necessary.  
3) Figures to the right indicate full marks.

**Q.1 Choose the correct alternative and rewrite the sentences again.**

**08**

- 1) The capacity of pilot plant fermenter is \_\_\_\_\_ Liters.
  - a) 1-2
  - b) 1000
  - c) 100-500
  - d) 100000
- 2) \_\_\_\_\_ are used in the fermenter to avoid vortex formation.
  - a) Sparger
  - b) Agitator
  - c) Rotor with motor
  - d) Baffles
- 3) \_\_\_\_\_ indicators are used in primary screening of organic acid producing organisms.
  - a) Gas
  - b) Temperature
  - c) pH
  - d) All of these
- 4) \_\_\_\_\_ is an example of inert antifoam agent.
  - a) Silicon compounds
  - b) Lard Oil
  - c) Soap
  - d) vegetable oil
- 5) \_\_\_\_\_ is the waste produced from paper and pulp industry.
  - a) Sulphite Waste liquor
  - b) Com steep liquor
  - c) Molasses
  - d) None of the these
- 6) \_\_\_\_\_ is not a method of strain improvement.
  - a) Recombination
  - b) Protoplast fusion
  - c) Mutation
  - d) Isolation
- 7) Turbidity due to growth of microorganisms is determined by \_\_\_\_\_.
  - a) Spectrophotometer
  - b) Colorimeter
  - c) Turbidostat
  - d) All of these
- 8) \_\_\_\_\_ fermentation process is always done before starting large scale operation of any fermentation
  - a) Scale up
  - b) Scale down
  - c) Scale in
  - d) None of these

**Q.2 Solve any four of the following.**

**08**

- a) Define Inoculum
- b) Write short note on role of growth factor in fermentation medium
- c) Define Bioreactor.
- d) Enlist the ideal characters of bioreactor.
- e) Write note on laboratory scale fermenter.

- Q.3 Write short notes on any two of the following. 08**
- a) Differentiate between batch and continuous culture fermentation.
  - b) Write in short about development of bacterial inoculum.
  - c) Write short note on Antifoam agents and their examples.
- Q.4 Answer any Two of the following. 08**
- a) Define Screening and write a note on secondary screening.
  - b) Define strain improvement and write a note on strain improvement using mutation.
  - c) Write a note on Scale up of fermentation process.
- Q.5 Answer any one of the following. 08**
- a) Describe in detail about design, parts and functions of fermenter.
  - b) Describe in detail about molasses and corn steep liquor as a fermentation media.

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**B.Sc. (Entrepreneurship) (Semester - II) (New) (CBCS) Examination:  
March/April-2024**

**INDUSTRIAL MICROBIOLOGY – IV**

**Basics techniques in Industrial Microbiology (EN1207)**

Day & Date: Friday, 17-05-2024

Max. Marks: 40

Time: 09:00 AM To 11:00 AM

- Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.  
3) Draw neat diagrams wherever necessary.

**Q.1 Choose the correct alternatives from the options.**

**08**

- 1) Ammonium sulfate is mostly preferred agent for \_\_\_\_\_.  
a) solvent extraction                      b) centrifugation  
c) distillation                                d) precipitation
- 2) Recovery of organic acids is mostly carried out using \_\_\_\_\_.  
a) distillation                                b) filtration  
c) crystallization                          d) centrifugation
- 3) Charged molecules are purified using \_\_\_\_\_ chromatography.  
a) Ion exchange                            b) Affinity  
c) Adsorption                                d) Gas
- 4) Activated sludge digestion is used in \_\_\_\_\_.  
a) upstream processing                    b) effluent treatment  
c) product purification                    d) quality control
- 5) The detection of fever causing agents in pharma product is assessed using \_\_\_\_\_.  
a) Sterility testing                          b) Pyrogen testing  
c) Carcinogen testing                      d) Allergen testing
- 6) Market potential of the product is assessed using \_\_\_\_\_.  
a) survey                                        b) quality control  
c) recovery process                        d) site selection
- 7) Use of detergents is the \_\_\_\_\_ method of cell disruption.  
a) Biological                                  b) Physical  
c) Chemical                                  d) Isolation
- 8) Taking all government permissions required for fermentation industry comes under \_\_\_\_\_.  
a) Rules for employee                      b) finance  
c) Market potential                         d) Legal aspects



- Q.2 Answers any Four of the following. 08**
- a) What are intracellular products?
  - b) What is crystallization?
  - c) What is effluent?
  - d) What is allergen?
  - e) What is recovery of product?
  - f) What are legal aspects?
- Q.3 Write short notes on any Two of the following. 08**
- a) Affinity chromatography
  - b) Effluent treatment
  - c) Industry site selection
- Q.4 Answers any Two of the following. 08**
- a) Explain the methods of cell disruption.
  - b) Describe the HPLC.
  - c) Write in brief on plan for industry.
- Q.5 Answers any One of the following. 08**
- a) Explain in detail the factors affecting and criteria for selection of downstream processing.
  - b) Describe in detail any case study related to industrial microbiology.

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**B.Sc. (Entrepreneurship) (Semester - II) (New) (CBCS) Examination:  
March/April-2024  
Industrial Biotechnology (Paper – III)  
Basics of Biomolecules (EN1208)**

Day & Date: Saturday, 18-05-2024  
Time: 09:00 AM To 11:00 AM

Max. Marks: 40

- Instructions:** 1) All questions are compulsory.  
2) Draw neat labeled diagrams wherever necessary.  
3) Figures to the right indicate full marks

**Q.1 Choose the correct alternative and rewrite the sentences again.****08**

- 1) The tertiary structure of proteins is maintained by \_\_\_\_\_ bond.
  - a) Peptide
  - b) Hydrogen
  - c) Disulphide
  - d) All of the above
- 2) The helix has \_\_\_\_\_ amino acids residues per turn.
  - a) 3.6
  - b) 6.0
  - c) 2.8
  - d) 5.0
- 3) \_\_\_\_\_ is water soluble vitamin.
  - a) Vitamin A
  - b) Vitamin K
  - c) Vitamin B
  - d) Vitamin D
- 4) The oligosaccharide linked to proteins is called as \_\_\_\_\_.
  - a) Glycosides
  - b) Glycoprotein
  - c) Glycolipid
  - d) Ganglioside
- 5) The substrate binds to active site of enzyme by \_\_\_\_\_.
  - a) Peptide
  - b) Disulphide
  - c) Vander wall
  - d) Hydrogen
- 6) Rickets is caused due to deficiency of \_\_\_\_\_.
  - a) Vitamin A
  - b) Vitamin D
  - c) Vitamin K
  - d) Vitamin B
- 7) The hydrolysis of fats into fatty acid and glycerol by alkali treatment is known as \_\_\_\_\_.
  - a) Saponification
  - b) Colloidal
  - c) Methylation
  - d) Softening
- 8) B form of DNA consists \_\_\_\_\_ base pair per turn of the helix.
  - a) 9
  - b) 8
  - c) 10
  - d) 12

**Q.2 Define any Four of the following.****08**

- a) Define Nucleoside.
- b) Define coenzyme.
- c) Define inducible enzyme.
- d) What is liposome?
- e) Define oligosaccharide. Give one example.
- f) Define Isozyme.

- Q.3 Write short notes on any Two of the following. 08**
- a) Describe in detail Watson crick model of DNA.
  - b) What is active site? Discuss in brief properties of active site.
  - c) Explain structure and role of cholesterol.
- Q.4 Answer any Two of the following. 08**
- a) Discuss in detail sources and dietary recommendations of fat soluble vitamins.
  - b) Discuss in brief mechanism of enzyme action. Add a note on induced fit hypothesis.
  - c) Discuss in detail classification of lipids.
- Q.5 Answer any One of the following. 08**
- a) Discuss in brief structural level of classification of protein.
  - b) Define carbohydrate. Explain in detail structure and function of homopolysacchrade.

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**B.Sc. (Entrepreneurship) (Semester - II) (New) (CBCS) Examination:  
March/April-2024  
Industrial Biotechnology (Paper-IV)  
Basics of Metabolism (EN1209)**

Day & Date: Monday, 20-05-2024  
Time: 09:00 AM To 11:00 AM

Max. Marks: 40

- Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.  
3) Draw neat maps and diagrams wherever necessary.  
4) Use of maps stencil is allowed.

**Q.1 Multiple Choice Questions.****08**

- 1) \_\_\_\_\_ of the following spiral metabolic pathway.
  - a) Glycolysis
  - b) Citric acid cycle
  - c) Glyoxylate cycle
  - d) Fatty acids biosynthesis
- 2) Chemical compound involved in the process metabolism is known as \_\_\_\_\_.
  - a) Metabolites
  - b) Radicals
  - c) Catabolites
  - d) Intermediates
- 3) \_\_\_\_\_ of the precursor of glycogen.
  - a) Glycerol 3 phosphate
  - b) UDP- Glucose
  - c) Malate
  - d) Leucine -Lysine
- 4) \_\_\_\_\_ of the following is non essential amino acid.
  - a) Serine
  - b) Lysine
  - c) Leucine
  - d) Methionine
- 5) Beta oxidation of fatty acids take place at \_\_\_\_\_.
  - a) Peroxisomes
  - b) Mitochondria
  - c) Endoplasmic reticulum
  - d) All of these
- 6) Generally fats with unsaturated fatty acids are \_\_\_\_\_ at room temperature.
  - a) Liquid
  - b) Solid
  - c) Liquid in the presence of oxygen
  - d) Liquid in the absence of oxygen
- 7) Salvage pathway is used in synthesis of \_\_\_\_\_.
  - a) Amino acid
  - b) Nucleotide
  - c) Carbohydrate
  - d) Fatty acids
- 8) \_\_\_\_\_ of the following is the Purine.
  - a) Cytosine
  - b) Thymine
  - c) Adenine
  - d) Uracil

- Q.2 Answer the following. (Any Four) 08**
- a) Define Lactic acid.
  - b) Define Catabolism.
  - c) Define Nucleic acids.
  - d) Two examples of Amino acids.
  - e) Define Lipids.
  - f) Define Pyrimidine
- Q.3 Write Short Notes Any Two of the following. 08**
- a) Explain unsaturated fatty acids.
  - b) Diagrammatic representation of Urea cycle.
  - c) Schematic representation of Glycolysis.
- Q.4 Answer Any Two of the following. 08**
- a) Schematic representation of TCA cycle.
  - b) Write note Nucleic acid metabolism and process of salvage pathway.
  - c) Explain Classification of amino acids.
- Q.5 Answer Any Two of the following. 08**
- a) Describe in Detail De novo pathway.
  - b) Describe in Detail Metabolic disorders of amino acid metabolism.



- Q.3 Write short notes on any Two of the following. 08**
- a) Decision making process.
  - b) Types of decision.
  - c) Qualities of leader.
  - d) X and Y theory.
- Q.4 Answer any Two of the following. 08**
- a) Explain importance of business management.
  - b) Herzberg two factor theory.
  - c) Explain importance of motivation.
- Q.5 Answer any One of the following. 08**
- a) Discuss nature and importance of management.
  - b) What is motivation? Explain financial and non-financial incentives.

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**B.Sc. (Entrepreneurship) (Semester - III) (New) (CBCS) Examination:  
March/April-2024**

**ENTREPRENEURSHIP (Paper – VI)  
Advanced Accountancy & Auditing (EN1302)**

Day & Date: Thursday, 25-04-2024  
Time: 09:00 AM To 11:00 AM

Max. Marks: 40

- Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.  
3) Draw neat diagrams and give equations wherever necessary.  
4) Use of logarithmic table and calculator is allowed

**Q.1 Choose the correct alternatives from the options.**

**08**

- 1) The short key to quit from tally is \_\_\_\_\_.  
a) Ctrl+L  
b) Ctrl+P  
c) Ctrl+M  
d) Ctrl+Q
- 2) Bank reconciliation prepared by \_\_\_\_\_.  
a) Bank  
b) Auditors  
c) Businessman  
d) All the above
- 3) Inter-state trade is presently subject to \_\_\_\_\_.  
a) CGST  
b) SGST  
c) IGST  
d) GGST
- 4) Increases in current asset will \_\_\_\_\_.  
a) Increase in working capital  
b) Decrease in working capital  
c) No effect on working capital  
d) None of the above
- 5) Auditing begins where \_\_\_\_\_ ends.  
a) Accounting  
b) Marketing  
c) Selling  
d) Purchase
- 6) Voucher is a \_\_\_\_\_.  
a) Receipt issued to a customer for cash received  
b) Document evidence in support of a business transaction  
c) Invoice received from supplier  
d) All the above
- 7) Internal auditor is appointed by \_\_\_\_\_.  
a) The management  
b) The government  
c) The creditors  
d) The investors
- 8) An audit which is compulsory by the law \_\_\_\_\_.  
a) Internal audit  
b) Statutory audit  
c) Continuous audit  
d) Interval audit



- Q.2 Answer any Four of the following. 08**
- a) What is GST?
  - b) What is Bank reconciliation?
  - c) Define Funds Flow.
  - d) Define Auditor.
  - e) What is insurance claim?
  - f) Define Internal Audit
- Q.3 Write short notes on any Two of the following. 08**
- a) Explain any four functions in Tally software.
  - b) Explain benefits of cash flow and funds flow statement.
  - c) Prepare Bank reconciliation Statement as on 31st March, 2022 from the following details.
    - 1) Bank column of Cash book shows debit balance of Rs. 15,000.
    - 2) Cheque of Rs. 10,000 issued but not presented for payment.
    - 3) Customer directly deposited of Rs. 7,000 in to bank.
    - 4) Bank debited bank charges of Rs. 200
    - 5) Cheque of Rs. 3,700 deposited in to the bank but not credited by the bank.
    - 6) Bank paid insurance premium of Rs. 2,500 but not recorded in cash book.
- Q.4 Answer any Two of the following. 08**
- a) Explain importance of Vouching.
  - b) Explain Internal Audit and External Audit.
  - c) Explain special features in respect of Audit of Co-operative Societies.
- Q.5 Answers any One of the following. 08**
- a) Explain advantages and limitation of auditing.
  - b) Discuss Qualifications and Disqualifications of an Auditor of Joint Stock Company.



