

Seat No.	
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Set	P
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**B.Sc. (Entrepreneurship) (Semester - I) (New) (CBCS) Examination:  
Oct/Nov-2022  
ENGLISH (Compulsory)  
Literary Voyage**

Day & Date: Monday, 23-01-2023  
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.

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

- 1) What has been at the back of every speech Gandhiji delivered?
  - a) Abstinence
  - b) Religion
  - c) Teetotalism
  - d) Missionaries
- 2) How did Khushvant Singh travel to school in the city?
  - a) Car
  - b) On foot
  - c) Bicycle
  - d) Motor bus
- 3) What does R. Tagore desire not to be sheltered from?
  - a) Love
  - b) Compassion
  - c) Dangers
  - d) Cowardice
- 4) Which flowers competed for the title in 'The Lotus'?
  - a) Lily and Daisy
  - b) Rose and Daisy
  - c) Lily and Rose
  - d) Rose and Tulips
- 5) In the word 'Powerless' the element '-less' is an example of \_\_\_\_\_.
  - a) suffix
  - b) prefix
  - c) fix
  - d) fixing
- 6) The word that denotes action is termed as \_\_\_\_\_.
  - a) pronoun
  - b) adjective
  - c) adverb
  - d) verb
- 7) In the word 'Unhappy' the element 'Un-' is an example of a \_\_\_\_\_.
  - a) prefix
  - b) suffix
  - c) both a and b
  - d) none of the above
- 8) I like to read novels. The underlined word in this sentence is \_\_\_\_\_.
  - a) a verb
  - b) an adverb
  - c) noun
  - d) an article

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

- a) What is the message given in the poem 'Let Me Not Pray to be Sheltered from Dangers'?
- b) What is the subject matter of the poem 'The Lotus'?
- c) What did the father see in his child's bedroom in the poem 'The Toys'?
- d) Why did Gandhiji want to promote Khadi?
- e) What is the significance of the title of the poem 'The Toys'?
- f) Comment on the nature of the grandmother in the story 'The portrait of a'

Lady'.

**SLR-FX-1**

- Q.3 Answer the following question. (Any one)** **10**
- a)** Define the word communication and state the components of the communication.
  - b)** Write in detail about the channels of communication.
- Q.4** Discuss the intrapersonal skills and the strategies to improve them. **10**

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**B.Sc. (Entrepreneurship) (Semester - I) (New) (CBCS) Examination:  
Oct/Nov-2022**

**PRINCIPLES OF ENTREPRENEURSHIP (Paper - I)**

Day & Date: Tuesday, 24-01-2023

Max. Marks: 40

Time: 12:00 PM To 02:00 PM

- 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 tables and calculator is allowed.

**Q.1 Multiple choice questions.**

**08**

- 1) A business organisation owned and managed by two or more persons where all partners shares in profits and losses of the business as well as liability is known as \_\_\_\_\_.  
a) Sole proprietorship                      b) Partnership Firm  
c) Company                                      d) Cooperative Society
- 2) \_\_\_\_\_ is a characteristic of entrepreneurship.  
a) Risk taking                                      b) Innovation  
c) Creative activity                                d) All of the above
- 3) SIDBI stands for \_\_\_\_\_.  
a) Small institutions development bank of India  
b) Small industries development bank of India  
c) Small industries derivatives bank of India  
d) Small industries development bureau of India
- 4) Business is a/an \_\_\_\_\_ activity.  
a) Social    b) Political  
c) Economics                                        d) None of these
- 5) There is only one owner in \_\_\_\_\_.  
a) Sole Proprietorship                              b) Partnership  
c) Company    d) Cooperative Society
- 6) The Indian Institute of Entrepreneurship (IIE) was established in the year \_\_\_\_\_.  
a) 1993    b) 1995  
c) 1991    d) 1998
- 7) District Industries Centres are located \_\_\_\_\_.  
a) in each district                                      b) in each state  
c) only in selected districts                              d) only in selected states
- 8) \_\_\_\_\_ is barriers to entrepreneurship.  
a) Lack of capital                                      b) Lack of resources  
c) Undeveloped infrastructure                              d) All of the above

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

**08**

- a) Define Entrepreneur.
- b) Define Innovation.
- c) Define Joint Stock Company.
- d) Define Women Entrepreneur
- e) Define Rural Entrepreneurship.
- f) What is Self Help Group?