- Q.2 Answer Any four of the following.** **08**
- a) Define precipitant and precipitate.
  - b) What is auto-catalyst?
  - c) Define co precipitation and post precipitation
  - d) What is the role of promoter in the catalysis?
  - e) What is corrosion? Mention its type.
  - f) Write the optimum conditions of Contact process for manufacture of sulphuric acid.
- Q.3 Write short notes on any two of the following.** **08**
- a) Nucleation
  - b) Characteristics of catalytical reaction
  - c) Electrochemical theory
- Q.4 Answer any two of the following.** **08**
- a) Discuss the role of phenolphthalein as an indicator.
  - b) Write a note on effect of oxygen on corrosion.
  - c) What are conditions for precipitate?
- Q.5 Answer any one of the following.** **08**
- a) Discuss in detail manufacture of ammonia by Haber's process.
  - b) Explain choice of an indicator for titration between weak acid and strong base with the help of neutralization curve.

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**B.Sc. (Entrepreneurship) (Semester - III) (New) (CBCS) Examination:  
March/April-2024**

**Industrial Chemistry (Paper – VI)**

**Analytical & Industrial Aspects of Organic Chemistry (EN1304)**

Day & Date: Saturday, 27-04-2024  
Time: 09:00 AM To 11:00 AM

Max. Marks: 40

- Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.  
3) Draw neat diagrams and give equations wherever necessary.  
4) Use of logarithmic table and calculator is allowed.  
(At. Wts: H=1, C=12, O=16, N=14, Na=23, Cl=35.5)

**Q.1 Multiple Choice Questions.**

**08**

- 1) Cotton fibre ends protruding from the surface of the cloth are removed by using machine is known as \_\_\_\_\_
  - a) scouring
  - b) singeing
  - c) desizing
  - d) bleaching
- 2) \_\_\_\_\_ is a CNS drug.
  - a) tolbutamide
  - b) ethambutol
  - c) phenobarbitone
  - d) isoniazide
- 3) By-product of sugar industry is \_\_\_\_\_
  - a) CO<sub>2</sub>
  - b) fusel oil
  - c) spent wash
  - d) bagasse
- 4) Teepol is prepared by treating \_\_\_\_\_ with cone. H<sub>2</sub>SO<sub>4</sub> at low temperature.
  - a)  $\alpha$ -olefin
  - b)  $\beta$ -olefin
  - c)  $\gamma$ -olefin
  - d)  $\delta$ -olefin
- 5) Methoxychlor is synthesised by reacting chloral hydrate with \_\_\_\_\_
  - a) aniline
  - b) amine
  - c) anisole
  - d) alcohol
- 6) Ibuprofen is an \_\_\_\_\_ drug.
  - a) anti-bacterial
  - b) anti-inflammatry
  - c) anti-diabetic
  - d) anti malarial
- 7) Indole-3-acetic acid is used as \_\_\_\_\_
  - a) herbicide
  - b) bacteriocide
  - c) micronutrient
  - d) plant growth hormone
- 8) \_\_\_\_\_ is used to separate the soap after saponification.
  - a) NaOH
  - b) NH<sub>4</sub>OH
  - c) NaCl
  - d) KOH

**Q.2 Answer the following. (Any Four)**

**08**

- a) What are anti-inflammatory drugs?
- b) What is amphoteric detergent?
- c) Write two examples of antituberculars.
- d) Write uses of carbaryl.
- e) Write applications of antibiotic drugs.

- Q.3 Write short notes. (Any Two)** **08**
- a) Explain manufacture of soap by hot process.
  - b) Write general properties of starch and synthetic adhesives.
  - c) Write synthesis and uses of indole-3 acetic acid.
- Q.4 Answer the following. (Any Two)** **08**
- a) Write synthesis and applications of tolbutamide.
  - b) Explain extraction of juice.
  - c) Write preparation of deriphat and its uses.
- Q.5 Answer the following. (Any One)** **08**
- a) Explain manufacture of ethyl alcohol from molasses with diagram.
  - b) Write classification of fibres. Explain processes singeing and scouring.



- Q.2 Answer any four of the following: 08**
- a) Define Test cross
  - b) Define Transduction
  - c) Define Genotypic and phenotypic ratio
  - d) Define Transposable elements
  - e) Draw structure of Chromosome
  - f) Define Mutagenic agents
- Q.3 Write short notes on any two of the following: 08**
- a) Define Multiple alleles and add a note on ABO blood group system.
  - b) Write a detailed note on Dihybrid ratio with suitable example.
  - c) Add a note on Mendel's experiment.
- Q.4 Answer any two of the following: 08**
- a) Define Chromosome and add a note on types of chromosome.
  - b) What is chromosomal aberration and add a note on its types.
  - c) Define Crossing over and Write a note on types and significance of Crossing over.
- Q.5 Answer any one of the following: 08**
- a) Explain process of conjugation in detail.
  - b) Define Mutation and add a note on Spontaneous and Induced Mutation.

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**B.Sc. (Entrepreneurship) (Semester - III) (New) (CBCS) Examination:  
March/April-2024**

**MICROBIAL BIOTECHNOLOGY (Paper – VI)  
Fermentation Technology (EN1306)**

Day & Date: Tuesday, 30-04-2024  
Time: 9:00 AM To 11:00 AM

Max. Marks: 40

- Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.  
3) Draw neat diagrams wherever necessary.

**Q.1 Choose the correct alternative and rewrite the sentences.**

08

- 1) \_\_\_\_\_ is produced with the help of methanogenic bacteria by anaerobic digestion.
  - a) Ethanol
  - b) Biogas
  - c) Biodiesel
  - d) Butanol
- 2) The inhibition of growth of gram positive bacteria by inhibiting Peptidoglycan biosynthesis is carried out by \_\_\_\_\_ antibiotic.
  - a) Penicillin
  - b) Streptomycin
  - c) Tetracyclin
  - d) Quinolone
- 3) Ales are the beer in which fermentation is carried out by using \_\_\_\_\_.
  - a) Top yeast
  - b) Bottom yeast
  - c) Middle yeast
  - d) All of these
- 4) Starchy substrate mainly used in the production of \_\_\_\_\_.
  - a) Penicillin
  - b) Amylase
  - c) Wine
  - d) Biofertilizer
- 5) The insecticidal activity of *Bacillus thuriengensis* is due to production of \_\_\_\_\_ type of toxin.
  - a)  $\alpha$
  - b)  $\mu$
  - c)  $\beta$
  - d)  $\delta$
- 6) In Leguminous crop \_\_\_\_\_ biofertilizer mainly used for nitrogen fixation.
  - a) *Azotobacter*
  - b) *Bacillus thuringensis*
  - c) *Rhizobium*
  - d) *Pseudomonas species*
- 7) The protein content which is extracted from pure cultures of yeasts, bacteria, algae, and fungi is called as \_\_\_\_\_.
  - a) Single cell protein
  - b) Double cell protein
  - c) Triple cell protein
  - d) Vitamins
- 8) Trans esterification reaction involved in the production of \_\_\_\_\_.
  - a) Bioethanol
  - b) Biodiesel
  - c) Biogas
  - d) Biohydrogen



- Q.2 Answer the following. (Any Four) 08**
- a) Enlist applications of citric acid.
  - b) Define bio fertilizer.
  - c) What is PHB?
  - d) Define Antibiotic.
  - e) Enlist types of beer.
- Q.3 Write short note on. (Any Two) 08**
- a) Give a detailed account on production of citric acid.
  - b) Explain in brief vitamin B12 production by dual fermentation.
  - c) Discuss in short production of red wine.
- Q.4 Answer the following. (Any Two) 08**
- a) Explain in brief Amylase fermentation.
  - b) What is broad spectrum antibiotic? Explain in detail production of streptomycin.
  - c) Describe in detail algae as SCP. Add a note on nutritional value of SCP.
- Q.5 Answer the following. (Any One) 08**
- a) Discuss in detail biogas production.
  - b) Give a detailed account on nitrogen fixation by Rhizobium.

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**B.Sc. (Entrepreneurship) (Semester - III) (Old) (CBCS) Examination:  
March/April-2024**

**ENTREPRENEURSHIP (Paper – V)**

**Principles of Business Management & Business Organization (EN301)**

Day & Date: Wednesday, 24-04-2024  
Time: 9:00 AM To 11:00 AM

Max. Marks: 40

**Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.

**Q.1 Multiple choice questions.**

**08**

- 1) Which of the following is not a function of management?
 

a) Planning	b) Staffing
c) Co-operation	d) Controlling
- 2) Management is \_\_\_\_\_.
 

a) an art	b) a science
c) both art and science	d) Neither
- 3) Henry Fayol was a \_\_\_\_\_.
 

a) Social scientists	b) Mining engineer
c) Accountant	d) Production engineer
- 4) Who is known as 'the Father of Modern Theory of Management'?
 

a) Harold Koontz	b) Henry Fayol
c) F.W. Taylor	d) Max Weber
- 5) Which of the following is not a Management Principle?
 

a) Order	b) Discipline
c) Equity	d) Cooperation
- 6) MBO was developed by \_\_\_\_\_.
 

a) Peter. F. Drucker	b) Chester Bernard
c) Fayol	d) None of these
- 7) Performance appraisal serves as a basis for \_\_\_\_\_.
 

a) Training	b) Promotion
c) Performance	d) Staffing
- 8) Power is the ability to do \_\_\_\_\_.
 

a) something	b) anything
c) order	d) None of these

**Q.2 Answer any Four of the following.**

**08**

- a) Define Management.
- b) Define Planning.
- c) Define Directing.
- d) Define Staffing.
- e) Define Controlling.
- f) Define Motivation.

- Q.3 Write Shorts note on any Two of the following. 08**
- a) Define nature of Business Management?
  - b) Define Characteristics of Business originations?
  - c) Define Importance of motivation?
- Q.4 Answer any Two of the following 08**
- a) Describe Function and Importance of Leadership?
  - b) Define Definition of control and types of control?
  - c) Explain Business planning and its process?
- Q.5 Answer any One of the following. 08**
- a) Explain Herzberg two factor theory?
  - b) Explain Decision making Process and Types of Decision.



**Q.3 Write short notes on any Two of the following. 08**

- a) Write steps of Company creation, Ledger creation in Tally ERP 9.
- b) Objectives of auditing.
- c) Need of Bank Reconciliation Statement.
- d) On 31st March 2022 the Cash Book of Mr. Pushpa Woods Ltd. showed a bank balance of Rs. 60,000, but Pass Book showed a different balance. On comparing the Cash Book with the Pass Book the following discrepancies were noted:
  - 1) Cheque of Rs. 4,500 deposited into bank but was not yet collected by bank.
  - 2) Bank paid our electricity bill Rs. 10,000 which was not recorded in the Cash Book.
  - 3) Interest on investment Rs. 8,000 was collected by bank was not recorded in Cash Book.
  - 4) Bank charges Rs. 500 was debited in Pass Book.

**Q.4 Answer any Two of the following. 08**

- a) Prepare a schedule of changes in working capital horn the summary of balance sheets given below:

<b>Liabilities</b>	<b>31.12.21</b>	<b>31.12.22</b>	<b>Assets</b>	<b>31.12.21</b>	<b>31.12.22</b>
Share Capital	80,000	95,000	Fixed Assets	90,000	1,00,000
Reserve	20,000	25,000	Current Assets	30,000	50,000
Current Liabilities	20,000	30,000			

- b) Explain Classification of Activities for the Preparation of Cash Flow Statement.
- c) Explain importance of vouching.

**Q.5 Answers any One of the following. 08**

- a) Explain various types of Audit.
- b) Following are the balance sheet of Vicks Ltd.

<b>Liabilities</b>	<b>31.12.21</b>	<b>31.12.22</b>	<b>Assets</b>	<b>31.12.21</b>	<b>31.12.22</b>
Creditors	36000	41000	Cash	4000	3600
Loan from Bank		20000	Debtors	35000	38400
Debentures	30000	25000	Stock	25000	22000
Capital	148000	149000	Land	20000	30000
			Building	50000	55000
			Machinery	80000	86000
	<b>214000</b>	<b>235000</b>		<b>214000</b>	<b>235000</b>

During the year Rs. 26,000 paid as dividend. The provision made for depreciation against machinery as on 01.01.2016 was Rs. 27,000 and on 31.12.2016 Rs. 36,000 Prepare Cash flow statement.

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**B.Sc. (Entrepreneurship) (Semester - III) (Old) (CBCS) Examination:  
March/April-2024**

**INDUSTRIAL CHEMISTRY (Paper - V)**

**Analytical & Industrial Aspects of Inorganic Chemistry (EN303)**

Day & Date: Friday, 26-04-2024  
Time: 09:00 AM To 11:00 AM

Max. Marks: 40

- Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.  
3) Draw neat labelled diagrams must be drawn wherever necessary.

**Q.1 Multiple Choice Questions.**

**08**

- 1) The chemical reaction between acid & base to form salt & water is termed as \_\_\_\_\_ reaction.
 

a) redox	b) neutralisation
c) complexometric	d) precipitation
- 2) Gravimetric analysis is quantitative estimation of species by \_\_\_\_\_.
 

a) Oxidation	b) Measurement
c) Volume	d) weighing
- 3) The unintentional chemical or electrochemical reaction of matter with its surrounding is known as \_\_\_\_\_.
 

a) corrosion	b) passivity
c) erosion	d) reduction
- 4) Catalyst used in manufacture of  $H_2SO_4$  is \_\_\_\_\_.
 

a) $V_2O_5$	b) Fe
c) Ni	d) Pt
- 5) \_\_\_\_\_ is auto catalyst.
 

a) HCl	b) KCl
c) $KMnO_4$	d) $HNO_3$
- 6) Atmospheric corrosion involves \_\_\_\_\_ heterogenous system.
 

a) Solid-solid	b) Liquid-solid
c) Liquid-gas	d) Solid-gas
- 7) In basic medium phenolphthalein gives \_\_\_\_\_ colour.
 

a) colourless	b) pink
c) green	d) violet
- 8)  $BaSO_4$  is \_\_\_\_\_ precipitate.
 

a) amorphous	b) gel
c) crystalline	d) gelatinous

- Q.2 Answer any four of the following. 08**
- a) Define standard solution & end point.
  - b) Define ignition & digestion.
  - c) Name the types of catalysis.
  - d) Give two advantages of contact process.
  - e) Name two factors that affects corrosion.
  - f) Define neutralization. Give its example.
- Q.3 Write short notes on any two of the following. 08**
- a) Crystalline precipitate
  - b) Dimethylglyoxime.
  - c) Positive and negative catalyst.
- Q.4 Answer any Two of the following. 08**
- a) Draw neat labeled diagram of contact process for manufacture of  $H_2SO_4$ .
  - b) Explain galvanizing.
  - c) Explain the term tinning.
- Q.5 Answer any one of the following. 08**
- a) Explain neutralization curve & choice of indicator for strong acid & strong base.
  - b) Explain manufacture of ammonia by Haber process.

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**B.Sc. (Entrepreneurship) (Semester - III) (Old) (CBCS) Examination:  
March/April-2024**

**INDUSTRIAL CHEMISTRY (Paper – VI)**

**Analytical & Industrial Aspects of Organic Chemistry (EN304)**

Day & Date: Saturday, 27-04-2024

Max. Marks: 40

Time: 09:00 AM To 11:00 AM

**Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.

**Q.1 Multiple choice questions.**

**08**

- 1) Hard soap is formed from \_\_\_\_\_.  
 a) tallow  
 b) glycerin  
 c) groundnut oil  
 d) glycerol
- 2) Sucrose is \_\_\_\_\_ sugar.  
 a) crystalline  
 b) amorphous  
 c) hygroscopic  
 d) neutral
- 3) \_\_\_\_\_ is used to wrap the thread.  
 a) Softener  
 b) Lubricant  
 c) Gel  
 d) Antiseptic
- 4) \_\_\_\_\_ is not natural fiber.  
 a) Jute  
 b) Nylon  
 c) Silk  
 d) wool
- 5) Plant growth regulating substance is \_\_\_\_\_.  
 a) acetic acid  
 b) methoxychlor  
 c) Indole-3-acetic acid  
 d) paludrine
- 6) Rock salt is \_\_\_\_\_.  
 a) KCl  
 b) FeCl<sub>3</sub>  
 c) NaCl  
 d) MgCl<sub>2</sub>
- 7) \_\_\_\_\_ is used as bleaching agent.  
 a) NaCl  
 b) KCl  
 c) NaNO<sub>2</sub>  
 d) NaOCl
- 8) Sodium salt of  $\alpha$ -naphthol is used for synthesis of \_\_\_\_\_.  
 a) IAA  
 b) AA  
 c) Ethophan  
 d) carbaryl

**Q.2 Answer any Four of the following.**

**08**

- a) Name two saponifying alkali.
- b) Write byproducts of sugar industry.
- c) Name the types of fibers.
- d) Define drug with example.
- e) Give two uses of pyrethroid.
- f) Write the structure of monochlorophos.



- Q.3 Write short notes on any Two of the following. 08**
- a) Crystallisation of sugar.
  - b) Objects of sizing.
  - c) 4 different qualities of ideal drug.
- Q.4 Answer any Two of the following. 08**
- a) Give synthesis of indole-acetic acid.
  - b) Draw neat labelled diagram of concentration of sugar solution by triple effect vacuum evaporator.
  - c) Give four objects of sizing.
- Q.5 Answer any One of the following. 08**
- a) Explain raw material used to manufacture of soap.
  - b) Explain the process of extraction of juice & clarification of juice.



- Q.2 Answer any four of the following: 08**
- a) Define Dihybrid with its ratio.
  - b) Write a note on Law of Segregation.
  - c) Define Transformation.
  - d) Define Mode.
  - e) Explain Linkage.
  - f) Define mutation.
- Q.3 Attempt any two of the following: 08**
- a) Write a detail Incomplete dominance.
  - b) Explain in detail Mutagenic agents.
  - c) Explain Law of Dominance with example.
- Q.4 Answer any two of the following: 08**
- a) Describe process of conjugation with suitable example.
  - b) Explain Supplementary Epistasis.
  - c) What is crossing over? Explain in different theories of crossing over.
- Q.5 Answer any one of the following: 08**
- a) Write a detailed on Mendel's experiment.
  - b) Define Chromosome and Explain its types based on centromere.

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**B.Sc. (Entrepreneurship) (Semester - III) (Old) (CBCS) Examination:  
March/April-2024**

**MICROBIAL BIOTECHNOLOGY (Paper – VI)  
Fermentation Technology (EN306)**

Day & Date: Tuesday, 30-04-2024  
Time: 9:00 AM To 11:00 AM

Max. Marks: 40

- Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.  
3) Draw neat diagrams wherever necessary.

**Q.1 Choose the correct alternative and rewrite the sentences. 08**

- 1) \_\_\_\_\_ Microorganisms used to produce algal single-cell proteins.
  - a) *E.coli*
  - b) *Aspergillus Niger*
  - c) *Bacillus megaterium*
  - d) *Spirulina*
- 2) \_\_\_\_\_ is cobalt containing vitamin.
  - a) Vitamin B12
  - b) Vitamin A
  - c) Niacin
  - d) Vitamin C
- 3) Penicillin is an example of \_\_\_\_\_ antibiotic.
  - a) Alfa Lactam
  - b) Beta Lactam
  - c) Cephalosporin
  - d) Tetracycline
- 4) Starchy substrate mainly used in the production of \_\_\_\_\_.
  - a) Penicillin
  - b) Amylase
  - c) Wine
  - d) Biofertilizer
- 5) Industrial microbiology, mainly depends on the phenomenon \_\_\_\_\_.
  - a) Vaccination
  - b) Fermentation
  - c) Purification
  - d) Pasteurization
- 6) \_\_\_\_\_ Organism mainly used in the production of bioinsecticide.
  - a) *Bacillus subtilis*
  - b) *Bacillus thuringensis*
  - c) *Pseudomonas aurogenosa*
  - d) *Staphylococcus species*
- 7) In penicillin G production \_\_\_\_\_ is the precursor used.
  - a) Acetate
  - b) Acetic acid
  - c) Phenyl acetic acid
  - d) Methoxy acetic acid
- 8) \_\_\_\_\_ is mainly used as a raw material during ethanol fermentation.
  - a) Meat Extract
  - b) Molasses
  - c) Peptone
  - d) Beef extract

**Q.2 Answer the following. (Any Four) 08**

- a) Uses of L-Lysine.
- b) Flowchart for wine production.
- c) PHA
- d) Application of Citric acid.
- e) Microbes involved in Biogas Production.

- Q.3 Write short note on. (Any Two) 08**
- a) Nutritional value of SCP.
  - b) Application of Vitamin B12.
  - c) Explain in brief Beer production.
- Q.4 Answer the following. (Any Two) 08**
- a) Explain in brief Amylase fermentation.
  - b) Write in detail Streptomycin Fermentation.
  - c) Biochemistry of Ethanol fermentation
- Q.5 Answer the following (Any One) 08**
- a) Describe in detail Bio fertilizer production.
  - b) Give a detailed account on Penicillin production.

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**B.Sc. (Entrepreneurship) (Semester - IV) (New) (CBCS) Examination:  
March/April - 2024**

**Entrepreneurship (Paper - VII)**

**Corporate Accounting and Professional Ethics (EN1401)**

Day & Date: Friday, 05-04-2024  
Time: 09:00 AM To 11:00 AM

Max. Marks: 40

- Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.  
3) Draw neat diagrams and give equations wherever necessary.  
4) Use of logarithmic table and calculator is allowed.

**Q.1 Choose the correct alternatives from the options.**

**08**

- 1) A person who purchases the share of a company is known as \_\_\_\_\_.
  - a) Director
  - b) Debenture holder
  - c) Shareholder
  - d) Trusty
- 2) \_\_\_\_\_ capital is the part of issued capital which is subscribed by the public.
  - a) Subscribed
  - b) Authorised
  - c) Paid up
  - d) Reserved
- 3) Shares are to be valued on \_\_\_\_\_.
  - a) Mergers
  - b) Sale of shares
  - c) Gift tax
  - d) All of the above
- 4) \_\_\_\_\_ value depends on Net assets.
  - a) Yield
  - b) Intrinsic
  - c) Super profit
  - d) All of the above
- 5) Compulsory winding up:
  - a) If a company does commence its business within a year from its incorporation.
  - b) If the number of members of company reduced below statutory limit.
  - c) If a company unable to pay its debt.
  - d) All of the above
- 6) A Liquidator can claim the \_\_\_\_\_.
  - a) Asset
  - b) Dividend
  - c) Remuneration
  - d) None of the above
- 7) Business ethics deals primarily with \_\_\_\_\_.
  - a) social responsibility
  - b) the pricing of products and services
  - c) moral obligation
  - d) being unfair to the competition
- 8) \_\_\_\_\_ is unethical business practice.
  - a) Exploiting Workers
  - b) Dumping Toxins
  - c) over-billing the customers
  - d) All of the above

- Q.2 Answer any four of the following:** **08**
- a) Define Share Capital.
  - b) What is liquidation of a company?
  - c) Define face value of share.
  - d) Define Code of Conduct.
  - e) What is ethics?
- Q.3 Write short notes on any two of the following.** **08**
- a) State order of payment in liquidation.
  - b) Explain factors influencing valuation of share.
  - c) Write note on code of conduct.
- Q.4 Answer any two of the following.** **08**
- a) Explain need of valuation of shares.
  - b) Explain modes of liquidation of a company.
  - c) A liquidator is entitled to receive remuneration @ 2% of the assets realised and 3% on the amount distributed among the unsecured creditors. The assets realised Rs. 70,00,000 against which payment was made as follows:  
Liquidation expenses Rs. 50,000 Preferential creditors Rs. 1,50,000 and Secured creditors Rs. 40,00,000; Unsecured creditors: Rs. 30,000  
*Calculate the total remuneration payable to the liquidator.*
- Q.5 Answer any one of the following.** **08**
- a) Anjana Total Care Ltd invited applications for 1,00,000 of its equity shares of Rs. 10 each on the following terms:  
Payable on application Rs.3 per share  
Payable on allotment Rs.3 per share  
Payable on first call Rs.2 per share  
Payable on final call Rs.2 per share  
Applications for 1,50,000 shares were received, excess application money were refunded. All calls and allotment money was duly received.  
Give journal entries in the books of the company.
  - b) Explain ethics in Marketing and Human Resource Management.