- Q.3 Write short note. (Any Two)** **08**
- a) Functions of Entrepreneurship
  - b) Types of business organization
  - c) SIDBI
  - d) DIC
- Q.4 Answer the following questions. (Any Two)** **08**
- a) Explain characteristics of entrepreneurship.
  - b) Explain Functions of SIDCO.
  - c) Explain types of entrepreneur.
- Q.5 Answer the following questions. (Any One)** **08**
- a) Explain role of entrepreneurship in economic development.
  - b) Explain problem faced by rural entrepreneurs.

**B.Sc. (Entrepreneurship) (Semester - I) (New) (CBCS) Examination:  
Oct/Nov-2022**

## Max. Marks: 40

**Q.3 Write short notes. (Any Two)**

- a) Nature of Business Economics
- b) Demand Schedule
- c) Branches of Accountancy
- d) Accounting Concepts

**Q.4 Answer the following questions. (Any Two)**

- a) Explain features of perfect competition market.
- b) Explain types of Elasticity of Demand.
- c) From the following information prepare Trading a/c of Solapur Trading Company for the year ended 31<sup>st</sup> March, 2022

Particulars	Debit (Rs.)	Particulars	Credit (Rs.)
Opening Stock	50,000	Sales	2,10,000
Wages	7,700	Purchase Return	5,000
Factory Rent	10,000		
Purchases	1,25,000		
Carriage	2,500		
Sales Return	10,000		

Note: Closing Stock was Rs. 35,000

**Q.5 Answer the following questions. (Any One)**

- a) Explain in detail types of market.
- b) Journalize following transaction in the Books of Anjana Traders, Solapur.

Date	Particulars	Amount (Rs.)
01-04-2022	Business started business with cash	80,000
04-04-2022	Purchased goods for cash	40,000
05-04-2022	Deposited cash into Bank	15,000
09-04-2022	Sold goods for cash	25,000
19-04-2022	Sold goods to Miss. Sheetal on credit	10,000
25-04-2022	Paid Salaries	5,000

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- Q.2 Answer any Four of the following. 08**
- a) Define hybridization with examples.
  - b) Define electron affinity and lattice energy.
  - c) Draw the neat labeled diagram for Born-Haber cycle.
  - d) Draw the shape of p-orbital
  - e) Define co-ordination number with example
  - f) What is the radius ratio for octahedral geometry?
- Q.3 Write short notes on any Two of the following. 08**
- a) Characteristics of ionic compounds
  - b) Atomic and molecular orbital
  - c) K. Fajan's rule
  - d) Types of chemical bond
- Q.4 Answer any Two of the following. 08**
- a) How radius ratio affect geometry?
  - b) Distinguish between bonding molecular orbitals and antibonding molecular orbitals.
  - c) Give the condition for the successive overlap.
- Q.5 Answer any One of the following. 08**
- a) Explain the crystal structure of NaCl with respect to unit cell, coordination number and stoichiometry
  - b) Explain the formation of CH<sub>4</sub> molecule on the basis of hybridization.



Day & Date: Saturday, 28-01-2023  
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.

## 08

- 1) General formula of cycloalkane is \_\_\_\_\_.  
a)  $C_nH_{2n}$                                       b)  $C_nH_{2n+2}$   
c)  $C_nH_n$                                         d)  $C_nH_{2n-2}$
- 2) In wurtz reaction alkyl halide is heated with \_\_\_\_\_ metal.  
a) C    b) Na  
c) Cu     d) Mg
- 3) In benzene each c- atom is in \_\_\_\_\_ hybridized state.  
a) sp     b)  $sp^3$   
c)  $sp^2$     d)  $dsp^2$
- 4) In benzene c-c-c bond angle is \_\_\_\_\_.  
a)  $109^\circ 28'$                                         b)  $180$   
c)  $60$      d)  $120$
- 5) If compound contains 34% C, 50% H then percentage of oxygen is \_\_\_\_\_.  
a) 16     b) 34  
c) 50     d) 100
- 6) In Lassigne's test S in organic compound is converted to \_\_\_\_\_.  
a) NaS    b)  $Na_2S$   
c)  $Na_2SO_3$                                         d)  $Na_2SO_4$
- 7) Conjugated double bond is present in \_\_\_\_\_.  
a) butyne    b) butene  
c) 1,3-butadiene                                 d) 1,4-butadiene
- 8) Fusion of aniline with sodium metal given \_\_\_\_\_.  
a) NaX    b) NaCNS  
c)  $Na_2S$     d) NaCN