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**B.Sc. (Entrepreneurship) (Semester - IV) (New) (CBCS) Examination:  
March/April-2024**

**ENTREPRENEURSHIP (Paper - VIII)**

**International Marketing & Marketing Decision (EN1402)**

Day & Date: Sunday, 12-05-2024  
Time: 09:00 AM To 11:00 AM

Max. Marks: 40

- Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.  
3) Draw neat labelled diagrams and give equations wherever necessary.  
4) Use of log table and Calculator is allowed.

**Q.1 Choose the correct alternatives from the options.**

**08**

- 1) New Product Development starts with \_\_\_\_\_.
  - a) Idea Screening
  - b) Concept Testing
  - c) Idea generation
  - d) Test Marketing
- 2) International marketing is dominated by \_\_\_\_\_ countries.
  - a) Poor
  - b) Developing
  - c) Developed
  - d) All of these
- 3) \_\_\_\_\_ is international price discrimination.
  - a) Counter trade
  - b) Buyback
  - c) Dumping
  - d) Grey market
- 4) Differentiation in pricing for various geographical customer \_\_\_\_\_.
  - a) Price skimming
  - b) Psychological pricing
  - c) Pricing variations
  - d) Geographical pricing
- 5) Manufacturer → Retailer → Consumer is an example for \_\_\_\_\_ level channel.
  - a) Zero
  - b) One
  - c) Two
  - d) Three
- 6) The limitation of e-marketing is \_\_\_\_\_.
  - a) instant cash payment
  - b) the inability to touch and feel
  - c) touch and feel
  - d) Home delivery
- 7) Green marketing relates to \_\_\_\_\_.
  - a) Agricultural marketing
  - b) positive environmental impact
  - c) Zoological product distribution
  - d) All of these
- 8) Flipkart, Snapdeal, Amazon are examples of \_\_\_\_\_.
  - a) Departmental stores
  - b) Super Market
  - c) Chain stores
  - d) Online stores

**Q.2 Answer any four of the following:**

**08**

- a) Define product idea.
- b) Define product positioning.
- c) What is price war?
- d) Define pricing.
- e) What is e-commerce?



- Q.3 Write short notes on any two of the following.** **08**
- a) Write note on product life cycle.
  - b) Benefits of market segmentation.
  - c) Explain in brief steps involved in import & export.
- Q.4 Answer any two of the following.** **08**
- a) Explain different methods of pricing.
  - b) Discuss determinants of consumer behavior.
  - c) Explain different types of distribution channels.
- Q.5 Answer any one of the following.** **08**
- a) What is consumer behavior? Explain in brief buying process.
  - b) What is Global Marketing Environment? Explain different factors affecting global market environment.



- Q.2 Answer any four of the following.** **08**
- a) Define the terms - specific and equivalent conductance.
  - b) What are disadvantages of flame photometry?
  - c) How conductivity water is prepared?
  - d) What are the different components of flame photometer?
  - e) Draw nature of graph for classical and analytical methods in potentiometric titrations.
- Q.3 Write short notes on. (Any Two)** **08**
- a) Potentiometric precipitation titration
  - b) State and explain Beer's law.
  - c) Quinhydrone electrode
- Q.4 Answer any two of following.** **08**
- a) What is flame photometer? Explain its principle.
  - b) Explain single cell photoelectric colorimeter.
  - c) What are buffer solutions? Give its types. What is the pH of solution having  $H^{+1}$  ion concentration  $3.3 \times 10^{-2}M$ ?
- Q.5 Answer any one of the following.** **08**
- a) Discuss in detail the migration of ions with the help of Ostwald's schematic diagram for Hittorf's cell.
  - b) Mention different types of conductometric titrations. What are its advantages? Explain conductometric titration between weak acid and strong base.

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**B.Sc. (Entrepreneurship) (Semester - IV) (New) (CBCS) Examination:  
March/April-2024**

**INDUSTRIAL CHEMISTRY (Paper – VIII)  
Industrial Aspects of Applied Chemistry (EN1404)**

Day & Date: Friday, 12-04-2024  
Time: 09:00 AM To 11:00 AM

Max. Marks: 40

- Instructions:** 1) All questions are compulsory.  
2) Draw neat diagrams and give equations whenever necessary.  
3) Figures to the right indicate full marks.  
4) Use of logarithmic table and calculator is allowed.  
(At. Wts.: H=1, C=12, O=16, N= 14, Na =23, Cl = 35.5)

**Q.1 Choose the correct alternative for the following.**

**08**

- 1) \_\_\_\_\_ is the impure source of metals.
  - a) slag
  - b) flux
  - c) ore
  - d) mineral
- 2) Steel containing 0.3 to 0.6 % carbon is called as \_\_\_\_\_ steel.
  - a) tool
  - b) mild
  - c) structural
  - d) high carbon
- 3) In the process of electroplating \_\_\_\_\_ plays an important role.
  - a) electrolysis
  - b) electro-osmosis
  - c) electrophoresis
  - d) osmosis
- 4) In bright nickel plating along with nickel salt, \_\_\_\_\_ metal salt is also added.
  - a) cobalt
  - b) lead
  - c) chromium
  - d) manganese
- 5) \_\_\_\_\_ % nitrogen is present in ammonium sulphate.
  - a) 45
  - b) 60
  - c) 20
  - d) 80
- 6) \_\_\_\_\_ fertilizers are called as complete fertilizers.
  - a) mixed
  - b) potash
  - c) nitrogenous
  - d) phosphate
- 7) Which of the following is not a raw material used for the manufacture of ordinary glass?
  - a) Iron oxide
  - b) Soda ash
  - c) Limestone
  - d) Silica
- 8) Ceramic materials are usually \_\_\_\_\_ bonded materials.
  - a) ionic
  - b) covalent
  - c) ionic and covalent
  - d) metallic

- Q.2 Answer any Four of the following. 08**
- a) What are the steps involved in metallurgy?
  - b) Define the terms:
    - 1) Throwing power and
    - 2) Electro forming
  - c) What is meant by compound fertilizer?
  - d) Define
    - 1) Special glass
    - 2) Coloured glass
  - e) Which raw material is a primary component of cement production?
- Q.3 Write short notes on any Two of the following. 08**
- a) Bessemer process.
  - b) Classification of fertilizers.
  - c) Role of brighteners in electroplating.
- Q.4 Answer any Two of the following. 08**
- a) State and explain Faraday's laws of electrolysis.
  - b) Discuss in detail the process of manufacture of ammonium phosphate.
  - c) Give the properties of ceramic material.
- Q.5 Answer any One of the following. 08**
- a) Comment on chemical methods used for concentration of ore.
  - b) Explain the manufacturing process of glass material by Tank furnace.

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**B.Sc. (Entrepreneurship) (Semester - IV) (New) (CBCS) Examination:  
March/April-2024**

**MICROBIAL BIOTECHNOLOGY (Paper - VII)  
Molecular Biology (EN1405)**

Day & Date: Saturday, 13-04-2024  
Time: 09:00 AM To 11:00 AM

Max. Marks: 40

- Instructions:** 1) All questions are compulsory.  
2) Draw neat diagrams and give equations whenever necessary.  
3) Figures to the right indicate full marks.  
4) Use of logarithmic table and calculator is allowed.  
(At. Wts.: H=1, C=12, O=16, N=14, Na=23, Cl=35.5)

**Q.1 Choose the correct alternative and rewrite the following sentences.**

**08**

- 1) DNA replication is \_\_\_\_\_.
  - a) semi-conservative and semi-discontinuous
  - b) semi-conservative and discontinuous
  - c) conservative and discontinuous
  - d) conservative
- 2) The \_\_\_\_\_ are joined by 3' – 5' phosphodiester linkage.
  - a) a nitrogenous base with pentose sugar
  - b) two nucleotides
  - c) two nucleosides
  - d) two DNA strands
- 3) The process of DNA replication is affected by an enzyme known as \_\_\_\_\_.
  - a) Mutase
  - b) Ligase
  - c) Polymerase I
  - d) Ribonuclease
- 4) Nucleosome is made up of \_\_\_\_\_.
  - a) DNA, histone core protein linker H1
  - b) RNA, histone core protein
  - c) DNA, histone core protein
  - d) RNA, histone core protein, linker H1
- 5) The DNA polymerase involved in base excision repair is \_\_\_\_\_.
  - a) DNA polymerase  $\alpha$
  - b) DNA polymerase  $\beta$
  - c) DNA polymerase  $\gamma$
  - d) DNA polymerase  $\sigma$
- 6) The enzyme photolyase is used in \_\_\_\_\_ repair mechanism.
  - a) Base excision
  - b) Photo reactivation
  - c) SOS repair mechanism
  - d) Nucleotide excision
- 7) The type of coiling in DNA is \_\_\_\_\_.
  - a) Right-handed
  - b) Left-handed
  - c) Opposite
  - d) Zig-zag
- 8) In DNA, the enzyme which breaks the H<sub>2</sub> bonds is \_\_\_\_\_.
  - a) Ligase
  - b) Topoisomerase
  - c) Helicase
  - d) Polymerase

- Q.2 Answer any Four of the following.** **08**
- a) Define operon.
  - b) Define DNA polymerase.
  - c) Enlist properties of genetic code.
  - d) Draw structure of DNA.
  - e) Define Central Dogma.
  - f) Define SOS repair system.
- Q.3 Write short notes on any Two of the following.** **08**
- a) Discuss in detail about Post transcriptional modification.
  - b) Write a note on RNA polymerase in eukaryotes.
  - c) Write a note on prokaryotic transcription.
- Q.4 Answer any Two of the following.** **08**
- a) Write a note on Lac operon.
  - b) Explain in brief about Mismatch repair system.
  - c) Add a note on prokaryotic transcription.
- Q.5 Answer any One of the following.** **08**
- a) Define Replication and write a note on eukaryotic replication.
  - b) Explain in detail about process of translation.





- Q.3 Answer any two of the following. 08**
- a) Give the composition of Cheese and its uses.
  - b) Write a note on food as substrate for microorganisms.
  - c) Explain in brief methods of pasteurization.
- Q.4 Answer any two of the following. 08**
- a) Explain in detail various methods of Butter production.
  - b) Describe the manufacturing of toned and flavored milk.
  - c) Discuss about microbial spoilage of fruits and vegetables.
- Q.5 Answer any one of the following. 08**
- a) Write an essay on microbial spoilage of meat and meat products.
  - b) Discuss in detail method of manufacture, packing, hardening and storage of Ice Cream.

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**B.Sc. (Entrepreneurship) (Semester - IV) (Old) (CBCS) Examination:  
March/April - 2024**

**Entrepreneurship (Paper - VII)**

**Corporate Accounting & Professional Ethics (EN401)**

Day &amp; Date: Friday, 05-04-2024

Max. Marks: 40

Time: 09:00 AM To 11:00 AM

- Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.  
3) Draw neat diagrams and give equations wherever necessary.  
4) Use of logarithmic table and calculator is allowed.

**Q.1 Choose the correct alternatives from the options.**

**08**

- 1) Equity shareholders are \_\_\_\_\_.  
a) Creditors of the company                      b) Owners of the company  
c) Customers of the company                    d) None of the above
- 2) Shares can be issued \_\_\_\_\_.  
a) At par    b) At premium  
c) At discount    d) All the above
- 3) The amount of capital mentioned in MOA is \_\_\_\_\_.  
a) Authorised capital                                  b) Issued capital  
c) Reserve capital                                      d) Subscribed capital
- 4) \_\_\_\_\_ is not a current asset.  
a) Machinery    b) Bills receivable  
c) Closing Stock                                        d) Prepaid Expenses
- 5) Debenture holders are \_\_\_\_\_.  
a) Creditor of Company                              b) Debtor of Company  
c) Owner of Company                                 d) Members of Company
- 6) The first item in order of payment to be made by liquidator is \_\_\_\_\_.  
a) Legal Charges                                        b) Secured creditor  
c) Preferential creditor                              d) Preference shareholder
- 7) Ethics is related to \_\_\_\_\_.  
a) Fair and Unfair                                      b) Good and Bad  
c) Right and Wrong                                  d) All of the above
- 8) \_\_\_\_\_ is unethical business practice.  
a) Exploiting Workers                                b) Dumping Toxins  
c) over-billing the customers                      d) All of the above

**Q.2 Answer any four of the following:**

**08**

- a) Define Share Capital.
- b) Define Liquidator.
- c) Define Corporate Governance.
- d) Define Code of Conduct.
- e) What is business ethics?
- f) What is globalization?