## 08

- Draw Kekulé & Dewar structure of benzene.
- Apply Huckel's rule to naphthalene.
- How will you prepare filtrate in Lassaignes test?
- State halogenation of benzene
- Define non-aromatic compound.
- Define empirical formula.

- Q.3 Write short notes on any two.** **08**
- a) Classification of dienes
  - b) Estimation of halogen by carius method.
  - c) Acidity of alkynes.
- Q.4 Answer any two of the following** **08**
- a) Explain kolbe's reaction for preparation of alkane.
  - b) Explain molecular orbital picture of benzene.
  - c) Explain kjeldahl's method for estimation of nitrogen.
- Q.5 Answer any one of the following.** **08**
- a) What are cycloalkanes? Explain distillation of Ca & Ba salt of dicarboxylic acid. What is the action of
    - i)  $H_2/Ni$
    - ii)  $HBr$
    - iii) Conc  $H_2SO_4$  on cyclopropane.
  - b) Define aromatic & pseudo aromatic compound with example. Explain sulphonation of benzene.

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## Max. Marks: 40

08

08

08

**Q.4 Answer the following questions. (Any Two)****08**

- a) Describe in brief Pure Culture Techniques.
- b) Write in detail about Non- Living Media.
- c) Explain general characteristic of Fungi and Bacteria.

**Q.5 Answer the following questions. (Any One)****08**

- a) Write in detail Difference Between Prokaryotic & Eukaryotic Cell.
- b) Define Growth and Explain in detail Bacterial growth curve.

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## BASIC TECHNIQUES IN MICROBIOLOGY (Paper – II)

Max. Marks: 40

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

08

- The source of electron in electron microscope consists \_\_\_\_\_.  
a) Gold  
b) Tungsten  
c) Mercury  
d) Silver
- Capsule staining is carried out by \_\_\_\_\_ method.  
a) Manvel's  
b) Chances  
c) Dorner  
d) Albert
- The chemical agent which is applied to living tissue to kill or inhibit the growth of microorganisms is known as \_\_\_\_\_.  
a) Disinfection  
b) Sterilization  
c) Germicide  
d) Antiseptic
- The ability of lens to distinguish or separate of two objects or points from each other is known as \_\_\_\_\_.  
a) Resolution  
b) Refraction  
c) Reflection  
d) Rarefraction
- \_\_\_\_\_ is used for sterilization of heat labile Microbial laboratory media.  
a) Autoclaving  
b) Hot air Oven  
c) Filtration  
d) Chemical agents
- \_\_\_\_\_ used as decolorizing agent in gram staining.  
a) ZNCF  
b) 95% Alcohol  
c) Crystal Violet  
d) Safranin
- \_\_\_\_\_ is the gaseous agent used in the form of sterilization of instruments and rooms.  
a) Mercury  
b) Incinerator  
c) Formaldehyde  
d) Phenol
- \_\_\_\_\_ used as selective decolorizing agent in cell wall staining by chances method.  
a) 0.5% Congo red  
b) 95% Alcohol  
c) 0.5% New fuschin  
d) 10% Nigrosin

08

- Define cold sterilization
- Define stain and enlist types of stain
- What is Numerical aperture?
- Define disinfection.
- Role of eye piece.
- 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.

Set P

Max. Marks: 40

- Q.3 A) Write short notes on any two of the following:** **08**
- a) Write a note on microtubule and explain its functions.
  - b) Discuss in detail about meiosis.
  - c) Explain General characteristics of cancer.
- Q.4 Answer any Two of the following:** **08**
- a) Explain structure and function of Endoplasmic Reticulum.
  - b) Write a note on Chemical components of biological membranes
  - c) Discuss in detail about Structure and function of cell membrane.
- Q.5 Answer any one of the following:** **08**
- a) Write a detailed note on Mitosis.
  - b) Define Cell and write a note on classification of organisms by cell structure.