**Q.3 Write short notes on any two of the following.**

- a) Explain need of valuation of shares.
- b) Explain modes of liquidation of a company.
- c) Explain importance of business ethics.
- d) From the information given below and the balance sheet of Picasa Ltd. on 31st March, 2022, find the value of shares by Intrinsic value method.

**Balance Sheet**

Particulars	Rs.	Particulars	Rs.
5,000 Equity Shares of Rs. 100 fully paid	5,00,000	Buildings	70,000
Reserves	1,50,000	Furniture	3,000
Profit & loss a/c	5,00,000	Stock	4,50,000
Creditors	48,000	Investment	3,35,000
		Debtors	2,80,000
		Cash at Bank	60,000
	<b>11,98,000</b>		<b>11,98,000</b>

**Additional information:**

1. Building is now worth of Rs. 3,50,000

**Q.4 Answer any two of the following.**

- a) Explain factors influencing valuation of share.
- b) Explain in brief corporate social responsibility.
- c) The following particulars relate to Lazy Bear Ltd. which went into voluntary liquidation:  
 Preferential creditors Rs. 25,000  
 Unsecured creditors Rs. 50,000  
 6% debentures Rs. 30,000  
 The assets realised Rs. 80,000. The expenses of liquidation amounted to Rs. 1,500 and the liquidator's remuneration was agreed at 2.5% on amount realised.

**Q.5 Answer any one of the following.**

- a) Anjana Drugs Limited invited applications for 3,00,000 of its equity shares of Rs. 10 each on the following terms:  
 Payable on application Rs.3 per share  
 Payable on allotment Rs.3 per share  
 Payable on first call Rs.2 per share  
 Payable on final call Rs.2 per share  
 Applications for 4,00,000 shares were received, excess application money were refunded. All calls and allotment money were duly received.  
 Give journal entries in the books of the company.
- b) Explain functional areas of ethics.

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**B.Sc. (Entrepreneurship) (Semester - IV) (Old) (CBCS) Examination:  
March/April-2024**

**Entrepreneurship (Paper - VIII)  
International Marketing & Marketing Decision (EN402)**

Day & Date: Sunday, 12-05-2024  
Time: 09:00 AM To 11:00 AM

Max. Marks: 40

**Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.

**Q.1 Choose the correct alternatives from the options.**

**08**

- 1) \_\_\_\_\_ is concerned with the people the activities involved in the flow goods & services on sales basis from the producer to consumer.
 

a) Salesmanship	b) Marketing
c) Selling	d) Advertising
- 2) Changes in life styles & social values of people indicates the \_\_\_\_\_ environment of marketing.
 

a) Political	b) Social
c) Legal	d) Social & cultural
- 3) Buyer behavior is basically \_\_\_\_\_ in nature.
 

a) economical	b) biological
c) social	d) cultural
- 4) \_\_\_\_\_ marketing is the process of selecting one or more market segment.
 

a) Target	b) Niche
c) Segment	d) Maxi-marketing
- 5) \_\_\_\_\_ is often described as silent salesman.
 

a) Branding	b) Labelling
c) Packaging	d) Grading
- 6) One important ethic of marketing is to honor the right of \_\_\_\_\_.
 

a) consumer	b) producer
c) society	d) worker
- 7) \_\_\_\_\_ advertising is the cheapest amongst all the other advertising medias.
 

a) Television	b) Press
c) Radio	d) Film
- 8) Market share analysis is one tool of \_\_\_\_\_.
 

a) Marketing planning	b) Marketing segmentation
c) Marketing control	d) Marketing mix

- Q.2 Answer Any Four of the following:** **08**
- a) Marketing Management
  - b) E-marketing
  - c) Consumer Behaviour
  - d) Global Marketing Environment
  - e) Brand Management
  - f) Physical Distribution
- Q.3 Write Short Notes. (Any Two)** **08**
- a) Define product life cycle.
  - b) Define Super Market.
  - c) Types of Distribution Channel
- Q.4 Answer any two of the following.** **08**
- a) What are the steps involved in Foreign Trade?
  - b) Modern Marketing concept
  - c) Define advertising strategy in competitive market.
- Q.5 Answer any one of the following.** **08**
- a) Give Sales promotion tools & technique.
  - b) What is mean by Retailer & give its forms of super-market?

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**B.Sc. (Entrepreneurship) (Semester - IV) (Old) (CBCS) Examination:  
March/April-2024**

**INDUSTRIAL CHEMISTRY (Paper - VII)**

**Analytical & Industrial Aspects of Physical Chemistry (EN403)**

Day & Date: Wednesday, 10-04-2024  
Time: 09:00 AM To 11:00 AM

Max. Marks: 40

- Instructions:**
- 1) All questions are compulsory.
  - 2) Figures to the right indicate full marks.
  - 3) Draw neat diagrams and give equations wherever necessary.
  - 4) Use of logarithmic table and calculator is allowed.
- (At. Wts. H=1, C=12, O=16, N=14, Na=23, Cl=35.5)

**Q.1 Select correct alternative from among those given below and rewrite the sentence. 08**

- 1) The relation  $E_G = E^{OG} + 0.0591 P^H$  gives the potential of \_\_\_\_\_ electrode.
  - a) glass
  - b) calomel
  - c) hydrogen
  - d) quinhydrone
- 2) Which of the following not a strong electrolyte?
  - a)  $NH_4OH$
  - b)  $AgNO_3$
  - c)  $NaCl$
  - d)  $HCl$
- 3) \_\_\_\_\_ fuel-oxidant combination provides highest flame temperature.
  - a) Propane-air
  - b) Acetylene-oxygen
  - c) Acetylene-air
  - d) Hydrogen-air
- 4) Conductance \_\_\_\_\_ with increase in concentration.
  - a) increases
  - b) decreases
  - c) remains constant
  - d) none of these
- 5) In total consumption burner \_\_\_\_\_ of sample is used.
  - a) 5%
  - b) 50%
  - c) 95%
  - d) 100%
- 6) The e.m.f. of a concentration cell is determined by using \_\_\_\_\_.
  - a) voltmeter
  - b) galvanometer
  - c) potentiometer
  - d) ammeter
- 7) The ratio of intensity of transmitted light to that of incident light is known as \_\_\_\_\_.
  - a) transmittance
  - b) absorbance
  - c) opacity
  - d) none of these
- 8) If transport number of cation is 0.5, then that of anion is \_\_\_\_\_.
  - a) 1.5
  - b) 0.5
  - c) 0.05
  - d) 0.005

- Q.2 Answer any four of the following. 08**
- a) Define opacity and transmittance.
  - b) List various burners used in flame photometer.
  - c) Write any two demerits of glass electrode.
  - d) Give the advantages of conductometric titration.
  - e) Give the statement of Lambert's law.
  - f) Define buffer and mention its types.
- Q.3 Write short notes on. (Any Two) 08**
- a) Classical method and analytical method of locating end points
  - b) Advantages of colorimetric estimations
  - c) Premix burner
- Q.4 Answer any two of following. 08**
- a) State and explain Beer's law. Under what condition the law cannot be applied?
  - b) How would you determine the pH of a solution using glass electrode along with the saturated calomel electrode?
  - c) Give the different characteristics of flame used in flame photometry.
- Q.5 Answer any one of the following. 08**
- a) Write different types of conductometric titration. Explain conductometric titration of strong acid against strong base.
  - b) Define transport number of cation and anion. Explain the factors affecting transport number of ions.

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**B.Sc. (Entrepreneurship) (Semester - IV) (Old) (CBCS) Examination:  
March/April-2024**

**INDUSTRIAL CHEMISTRY (Paper – VIII)  
Industrial Aspects of Applied Chemistry (EN404)**

Day &amp; Date: Friday, 12-04-2024

Max. Marks: 40

Time: 09:00 AM To 11:00 AM

- Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.  
3) Draw neat diagrams and give equations wherever necessary.  
4) Use of logarithmic table and calculator is allowed.  
(At. Wts.: H=1, C=12, O=16, N= 14, Na=23, Cl = 35.5)

**Q.1 Choose the correct alternatives from the options.****08**

- 1) In gravity separation method \_\_\_\_\_ is used.
  - a) blast furnace
  - b) reverberatory furnace
  - c) Wilfley table
  - d) sintered furnace
- 2) In the process of electroplating \_\_\_\_\_ plays an important role.
  - a) electrolysis
  - b) electro-osmosis
  - c) electrophoresis
  - d) None of these
- 3) Steel containing 0.3 to 0.6% carbon is called as \_\_\_\_\_ steel.
  - a) tool
  - b) mild
  - c) structural
  - d) high carbon
- 4) Sand, limestone and soda ash are the major ingredients of \_\_\_\_\_.
  - a) glass
  - b) ceramics
  - c) fertilizer
  - d) cement
- 5) Glass is \_\_\_\_\_ of heat and electricity.
  - a) conductor
  - b) insulator
  - c) semiconductor
  - d) All of these
- 6) Which of the following does not come under the category of ceramic material?
  - a)  $\text{Si}_2\text{N}_4$
  - b)  $\text{Al}_2\text{O}_3$
  - c)  $\text{Si}_2\text{O}_2$
  - d)  $\text{SiC}$
- 7) Superphosphate and triple phosphate are \_\_\_\_\_ fertilizer.
  - a) organic
  - b) inorganic
  - c) physical
  - d) None of these
- 8) The sharp edges of glass are removed by cutting, grinding and polishing these processes called as \_\_\_\_\_.
  - a) shaping
  - b) fusion
  - c) finishing
  - d) annealing



- Q.2 Answers any four of the following. 08**
- a) What are the ceramics?
  - b) Write the raw materials used in manufacture of urea.
  - c) What are the steps involved in metallurgy?
  - d) What is mean by throwing power?
  - e) Write the factors which affects on fertility of the soil.
  - f) Write the types of cement.
- Q.3 Write short notes on any two of the following. 08**
- a) Qualities of ideal fertilizer
  - b) Anodising
  - c) Wet process
- Q.4 Answers any two of the following. 08**
- a) Explain in detail manufacturing process of urea.
  - b) What is Ceramics? Explain the classification of ceramic.
  - c) Describe in detail cleaning of article before electroplating.
- Q.5 Answers any one of the following. 08**
- a) Explain the different types of glass according to their uses in various field.
  - b) What are the steps involved in the extraction of metal from ore? Explain in detail blast furnace.



- Q.2 Answer any Four of the following. 08**
- a) Draw structure of DNA.
  - b) Enlist properties of genetic code.
  - c) Enlist silent features of DNA.
  - d) Define Central Dogma.
  - e) Define replication.
  - f) Define Trp operon.
- Q.3 Write short notes on any Two of the following. 08**
- a) Write a note on eukaryotic RNA polymerase.
  - b) Discuss in detail about DNA polymerase.
  - c) Explain process of prokaryotic replication.
- Q.4 Answer any Two of the following. 08**
- a) Explain in detail about translation.
  - b) Add a note on Lac operon.
  - c) Define and explain Mismatch repair mechanism.
- Q.5 Answer any One of the following. 08**
- a) Define Transcription and write a note on eukaryotic Transcription.
  - b) Explain in detail about process of Excision repair mechanism.

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**B.Sc. (Entrepreneurship) (Semester - IV) (Old) (CBCS) Examination:  
March/April-2024**

**MICROBIAL BIOTECHNOLOGY (Paper - VIII)  
Food & Dairy Technology (EN406)**

Day & Date: Monday, 15-04-2024  
Time: 09:00 AM To 11:00 AM

Max. Marks: 40

- Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.  
3) Draw neat labeled diagrams wherever necessary.