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**B.Sc. (Entrepreneurship) (Semester – I) (New) (CBCS) Examination:  
Oct/Nov-2022**

**Animal and Plant Physiology (Paper – II)**

Day & Date: Friday, 24-03-2023

Max. Marks: 40

Time: 12:00 PM To 02:00 PM

- 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 question.**

**08**

- 1) In Collenchyma intracellular Space are generally,
  - a) Absent
  - b) Present
  - c) Small
  - d) Large
- 2) The cells of Parenchyma tissues are
  - a) Elongated
  - b) Vacuole Absent
  - c) Vacuolated
  - d) Compactly arranged
- 3) The amount of water lost by plants due to transpiration is
  - a) 90%
  - b) 20%
  - c) 40%
  - d) 50%
- 4) Loss of water from plant in the form of water vapour is called
  - a) Surface Tension
  - b) Cohesion
  - c) Ascent of sap
  - d) Transpiration
- 5) \_\_\_\_\_ forms clot when blood vessels get damaged.
  - a) Platelets
  - b) Cellulase
  - c) Haemoglobin
  - d) Fe<sup>++</sup>
- 6) The majority of the water from the indigestible food is absorbed in the?
  - a) Stomach
  - b) Food pipe
  - c) Pancreas
  - d) Large Intestine
- 7) Impulse Conduction is Fastest in neuron that are,
  - a) Myelinated
  - b) Unmyelinated
  - c) Sensory
  - d) Motor
- 8) Which of the following are part of the Human Respiratory System
  - a) Trachea
  - b) Diaphragm
  - c) The Lungs
  - d) All of the above

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

**08**

- a) Write types of Blood cells.
- b) Draw the Primary Structure of Root
- c) Define Transpiration.
- d) Define Digestion.
- e) Write note on Stomata.
- f) Draw nit labelled diagram of Thyroid gland

- Q.3 Write short notes on any two of the following:** **08**
- a) Describe types of complex permanent tissue.
  - b) Describe Transport of O<sub>2</sub> and CO<sub>2</sub>.
  - c) Describe the photosynthetic pigment.
- Q.4 Answer any Two of the following:** **08**
- a) Write detail note on Ammonium Assimilation of Nitrogen.
  - b) Write detail note on Hypothalamus and pituitary gland.
  - c) Write note on composition of pancreatic and gastric juice.
- Q.5 Answer any one of the following:** **08**
- a) Write detail Mechanism of stomata opening and closing.
  - b) Describe the detail Mechanism of coagulation of Blood.

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- Q.3 Answer the following question. (Any one)** **10**
- a)** Write about the process of communication in detail.
  - b)** Write about the principles of effective communication.
- Q.4** Write a description about your memorable tour with your family members. **10**

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**B.Sc. (Entrepreneurship) (Semester - I) (Old) (CBCS) Examination:  
Oct/Nov-2022**

**ENTREPRENEURSHIP (Paper – I)  
Entrepreneurship and The World of Business**

Day & Date: Tuesday, 24-01-2023  
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 diagrams and give wherever necessary.  
4) Use of logarithmic table and calculator is allowed.

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

- 1) \_\_\_\_\_ is the process of creating something new.
 

a) Business model	b) Modeling
c) Creative flexibility	d) Innovation
- 2) The term “Entrepreneur” has been derived from the word “entreprendre” which means:
 

a) To give	b) To undertake
c) To choose	d) To decide
- 3) \_\_\_\_\_ entrepreneurs neither introduce new changes nor adopt new methods innovated by others.
 

a) Innovative	b) Imitative
c) Fabian	d) Drone
- 4) DIC stands for \_\_\_\_\_.
 

a) Disassembled Industries Centre
b) District Industries Collaboration
c) District Industries Centre
d) Developing Industries Centre
- 5) SIDBI was set up as a subsidiary of \_\_\_\_\_.
 

a) IDBI	b) IFCI
c) ICICI	d) SFC
- 6) A \_\_\_\_\_ is a voluntary association of women in rural or urban areas formed to take care of group welfare.
 

a) Self-Help Group	b) DIC
c) SIDCO	d) None of the above
- 7) The basic purpose of \_\_\_\_\_ is to earn profit.
 

a) NGOs	b) Business
c) Government	d) None of these
- 8) \_\_\_\_\_ is barriers to entrepreneurship.
 

a) Lack of capital	b) Lack of resources
c) Undeveloped infrastructure	d) All of the above

- Q.2 Answer any four of the following. 08**
- a) What is business?
  - b) What is entrepreneur?
  - c) What is planning?
  - d) Define Joint Stock Company.
  - e) What is Women Entrepreneurship?
  - f) What is Rural entrepreneurship?
- Q.3 Write short notes on any two of the following: 08**
- a) Functions of entrepreneurship
  - b) Role of SHG IN Women Entrepreneurship Development
  - c) Functions of DIC
  - d) Types of business organization
- Q.4 Answer any two of the following 08**
- a) Explain types of entrepreneur.
  - b) Write note on NABARD.
  - c) Explain problems faced by rural entrepreneurs.
- Q.5 Answer any one of the following. 08**
- a) What is Business Plan? Explain importance of business plan.
  - b) Explain need and problems faced by woman entrepreneurs.

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# Economics for Manager and Managerial Accounting

Max. Marks: 40

08

08

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

- a) Scope of Business Economics
- b) Demand Schedule
- c) Golden Rules of Accounting
- d) Features of perfect competition market

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

- a) Explain any four Accounting Concepts and Conventions.
- b) Explain types of imperfect competition market.
- c) From the following information prepare Trading a/c of Zebra Trading Company for the year ended 31<sup>st</sup> March, 2022

Particulars	Debit (R)	Particulars	Credit (R)
Opening Stock	40,000	Sales	1,50,000
Wages	7,500	Purchase Return	10,000
Factory Rent	10,000		
Purchases	1,00,000		
Carriage	2,500		
Sales Return	10,000		

Note: Closing stock was Rs. 20,000

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

- a) What is production function? Explain long run and short run production function.
- b) Journalize following transaction in the Books of Bharat Traders, Solapur.

Date	Particulars	Amount (R)
01.01.2023	Business started business with cash	80,000
04.01.2023	Purchased goods for cash	40,000
05.01.2023	Deposited cash into Bank	15,000
09.01.2023	Sold goods for cash	25,000
19.01.2023	Sold goods to Miss. Sheetal on credit	10,000
25.01.2023	Paid Salaries	5,000



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- Q.3 Write Notes. (Any Two)** **08**
- a) Source of air pollutant
  - b) Characteristics of ionic solids
  - c) S-S orbital overlap
- Q.4 Answer the following questions. (Any Two)** **08**
- a) Explain the shape of P orbital.
  - b) Bond order and stability of molecule.
  - c) Give the environmental effects of CO<sub>2</sub> and CO.
- Q.5 Attempt the following questions. (Any One)** **08**
- a) Give the physical methods for removal of suspended particle.
  - b) Explain the formation of CH<sub>4</sub> molecule on the basis of hybridization.



**Q.4 Answer the following questions. (Any Two)****08**

- a) Give any four qualities of ideal drug.
- b) Explain Witt's theory.
- c) Explain classification of dienes.

**Q.5 Answer the following questions. (Any One)****08**

- a) Give two methods of preparation of cycloalkane. What is the action of  $H_2/Ni$  &  $HBr$  on it?
- b) Define qualitative analysis. How will you estimate C & H by Liebigs combustion method.