**Q.1 Rewrite the following sentences by choosing correct alternatives from given below. 08**

- 1) Temperature of the food is \_\_\_\_\_ type of factor involved in microbial growth.
  - a) Intrinsic
  - b) Microbial
  - c) Chemical
  - d) Extrinsic
- 2) Deep pink to whitish pink colour in resazurin milk test indicates \_\_\_\_\_ quality of milk.
  - a) fair
  - b) excellent
  - c) poor
  - d) good
- 3) \_\_\_\_\_ is example of non-perishable food.
  - a) Milk
  - b) Cereals
  - c) Egg
  - d) None of these
- 4) The causative agent of Botulism is \_\_\_\_\_.
  - a) *A.flavus*
  - b) *A.vanelandii*
  - c) *C.botulinum*
  - d) *B.anthrax*
- 5) Rennin enzymes mainly used in \_\_\_\_\_ making.
  - a) Butter
  - b) Ice-cream
  - c) Cheese
  - d) Yogurt
- 6) Microbial quality of milk is determined by \_\_\_\_\_ test.
  - a) Crowded plate
  - b) Caseinase
  - c) Amylase
  - d) MBRT
- 7) The high nutritive value of cheese is due to \_\_\_\_\_ of the following.
  - a) high mineral contents
  - b) taste and flavor
  - c) high protein content
  - d) rancidity
- 8) \_\_\_\_\_ is freezing point of milk.
  - a) 1° C
  - b) -0.55° C
  - c) 5° C
  - d) -100° C

- Q.2 Answer any four of the following. 08**
- a) What is water activity?
  - b) Define food poisoning.
  - c) Define Psychrophilic microorganisms.
  - d) Homogenized Milk.
  - e) Grading of Milk.
  - f) Define Canning.
- Q.3 Attempt any two of the following. 08**
- a) Describe in detail dye reduction test of milk.
  - b) Write a note on chemical preservatives used for preservation of food.
  - c) Describe the manufacturing of toned and flavored milk.
- Q.4 Answer any two of the following. 08**
- a) Discuss in detail method of manufacture, packing, hardening and storage of Ice Cream.
  - b) Describe in detail microbial spoilage of fish and poultry foods.
  - c) Explain in brief methods of pasteurization.
- Q.5 Answer any one of the following. 08**
- a) Describe in detail microbial spoilage of cereals and vegetables.
  - b) Explain in brief composition and uses of cheese.

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No.**B.Sc. (Entrepreneurship) (Semester - V) (New) (CBCS) Examination:  
March/April-2024****ENGLISH****Business English (EN501)**Day & Date: Friday, 05-04-2024  
Time: 03:00 PM To 05:00 PM

Max. Marks: 40

**Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.**Q.1 Multiple choice questions.****08**

- 1) What was Della going to cook for the dinner?
  - a) Cookies
  - b) Chops
  - c) Bread
  - d) Soup
- 2) The story "The Homecoming" is composed by \_\_\_\_\_.
  - a) Rabindranath Tagore
  - b) R. K. Narayan
  - c) Shashi Tharur
  - d) Arun Kolatkar
- 3) Who came to visit Phatik's mother?
  - a) Cousin
  - b) their uncle
  - c) Granny
  - d) Grandfather
- 4) What was the solitary girl doing in the field?
  - a) tilling the plants
  - b) watering
  - c) reaping the harvest
  - d) planting
- 5) Who snatched the queen's mirror?
  - a) Her daughter
  - b) Her friends
  - c) the King
  - d) the new bride
- 6) Oliver Goldsmith is a/an \_\_\_\_\_ novelist.
  - a) Anglo-Irish
  - b) American
  - c) Indian
  - d) Italian
- 7) Where did the two roads diverge?
  - a) In green wood
  - b) In yellow wood
  - c) On the brown roads
  - d) On the gray roads
- 8) "You must carry on your work" the phrasal verb from the sentence is \_\_\_\_\_.
  - a) You
  - b) Carry On
  - c) Must
  - d) Your Work

**Q.2 Answer the following questions. (Any Four)****12**

- a) What was uncle's generous offer?
- b) What was the solitary reaper doing in the field?
- c) What was Queen Gulnaar's desire?
- d) What led to Phatik's desire to go back to home?
- e) What is communication?
- f) What is flexibility?

- Q.3 Answer any One of the following.** **10**
- a) Why was Della sad in the beginning of the story “The Gift of the Magi”?
  - b) What is significance of the two roads in the poem ‘The Road Not Taken’?
- Q.4 Answer the following question.** **10**
- What is importance of learning skills?

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**B.Sc. (Entrepreneurship) (Semester - V) (New) (CBCS) Examination:  
March/April-2024  
Business Finance (EN502)**

Day & Date: Sunday, 12-05-2024  
Time: 03:00 PM To 06:00 PM

Max. Marks: 80

**Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.

**Q.1 A) Multiple Choice Questions. 10**

- 1) World Bank also known as\_\_\_\_\_.  
a) WTO  
b) IMF  
c) IBRD  
d) None of these
- 2) Capital Lease also known as\_\_\_\_\_.  
a) Financial Lease  
b) Operating Lease  
c) Sale and Sale Back Lease  
d) Leverage Lease
- 3) Working of Stock Exchanges in India is controlled by\_\_\_\_\_.  
a) RBI  
b) Govt. of India  
c) SEBI  
d) IRDA
- 4) MIGA refers to\_\_\_\_\_.  
a) Multinational Investment Guarantee Association  
b) Multilateral Investment Guarantee Agency  
c) Multi-Level Investment Guarantee Agency  
d) Multiple Investment Guarantee Association
- 5) SEBI established on\_\_\_\_\_.  
a) 1992  
b) 1994  
c) 1892  
d) 1886
- 6) Business Finance deals with\_\_\_\_\_.  
a) Managerial Problems  
b) Financial Problems  
c) Administrative Problems  
d) All of above
- 7) Trade credit is source of \_\_\_\_\_.  
a) Long term Finance  
b) Medium term Finance  
c) Short term Finance  
d) All of above
- 8) A company can accept Public deposits for a maximum period of \_\_\_\_\_.  
a) One year  
b) Two years  
c) Three years  
d) Four years
- 9) NSE Refers to \_\_\_\_\_.  
a) National Stock Exchange  
b) National Super Exchange  
c) National Share Exchange  
d) None of these
- 10) The members of the stock exchange are called as\_\_\_\_\_.  
a) Investors  
b) Agents  
c) Brokers  
d) Members



- B) Fill in the blanks/Definition/One sentence answer/One word answer/ Give the name/Predict the product. 06**
- a) Full Form of IBRD
  - b) Define Share.
  - c) Define IDRs.
  - d) Full form of SEBI
  - e) Define Debentures.
  - f) Full form of RBI

**Q.2 Solve any Eight of the following. 16**

- a) Define venture capital.
- b) Define Business.
- c) Define E-Banking.
- d) Define financial planning.
- e) Define ADRs.
- f) Define FEMA.
- g) Define working capital.
- h) Define Lease Finance.
- i) Define Capital Budgeting.
- j) Define Public Deposits.

**Q.3 A) Attempt any Two of the following. 10**

- 1) Explain objectives of Business finance.
- 2) Explain steps in Financial Planning.
- 3) Explain functions of stock exchange.

**B) Write note/solve. 06**

Explain role of SEBI in capital market.

**Q.4 A) Answer any Two of the following. 08**

- 1) Explain methods of capital budgeting.
- 2) Explain problems of Leasing in India.
- 3) Explain importance of Business Finance.

**B) Describe the following. 08**

Explain working of BSE & NSE.

**Q.5 Answer any Two of the following. 16**

- a) Explain types of Lease Financing.
- b) Explain sources of Business finance.
- c) Explain functions of Commercial Banks.





**Q.5 Answer the following. (Any Two)**

- a) Explain HRM and its Functions and Importance?
- b) Define Need and objective of training.
- c) Define Selection and Steps in selection procedure.

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**B.Sc. (Entrepreneurship) (Semester - V) (New) (CBCS) Examination:  
March/April-2024  
Spectroscopic Methods (EN504)**

Day & Date: Friday, 12-04-2024  
Time: 03:00 PM To 06:00 PM

Max. Marks: 80

- Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.  
3) Draw neat labeled diagrams wherever necessary.  
4) Use of logarithmic table and calculator is allowed.

**Q.1 A) Choose the correct alternative and rewrite the sentences again. 10**

- 1) IR spectroscopy is useful in determination of \_\_\_\_\_.  
a) functional group                      b) molecular weight  
c) Conjugation                              d) None of these
- 2) Nuclei with an odd atomic mass and an even or odd atomic number have \_\_\_\_\_.  
a) zero spin                                      b) integral spin  
c) half-integral spin                          d) none of these
- 3) Separation of ions in mass spectrometer takes place on the basis of which of the following?  
a) Mass    b) Charge  
c) Molecular weight                          d) Mass to charge ratio
- 4) Which of the following bending vibration take plane different planes?  
a) Asymmetric stretching                  b) Twisting  
c) Rocking                                        d) Scissoring
- 5) What is the wavelength range for UV spectrum of light?  
a) 400nm - 700 nm                          b) 700 nm to 1mm  
c) 0.01 nm to 10 nm                        d) 10 nm – 400 nm
- 6) Protection of nuclei from an external field is called \_\_\_\_\_.  
a) shielding                                      b) deshielding  
c) chemical shift                                d) None of these
- 7) Who discovered the mass spectrometer?  
a) Francis Aston                                b) Ernest O. Lawrence  
c) J. J Thomson                                 d) Walter Kaufmann
- 8) Unit of chemical shift is \_\_\_\_\_.  
a) Hz    b) Ppm  
c) Cps    d) Unit less
- 9) According to Hook's law vibrational frequency of bond increases when reduced mass of the system \_\_\_\_\_.  
a) increases                                      b) decreases  
c) remains same                                d) All the above
- 10) In Beer-Lamberts law the term epsilon is known as \_\_\_\_\_.  
a) molarity                                        b) molar coefficient  
c) molality                                         d) molar extinction coefficient

- B) Answer in one sentence.** **06**
- 1) What is mean by bathochrome?
  - 2) Write the range of finger print region.
  - 3) What is mean by J value?
  - 4) Define equivalent proton.
  - 5) What is mean by bar graph?
  - 6) Draw the structure of TMS.
- Q.2 Solve any Eight of the following.** **16**
- a) State the Hooks law.
  - b) What is the basic principle of mass spectroscopy?
  - c) What is mean by IR active transition?
  - d) What mean by peak area?
  - e) Explain fragment ion.
  - f) What is mean by deshielding?
  - g) Write any one example of rearrangement ion.
  - h) Define sigma bond.
  - i) What is mean by auxochrome?
  - j) What is mean by spin spin splitting?
- Q.3 A) Attempt any two of the following.** **10**
- 1) Calculate the fundamental mode of vibrations of methane and benzene.
  - 2) Explain the Woodward - Fieser rules.
  - 3) Comment on flipping the spin
- B) Write Short Note.** **06**
- Use of mass spectroscopy in determination of structure of the compound.
- Q.4 A) Answer any two of the following.** **08**
- 1) An organic compound with molecular formula  $C_2H_4O_2$  shows IR absorption bonds at  $3400\text{ cm}^{-1}$  (broad) and  $1700\text{ cm}^{-1}$ . Deduce its structure.
  - 2) Discuss the effect of conjugation on the position of UV bands in dienes or enones.
  - 3) Why is TMS is used as an internal standard reference in NMR spectroscopy?
- B) Describe the following:** **08**
- Sketch the mass spectrophotometer and explain in brief it's working.
- Q.5 Answer any two of the following.** **16**
- a) What are the scale used in NMR spectroscopy for the measurement of chemical shift? How they are related to each other?
  - b) What is a finger print region in IR spectra? What are its advantages? Draw the schematic diagram of double beam IR spectrophotometer.
  - c) Explain the bathochromic shift, hypsochromic shift, hyperchromic shift and hypochromic shift.