**B.Sc. (Entrepreneurship) (Semester - I) (Old) (CBCS) Examination:  
Oct/Nov-2022**

# INDUSTRIAL MICROBIOLOGY - I

## Fundamentals of Microbiology

Day & Date: Monday, 30-01-2023  
Time: 12:00 PM To 02:00 PM

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

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

08

- The scientist \_\_\_\_\_ proposed the phylogenetic tree for living things.
  - Carlo Urbani
  - Louis Pasteur
  - Robert Koch
  - Carl Woese
- In the growth curve of bacteria rapid increase in growth of bacteria is observed known as \_\_\_\_\_ phase.
  - Lag
  - Logarithmic
  - Death
  - Stationary
- The microorganism, which uses atmospheric CO<sub>2</sub> as carbon source and solar light as source of energy is known as \_\_\_\_\_.
  - Photoautotroph
  - Chemoautotroph
  - Chemoheterotroph
  - Photoheterotroph
- The microorganism that can grow above 45°C temperature is called as \_\_\_\_\_.
  - Psychrophiles
  - Basophiles
  - Thermophiles
  - Mesophiles
- The microorganisms which can grow best in very low concentration of oxygen is known as \_\_\_\_\_ microorganisms.
  - Aerobic
  - Anaerobic
  - Microaerophilic
  - Facultative
- In the arrangement of flagella, many flagella dispersed randomly over the whole surface of body of microbes is called as \_\_\_\_\_ flagella.
  - Peritrichous
  - Monotrichous
  - Amphitrichous
  - Lophotrichous
- \_\_\_\_\_ is used for sterilization of heat labile Microbial laboratory media.
  - Autoclaving
  - Hot air Oven
  - Filtration
  - Chemical agents
- The scientist \_\_\_\_\_ firstly demonstrated that *Azotobacter* a free living nitrogen fixing bacteria.
  - Robert Koch
  - Martinus Beijerinck
  - Louis Pasteur
  - Alexander Fleming

- Q.2 Define any four of the following. 08**
- a) Define Diauxic growth.
  - b) Define disinfection.
  - c) Define chemoautotroph.
  - d) What is viroid and prion?
  - e) What is the economic importance of algae?
  - f) What is the function of capsule?
- Q.3 Write short notes on any two of the following. 08**
- a) Discuss in brief classification of flagella according to flagellar arrangement and it's ultra structure.
  - b) Describe in detail effect of temperature on microbial growth.
  - c) Describe in brief sterilization of microorganisms by phenols and gaseous agents.
- Q.4 Answer any two of the following. 08**
- a) Describe in brief fluid mosaic model of cell membrane.
  - b) Describe in brief sterilization by autoclaving.
  - c) Give a detailed account on systematic and taxonomy of bacterial classification.
- Q.5 Answer any one of the following. 08**
- a) Define growth. Describe in detail growth phases of bacteria.
  - b) Explain in detail spontaneous generation verses biogenesis.

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**B.Sc. (Entrepreneurship) (Semester - I) (Old) (CBCS) Examination:  
Oct/Nov-2022**

**INDUSTRIAL MICROBIOLOGY - I  
Basic Techniques in Microbiology**

Day & Date: Tuesday, 31-01-2023  
Time: 12:00 PM To 02:00 PM

Max. Marks: 40

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

**Q.1 Choose the correct alternative (MCQ)**

**08**

- 1) Hydrogen peroxide is used for \_\_\_\_\_ test.
 

a) Coagulase	b) Nitrate reduction
c) Catalase	d) Urease
- 2) In dark field microscope organisms appears \_\_\_\_\_.
 

a) Dark	b) Bright
c) Opaque	d) Turbid
- 3) Neubauer chamber is used for \_\_\_\_\_.
 

a) Cell enumeration	b) Cell cultivation
c) Cell preservation	d) Cell destruction
- 4) Solidification of culture media is done by \_\_\_\_\_.
 

a) Agar Agar	b) NaCl
c) Peptone	d) Meat Extract
- 5) Milk agar is used for \_\_\_\_\_ test.
 

a) Urea hydrolysis	b) Starch hydrolysis
c) Casein hydrolysis	d) Sugar fermentation
- 6) Maneval's method is used for \_\_\_\_\_ staining.
 

a) Cell wall	b) Mycobacteria
c) Metachromatic granules	d) Capsule
- 7) \_\_\_\_\_ oil is used during observation of micro Organism using oil immersion lens.
 

a) Cedar wood	b) Biodiesel
c) Palm	d) Mineral
- 8) \_\_\_\_\_ is used for preservation of cultures.
 

a) Lyophilizer	b) Incubator
c) McIntosh Jar	d) Hot air oven

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

**08**

- a) Define selective media.
- b) What is SPC?
- c) Define resolving power.
- d) What is use of phase contract microscope?
- e) Which medium is used for methyl Red test?
- f) Define stains.

- Q.3 Write short notes on any two.** **08**
- a) Starch hydrolysis test
  - b) Cell wall staining
  - c) Use of Electron microscope.
- Q.4 Answer any two of the following.** **08**
- a) Describe in brief Acid fast staining.
  - b) Describe in brief differential media.
  - c) Give the methods for obtaining pure culture.
- Q.5 Answer any one of the following.** **08**
- a) Describe in detail Gram staining.
  - b) Describe in detail IMvic test.



**B.Sc. (Entrepreneurship) (Semester - I) (Old) (CBCS) Examination:  
Oct/Nov-2022**

## INDUSTRIAL BIOTECHNOLOGY (Paper - I)

### Cell Biology

Day & Date: Wednesday, 01-02-2023  
Time: 12:00 PM To 02:00 PM

**Instructions:** 1) All questions are compulsory.  
2) Draw neat diagrams and give equations wherever necessary.  
3) Figure 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) This is the site where detoxification of xenobiotic compounds occurs
  - a) Cytosol
  - b) Smooth endoplasmic reticulum
  - c) Rough endoplasmic reticulum
  - d) Ribosomes
- 2) The main function of nucleolus is \_\_\_\_\_.
  - a) rRNA synthesis
  - b) DNA synthesis
  - c) ATP production
  - d) Protein synthesis
- 3) Oncogenes are \_\_\_\_\_.
  - a) thalassemia genes
  - b) anemia genes
  - c) cancer genes
  - d) color blindness genes
- 4) A network of microfilaments and microtubules is classified as \_\_\_\_\_.
  - a) endoplasmic skeleton
  - b) vertebral skeleton
  - c) cytoskeleton
  - d) active skeleton
- 5) The pH of a lysosome is \_\_\_\_\_.
  - a) Acidic
  - b) Basic
  - c) Neutral
  - d) Depends on the cell type
- 6) \_\_\_\_\_ hormones requires a cell surface receptor for its action.
  - a) Growth factors
  - b) Progesterone
  - c) Adrenaline
  - d) All of the above
- 7) Receptor is removed from cell surface in \_\_\_\_\_.
  - a) Adaptation
  - b) Amplification
  - c) Integration
  - d) Specificity
- 8) Cytoskeletal filaments are polymers of \_\_\_\_\_.
  - a) proteins
  - b) carbohydrates
  - c) deoxyribonucleic acids
  - d) ribonucleic acids

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

- Define Microfilaments.
- What are micromolecules?
- Enlist functions of Lysosomes.
- Draw structure of Chloroplast.
- Define cell motility.
- Define cell fractionation.

- Q.3 Write short notes. (Any Two)** **08**
- a) Discuss in detail about Fluid Mosaic Model.
  - b) Write a note on Structure and functions of Lysosomes.
  - c) Explain regulation of receptor expression and function.
- Q.4 Answer the following questions. (Any Two)** **08**
- a) Write a note on structure and functions of Endoplasmic reticulum.
  - b) Define Cell and add a note on classification of organisms by cell structure.
  - c) Discuss in detail about structure and functions of Nucleus.
- Q.5 Answer the following questions. (Any One)** **08**
- a) Define Carcinogenesis and write a note on characteristics and molecular basis of cancer.
  - b) Write a note on structure, function, Genomes and biogenesis of Mitochondria.