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**B.Sc. (Entrepreneurship) (Semester - V) (New) (CBCS) Examination:  
March/April-2024**

**Advances in Fermentation Technology (EN505)**

Day &amp; Date: Saturday, 13-04-2024

Max. Marks: 80

Time: 03:00 PM To 06:00 PM

**Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.

**Q.1 A) Multiple choice questions.****10**

- 1) Where is the World Intellectual Property Organization located?
  - a) Geneva
  - b) London
  - c) Perth
  - d) Florida
- 2) Sterility testing can be done by using?
  - a) Direct inoculation method
  - b) Membrane filtration method
  - c) Pyrogen test
  - d) All of the above
- 3) \_\_\_\_\_ of the following is a NOT part of food allergy.
  - a) Itchiness in mouth
  - b) Runny nose
  - c) Rash
  - d) Fever
- 4) What does Trademark protect?
  - a) Logo, names and brands
  - b) An Invention
  - c) Work of art
  - d) None of these
- 5) \_\_\_\_\_ is mean by Idiophase.
  - a) Production of waste material
  - b) Production of topical product
  - c) Production of primary metabolites
  - d) Production of secondary metabolites
- 6) \_\_\_\_\_ of the following is not probiotic.
  - a) Fungi
  - b) E. coli
  - c) Saccharomyces cerevisiae
  - d) Lactobacillus
- 7) Under which type of agreement royalty is paid on the basis of sale \_\_\_\_\_.
  - a) Mining
  - b) Patenting
  - c) Copyright
  - d) Licensing
- 8) \_\_\_\_\_ is not vegetable or fruit based fermented product?
  - a) Wine
  - b) Sauerkraut
  - c) Beer
  - d) Vinegar
- 9) Anaerobic respiration by yeast product \_\_\_\_\_.
  - a) CO<sub>2</sub>
  - b) Wine and Beer
  - c) Alcohol
  - d) All of above
- 10) The main objective of quality assurance is \_\_\_\_\_.
  - a) Proof of fitness of product
  - b) Inspection of quality of product
  - c) Quality conformance
  - d) Customer satisfaction

- B) Fill in the blank/Definition/One sentence answer /one-word answer /Give the name /predict the product etc. 06**
- 1) Define Trade secret.
  - 2) Describe Copyright.
  - 3) Describe Virus.
  - 4) Describe Antibody
  - 5) Describe Vinegar.
  - 6) Describe Layout design.
- Q.2 Solve any Eight of the following. 16**
- a) Write note on Test for allergy.
  - b) Write note on Product recall.
  - c) Write note on WTO.
  - d) Write note on Biosecurity.
  - e) Explain in brief Vectors.
  - f) Write note on Good laboratory practices (GLP)
  - g) Explain in brief Pyrogen.
  - h) Explain in brief Plant variety.
  - i) Write note on Recombinant Protein.
  - j) Define Acetone.
- Q.3 A) Attempt any Two of the following. 10**
- 1) Explain Good manufacturing practices.
  - 2) Describe Biosafety levels.
  - 3) Explain Farmer's Right Act.
- B) Short note/Solve. 06**
- Explain Pre-clinical and clinical trials.
- Q.4 A) Attempt any Two of the following. 08**
- 1) Define Natural bio preservatives with Bacteriocin.
  - 2) Describe Documentation and production in laboratory.
  - 3) History of Patent protection.
- B) Describe /Explain /Solve. 08**
- Describe IPR and explain trademarks, Copyrights, Geographical Indication.
- Q.5 Attempt any Two of the following. 16**
- a) Describe in detail Biopolymers with Xanthan gum production.
  - b) Explain Mushroom Cultivation.
  - c) Explain Production of solvents with Glycerol and Butanol.





- B) Fill in the blank/Definition/One sentence answer /One word answer /Give the name /Predict the product etc. 06**
- 1) Define Alcoholic beverage.
  - 2) Define fermentation.
  - 3) Define Wort.
  - 4) What is Brewing?
  - 5) Define Clarification of wine.
  - 6) Define pH.
- Q.2 Solve any Eight of the following. 16**
- a) Importance of wine
  - b) Role of *Saccharomyces cerevisiae* in wine making.
  - c) Fermenter
  - d) Tasters
  - e) What is spritz?
  - f) What is the significance of Sorting in wine making?
  - g) What is Sweetening?
  - h) What is Organic wine?
  - i) What is Mouth-feel sensation?
  - j) Enlist different types of wines.
- Q.3 A) Attempt Any Two of the Following. 10**
- 1) What is Aging of wine? Discuss various effects of Aging.
  - 2) Clarification of wine.
  - 3) Discuss stabilization of wine.
- B) Short note/Solve. 06**
- Bag-in box container.
- Q.4 A) Attempt any Two of the following. 08**
- 1) Use of various containers in wine storage.
  - 2) Design of Fermenters used in wine fermentation.
  - 3) Sensory analysis of wine.
- B) Describe. 08**
- Economic and health benefits of wine
- Q.5 Attempt any Two of the following. 16**
- a) Factors affecting taste perception of wine
  - b) Must clarification
  - c) Role of oak barrels in Aging of wine

Seat  
No.

**B.Sc. (Entrepreneurship) (Semester - VI) (New) (CBCS) Examination:  
March/April-2024  
ENGLISH**

**Literary Mindscapes - I (EN601)**

Day & Date: Tuesday, 16-04-2024  
Time: 03:00 PM To 05:00 PM

Max. Marks: 40

**Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.

**Q.1 Rewrite the following by choosing the correct alternative.**

**08**

- 1) What did Robert find which was left by his wife?
  - a) book
  - b) note
  - c) money
  - d) lunch
- 2) What did Askiono's wife see in her dream about Askiono's hair?
  - a) he lost his hair
  - b) his hair had become gray
  - c) he became ill
  - d) he got arrested
- 3) What are names of the children from the story 'Growing up'?
  - a) Joss & Kady
  - b) Jane & Karli
  - c) Jade & Katie
  - d) Jenny & Kate
- 4) How many children are listening to the story from the poem 'Sita'?
  - a) One
  - b) Two
  - c) Three
  - d) Four
- 5) The poem "My Last duchess" is composed by \_\_\_\_\_.
  - a) Alexander Pope
  - b) Robert Frost
  - c) Robert Browning
  - d) William Shakespeare
- 6) What are the things of beauty mentioned in the poem 'Ode to Beauty'?
  - a) The sun and the moon
  - b) Young trees and streams
  - c) Flowers
  - d) All of the above
- 7) He went .... to his office to look for his lost keys. (choose correct adverb to in the blanks)
  - a) back
  - b) backside
  - c) go back
  - d) gone back
- 8) Riya said, "I loved to read." (Convert into indirect speech)
  - a) Riya said I love reading
  - b) Riya said that she loved to read.
  - c) Riya said that she is loving to read.
  - d) Riya said she loves reading.

- Q.2 Write the answers in short. (Any Four)** **12**
- a) Why was the Quick family garden wild and carefree?
  - b) Why did Askionov leave the inn early?
  - c) What is the tragic story told by the narrator from the poem 'Sita'?
  - d) Describe the personality of the duchess.
  - e) Why is "Ode to Beauty" considered to be romantic poem?
  - f) Who do you think are 'our best' that poet refers to in the poem 'Life'?
- Q.3 Answer the following (Any One)** **10**
- a) Explain what is information literacy & its importance?
  - b) What is media literacy and what is its importance?
- Q.4 Answer the following question.** **10**
- What are life skills? Explain in detail.

Seat No.	
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**B.Sc. (Entrepreneurship) (Semester - VI) (New) (CBCS) Examination:  
March/April-2024**

**International Business (EN602)**

Day & Date: Thursday, 18-04-2024  
Time: 03:00 PM To 06:00 PM

Max. Marks: 80

- Instructions:** 1) All questions are compulsory.  
2) Draw neat labelled diagrams wherever necessary.  
3) Figures to the right indicate full marks.  
4) Use of log table and calculator is allowed.

**Q.1 A) Choose the correct alternative and rewrite the sentences again. 10**

- 1) David Ricardo presented the theory of international trade called: \_\_\_\_
  - a) Theory of absolute advantage
  - b) Theory of comparative advantage
  - c) Mercantilism
  - d) Factor endowment theory
- 2) When an international firm follows a strategy of choosing only from the nationals of Parent country, it is called \_\_\_\_\_.
  - a) Polycentric
  - b) Ethnocentric
  - c) Geocentric
  - d) Regiocentric
- 3) Bill of Lading is issued by the \_\_\_\_\_.
  - a) Captain of the vessel
  - b) Shipping company
  - c) Customs authorities
  - d) Consignor
- 4) \_\_\_\_\_ provides the details of number of packages, quantity packed in each of them, the weight and measurement of each package.
  - a) Packing list
  - b) Bill of lading
  - c) Mate's receipt
  - d) Bill of exchange
- 5) Balance of Payment of a country includes \_\_\_\_\_.
  - a) Capital Account
  - b) Current Account
  - c) Official Reserve Account
  - d) All the above
- 6) A tax imposed on certain type of imported goods is \_\_\_\_\_.
  - a) A tariff
  - b) A surcharge
  - c) A goods and services tax
  - d) A quota
- 7) Which is an Indian multinational company?
  - a) Unilever
  - b) Bata
  - c) Nestle
  - d) ITC
- 8) NAFTA is an example of \_\_\_\_\_.
  - a) Common market
  - b) Customers union
  - c) Economic community
  - d) Free Trade Area
- 9) Build, operate and transfer is the basic principle of \_\_\_\_\_.
  - a) Contract Manufacturing
  - b) Licensing
  - c) Franchising
  - d) Turnkey project

- 10) SAP SE is \_\_\_\_\_ multinational software company.
- a) Indian
  - b) Chinese
  - c) German
  - d) American

**B) Give one word/parse/term for the following statement. 06**

- 1) Removal or reduction of restrictions or barriers on the free exchange of goods between nations.
- 2) Trade between two or more countries.
- 3) A letter from a bank guaranteeing that a buyer's payment to a seller will be received on time and for the correct amount.
- 4) A statement of all transactions made between entities in one country and the rest of the world over a defined period.
- 5) A project, in which one is designed, developed and equipped with all facilities by a company under a contract. It is handed over to a buyer when it becomes ready to operate business.
- 6) A region in which a group of countries has signed a free trade agreement and maintain little or no barriers to trade in the form of tariffs or quotas between each other.

**Q.2 Solve any Eight of the following. 16**

- a) What is bill of lading?
- b) What is Certificate of Origin?
- c) What is licensing?
- d) Define Mercantilism.
- e) Define MNCs.
- f) Explain Tariff.
- g) Explain Open Account.
- h) What is factoring?
- i) Define Joint Venture.
- j) Explain Common Market.

**Q.3 A) Attempt any Two of the following. 10**

- 1) Explain absolute cost advantage theory.
- 2) Reasons for disequilibrium in Balance of Payment
- 3) Importance of international business

**B) Write Short note. 06**

Explain factors that contributed for the growth of MNCs in India.

**Q.4 A) Attempt any Two of the following. 08**

- 1) Drivers of globalisation
- 2) Role of World bank in economic development
- 3) Explain components of Balance of Payment.

**B) Describe Import/Export procedure. 08**

**Q.5 Attempt any Two of the following. 16**

- a) Briefly explain modes of entering into international business.
- b) Explain advantages & disadvantages of MNCs.
- c) Explain objectives and functions of WTO.

Seat No.	
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**B.Sc. (Entrepreneurship) (Semester - VI) (New) (CBCS) Examination:  
March/April-2024  
Organizational Behavior (EN603)**

Day & Date: Wednesday, 24-04-2024  
Time: 03:00 PM To 06:00 PM

Max. Marks: 80

- Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.  
3) Draw neat labeled diagrams wherever necessary.

**Q.1 A) Choose the correct alternative and rewrite the sentences again. 10**

- 1) EDI stands for \_\_\_\_\_.  
a) Electronic Data Interchange  
b) Easy Data Interchange  
c) Effective Data Interchange  
d) Era data interchange
- 2) \_\_\_\_\_ was a pioneering theorist in the field of Cognitive Psychology.  
a) Edward Tolman                      b) B. F. Skinner  
c) Ivan Pavlov                          d) Douglas McGregor
- 3) \_\_\_\_\_ is/are corrects problems of conflict.  
a) MDs attitude  
b) People's attitude  
c) Built in rules of organization  
d) Courts of law
- 4) One single factor that mainly contributes to reducing conflict is \_\_\_\_\_.  
a) Money                                  b) Employee status  
c) Trust                                    d) Authority
- 5) \_\_\_\_\_ explains internal processes of choice among different behaviors.  
a) Equity Theory                      b) Expectancy Theory  
c) Goal Attain Theory                d) Goal Setting Theory
- 6) An individual's behavior is caused by \_\_\_\_\_.  
a) Family help                          b) Attitudes  
c) Society's response                 d) All
- 7) EP stands for \_\_\_\_\_.  
a) Easy Payment                      b) Earn Payment  
c) Electronic Payment                d) Era Payment
- 8) \_\_\_\_\_ is the key word in understanding organization structure?  
a) Control                                b) Change  
c) Process                                d) Delegation
- 9) \_\_\_\_\_ advocated that humans are essentially motivated by levels of needs.  
a) Maslow                                b) Follet  
c) Elton mayo                            d) Ivan Pavlov
- 10) Forces affecting organizational behavior are \_\_\_\_\_.  
a) People                                 b) Environment  
c) Technology                          d) All of these

- B) Fill in the blanks.** **06**
- 1) The least used communication channel in an organization is usually \_\_\_\_\_.
    - a) Upward
    - b) Downward
    - c) Diagonal
    - d) Horizontal
  - 2) Group created by managerial decision in order to accomplishment stated goal of the organization are called \_\_\_\_\_.
    - a) Formal Group
    - b) Informal Group
    - c) Task Group
    - d) Interest Group
  - 3) \_\_\_\_\_ is the force of action or motivation.
    - a) Behavior
    - b) Stimulus
    - c) Perception
    - d) Attitude
  - 4) A process of receiving, selection, organizing, interpreting, checking and reacting to sensory stimuli or data so as to form a meaningful and coherent picture of the worlds is \_\_\_\_\_.
    - a) Attitude
    - b) Thinking
    - c) Perception
    - d) Communication
  - 5) Organization Behavior is \_\_\_\_\_.
  - 6) Organizational Behavior is the study of \_\_\_\_\_ in the organization.

- Q.2 Solve Any Eight of the following.** **16**
- a) E-Payment
  - b) Job satisfaction.
  - c) EDI
  - d) Learning
  - e) Attitude
  - f) Perception
  - g) Psychology in OB
  - h) Sociology in OB
  - i) Anthropology in OB
  - j) Personality

- Q.3 A) Answer any two of the following.** **10**
- 1) What is politics? Explain types and ethics of politics.
  - 2) State the process of perception?
  - 3) Explain Nature and scope of OB.

**B) Explain types of groups.** **06**

- Q.4 A) Answer any two of the following.** **08**
- 1) Describe importance of Motivation.
  - 2) Explain life expectancy theory?
  - 3) Write note on Trait Theory.

**B) Internet monetary payment and security requirements.** **08**

- Q.5 Answer any two of the following.** **16**
- a) Explain learning theory.
  - b) What is stress? Explain causes of stress?
  - c) What is OB? Evolution of OB.



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**B.Sc. (Entrepreneurship) (Semester - VI) (New) (CBCS)  
Examination: March/April-2024  
Techniques in Industrial Chemistry (EN604)**

Day & Date: Thursday, 25-04-2024  
Time: 03:00 PM To 06:00 PM

Max. Marks: 80

- Instructions:** 1) All questions are compulsory.  
2) Draw neat diagrams and give equations wherever necessary.  
3) Figures to the right indicate full marks.  
4) Use of logarithmic table and calculators is allowed.

**Q.1 A) Multiple choice questions.**

**10**

- 1) Natural zeolite are \_\_\_\_\_.
  - a) porous
  - b) amorphous
  - c) non-durable
  - d) possess gel structure
- 2) \_\_\_\_\_ is basic material of the paper used in paper chromatography.
  - a) Cotton
  - b) Cellulose
  - c) Pulp
  - d) None of these
- 3) The following extinguisher is suitable for cotton or other textile fire \_\_\_\_\_.
  - a) Water
  - b) Foam
  - c) Soda acid
  - d) Dry chemicals
- 4) What apparatus is used in distillation?
  - a) Distillation flask, condenser, collection vessel
  - b) Distillation flask, condenser
  - c) Condenser, collection vessel
  - d) Distillation flask, column
- 5) Biocatalytical reactions are catalysed by \_\_\_\_\_.
  - a) Enzymes
  - b) Protein
  - c) Carbohydrates
  - d) Alcohols
- 6) Titanium and aluminium materials can be classified under which of the following categories?
  - a) A
  - b) C
  - c) D
  - d) B
- 7) What does high reflux ratio mean?
  - a) Collection rate will be higher
  - b) Lower purity of the distillate
  - c) Higher purity of distillate
  - d) Does not depend on purity and collection rate
- 8) Which of the following colors allows you to identify a foam fire extinguisher?
  - a) Blue
  - b) Red
  - c) Yellow
  - d) Cream
- 9) \_\_\_\_\_ is commonly used adsorbent in column chromatography.
  - a)  $\text{Na}_2\text{CO}_3$
  - b)  $\text{Na}_2\text{HCO}_3$
  - c)  $\text{Na}_2\text{C}_2\text{O}_3$
  - d)  $\text{NaOH}$

- 10) Fire extinguishers that contain \_\_\_\_\_ have a red band located above them.
- |                   |          |
|-------------------|----------|
| a) carbon dioxide | b) Foam  |
| c) wet chemicals  | d) Water |

**B) Answer in one sentence. 06**

- 1) Write any one name of zeolite.
- 2) Which mobile phase is used in paper chromatography?
- 3) Write any two name of enzymes.
- 4) Give the any one example of type fire A.
- 5) Write any one name of fractionating column.
- 6) Which gases are used as carrier gas in gas chromatography?

**Q.2 Solve any Eight of the following. 16**

- a) What is the basic principle of chromatographic process?
- b) Write reduction reaction of benzoquinone to hydroquinone.
- c) Mention the factors affecting on enzyme activity.
- d) Write the principle of continuous distillation.
- e) Which materials are used in class B fire extinguishers?
- f) What is the mobile and stationary phase in paper chromatography?
- g) How will you prepare benzoic acid from toluene?
- h) Which materials are used in class D fire extinguishers?
- i) Write any two characteristics of adsorbent.
- j) Draw the neat labelled diagram of continuous distillation.

**Q.3 A) Attempt any Two of the following. 10**

- 1) Describe the Soda acid extinguishers.
- 2) Write the application of the gas chromatography.
- 3) Explain the separation of acetone and water by fraction distillation.

**B) Write short note. 06**

Green principles.

**Q.4 A) Attempt any Two of the following. 08**

- 1) Write the working of the vacuum distillation.
- 2) Discuss the classification of chromatography.
- 3) Write any two examples of microwave assisted reaction.

**B) Describe the following. 08**

Write the experimental technique for column chromatography.

**Q.5 Attempt any Two of the following. 16**

- a) Describe Halon-1301 fire extinguisher.
- b) Draw the neat labelled diagram of steam distillation and explain it in detail.
- c) What are the zeolites? How they are obtained? Explain its structure and uses.

Seat No.	
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**B.Sc. (Entrepreneurship) (Semester - VI) (New) (CBCS) Examination:  
March/April-2024  
Genetic Engineering (EN605)**

Day & Date: Monday, 22-04-2024  
Time: 03:00 PM To 06:00 PM

Max. Marks: 80

**Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.

- Q.1 A) Choose the correct alternative. 10**
- 1) Amino benzyloxymethyl filter paper is commonly used for \_\_\_\_\_.  
a) Western blotting                      b) Southern blotting  
c) Northern blotting                      d) Dot blotting
  - 2) Cosmids lack \_\_\_\_\_.  
a) Genes coding for viral protein  
b) Origin of replication  
c) Marker genes coding for replication  
d) Cleavage site for the insertion of foreign DNA
  - 3) Size of the DNA that can be a Lambda phage is \_\_\_\_\_.  
a) 50kb    b) 35-53kb  
c) 40-50kb                                      d) Any Size
  - 4) Molecular marker included \_\_\_\_\_.  
a) RFLP    b) RAPD  
c) AFLP    d) All of these
  - 5) The set of DNAs generated by using random primers in PCR reaction is called \_\_\_\_\_.  
a) RFLP    b) RAPD  
c) AFLP    d) In situ hybridization
  - 6) Genomic library can be prepared by \_\_\_\_\_.  
a) PCR technique                          b) Shotgun method  
c) colony hybridization                      d) All of these
  - 7) A Method used to insert DNA molecules into the cell by using short electrical impulses is known as \_\_\_\_\_.  
a) Biolistics                                      b) Microinjection  
c) Liposome                                      d) Electroporation
  - 8) The enzymes commonly used in genetic engineering are \_\_\_\_\_.  
a) Ligase and polymerase  
b) Ligase and polymerase  
c) Restriction endonuclease and polymerase  
d) Restriction endonuclease and ligase
  - 9) Transgenic plants are having \_\_\_\_\_.  
a) No gene    b) Genes in transposition  
c) Genes have no function                      d) Genes of other organism

- 10) Which of the following bacterium is considered as 'Natural genetic engineering'?
- Agrobacterium tumefaciens
  - Agrobacterium radiobactor
  - Pseudomonas putida
  - Thermos aquatics

**B) Fill in the blank/Definition/One sentence answer /one word answer /Give the name /predict the product etc. 06**

- Baculovirus
- Liposome
- DNA Ligases
- hGH
- Agarose gel electroporation
- Cosmid

**Q.2 Solve any Eight of the following. 16**

- Write note on Recombinant vaccine.
- Write note on BACs.
- Explain in brief pBR.
- Write note on DNA.
- Explain in brief Kinases.
- Write note on Gene delivery.
- Explain in brief PCR.
- Explain in brief DNA denaturation.
- Write note on Phosphatases.
- Write note RNA.

**Q.3 A) Attempt Any Two of the Following. 10**

- Mode of action in Restriction modification system.
- Write note on Automated sequencing.
- Write note on M13 based vector.

**B) Short note/Solve. 06**

Write short note on Protein Analysis with applications.

**Q.4 A) Attempt any Two of the following. 08**

- Write Bacteriophage lambda.
- Uses of linkers and adaptors.
- Genomic DNA probes.

**B) Describe/Explain/Solve. 08**

Explain Dot blot technique.

**Q.5 Attempt any Two of the following. 16**

- Describe in detail Mammalian SV40 based expression vector.
- Describe in detail DNA microarray analysis.
- Explain Protein engineering and its site directed mutagenesis.

Seat  
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**B.Sc. (Entrepreneurship) (Semester - VI) (New) (CBCS) Examination:  
March/April-2024  
Techniques in Plant Tissue Culture (EN606)**

Day & Date: Monday, 22-04-2024  
Time: 03:00 PM To 06:00 PM

Max. Marks: 80

- Instructions:** 1) All questions are compulsory.  
2) Figures to the right indicate full marks.  
3) Draw neat labeled diagrams wherever necessary.

**Q.1 A) Choose the correct alternative. 10**

- 1) Addition of \_\_\_\_\_ avoids many of the contamination problems in animal culture media.
  - a) protein
  - b) carbohydrate
  - c) vitamin
  - d) antibiotic
- 2) Heat resistant media are sterilized by \_\_\_\_\_.
  - a) hot air oven
  - b) autoclave
  - c) filtration
  - d) microscope
- 3) Liquid media are known as \_\_\_\_\_.
  - a) broth
  - b) slant
  - c) agar
  - d) stab
- 4) \_\_\_\_\_ is advantage of using serum in culture media.
  - a) Source of contamination by viruses, mycoplasma, prions
  - b) Composition varies a lot
  - c) Increases cost of downstream processing
  - d) Binds and neutralizes toxins
- 5) The growth of animal cells *in vitro*, in a suitable culture medium is called \_\_\_\_\_.
  - a) Gene expression
  - b) Transgenesis
  - c) Animal cell culture
  - d) Plant tissue culture
- 6) Animal cell synchronization by chemical blockade is achieved using \_\_\_\_\_.
  - a) Nocodazole
  - b) Roscovitine
  - c) Colchicine
  - d) All of these
- 7) \_\_\_\_\_ is the father of plant tissue culture.
  - a) Alexander Fleming
  - b) Gottlieb Haberlandt
  - c) Kary Mullis
  - d) Leeuwenhoek
- 8) Auxins and Cytokinins are \_\_\_\_\_.
  - a) Antibiotics
  - b) Salts
  - c) Energy sources
  - d) Growth hormones
- 9) The unorganized dividing mass of tissue produced during tissue culture process is known as \_\_\_\_\_.
  - a) tissue
  - b) callus
  - c) explant
  - d) organ

- 10) \_\_\_\_\_ is the culture of excised young leaf primordia or immature young leaf of the shoot apex in a chemically defined medium.
- a) Shoot tip culture
  - b) Anther culture
  - c) Root culture
  - d) Leaf culture

**B) Answer in one sentence.****06**

- 1) What is cell?
- 2) What is subculture?
- 3) What is protoplast?
- 4) What is gametic cell?
- 5) What is hemocytometer?
- 6) What is somatic cell?

**Q.2 Answer any Eight of the following.****16**

- a) What is balanced salt solution?
- b) What is sterilization?
- c) What is totipotency?
- d) What is suspension?
- e) What is protoplast fusion?
- f) What is root tip culture?
- g) What is broth culture?
- h) What is blood serum?
- i) What is PGR?
- j) What is cell theory?

**Q.3 A) Answer any Two of the following.****10**

- 1) Explain in detail physicochemical properties of media.
- 2) Describe in detail cell synchronization in animal tissue culture.
- 3) Write in detail callus culture.

**B) Write an essay on aseptic techniques.****06****Q.4 A) Answer any Two of the following.****08**

- 1) Explain in brief leaf Culture.
- 2) Describe in short shoot tip Culture.
- 3) Write in short cell counting and monitoring.

**B) Write an essay on micropropagation.****08****Q.5 Answer any Two of the following.****16**

- a) Explain in detail nutritional requirements of the explants.
- b) Describe in detail suspension culture.
- c) Write in detail equipment and instruments used in tissue culture laboratory.