**Seat  
No.**

**INDUSTRIAL BIOTECHNOLOGY (Paper - II)**  
**Animal and Plant Physiology**

Day & Date: Friday, 24-03-2023  
Time: 12:00 PM To 02:00 PM

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)

08

- 1) Duration of one muscle twitch is \_\_\_\_\_.  
a) 0.1 seconds                      b) 1 second  
c) 5 seconds                         d) 10 seconds
- 2) Neurilemma cells are also called \_\_\_\_\_.  
a) Odontoblasts                    b) Photoreceptors  
c) Ganglions                        d) Schwann Cells
- 3) Chemical messengers secreted by ductless glands are called \_\_\_\_\_.  
a) Lymph                              b) Plasma  
c) Hormones                         d) Platelets
- 4) \_\_\_\_\_ hormone is not a growth inhibitor.  
a) Absciscic acid                    b) Dormin  
c) IAA                                  d) Ethylene
- 5) \_\_\_\_\_ is a small branch of an artery that leads into a capillary.  
a) Capillaria                         b) Arteriole  
c) Areolas                            d) None of the above
- 6) An aquatic fern that performs nitrogen fixation is \_\_\_\_\_.  
a) *Nostoc*                              b) *Azolla*  
c) *Salvinia*                            d) *Salvia*
- 7) In muscle contraction, this ion is essential \_\_\_\_\_.  
a) Cl                                      b) Na  
c) Ca                                     d) K
- 8) Conversion of ammonia to nitrite and then to nitrates is called \_\_\_\_\_.  
a) Nitrification                      b) Assimilation  
c) Ammonification                  d) Denitrification

08

- Define plasmolysis.
- Explain micro & macro nutrients
- Define plasma proteins.
- Discuss ammonium assimilation in plants.
- Define seed dormancy.
- What is hypo & hyper-secretions?

- Q.3 Write short notes on any two of the following:** **08**
- a) Discuss in detail about Mechanism of urine formation.
  - b) Add a note on thyroid endocrine gland.
  - c) Define and explain detail about growth curve.
- Q.4 Answer any Two of the following:** **08**
- a) Write a note on Importance of water to plant life.
  - b) Explain inorganic and molecular nitrogen fixation
  - c) Describe in detail about plant growth hormones (cytokinins, abscisic acid)
- Q.5 Answer any one of the following:** **08**
- a) Define Circulation and explain in detail about Mechanism of working of heart.
  - b) Define photophosphorylation and a note on calvin cycle.

Seat No.	
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Set **P**

**B.Sc. (Entrepreneurship) (Semester - II) (New) (CBCS) Examination:  
Oct/Nov-2022  
ENGLISH (Compulsory)  
Literary Voyage**

Day & Date: Tuesday, 07-02-2023  
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.

**Q.1 Rewrite the following by choosing the correct option given below each bit. 08**

- 1) According to Francis Bacon, in discourse \_\_\_\_\_ must be used carefully and economically.
  - a) Fire
  - b) Wit
  - c) Weapons
  - d) Gadgets
- 2) Bertrand Russell was against the \_\_\_\_\_ learning.
  - a) Practical
  - b) Experimental
  - c) Bookish
  - d) Experiential
- 3) "The Spirit of Freedom" was actually \_\_\_\_\_ written by Tagore from America for Indians.
  - a) A poem
  - b) A letter
  - c) A song
  - d) A gazal
- 4) Niyi Osundare is basically \_\_\_\_\_ about the regeneration of the deteriorating earth.
  - a) Hopeful
  - b) Hopeless
  - c) Pessimistic
  - d) Without hope
- 5) Christina Rossetti didn't want her lover to be \_\_\_\_\_ remembering her.
  - a) happy
  - b) sad
  - c) pleased
  - d) blissful
- 6) The synonym of 'accountable' is \_\_\_\_\_.
  - a) hopeless
  - b) responsible
  - c) rich
  - d) economical
- 7) The antonym of 'objective' is \_\_\_\_\_.
  - a) critical
  - b) actual
  - c) subjective
  - d) factful
- 8) I saw a cuckoo, when I \_\_\_\_\_ the window of the room.
  - a) opening
  - b) opens
  - c) open
  - d) opened

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

- a) What subjects should be kept away from jest according to Bacon?
- b) What did Bertrand Russell as a schoolboy know about the squirrels?
- c) What was condition of freedom in a nation like America?
- d) How is water pollution depicted in "Our Earth Will Not Die"?
- e) What was Alexander Pope's source of comfort?
- f) Why did Christina Rossetti allow her lover to forget her?

- Q.3** a) Write an informal letter addressing your friend and inviting him to spend the Diwali vacation with you and your family. **10**

**OR**

- b) Describe the process of making tea. Use the instructions beginning from the initial preparation for making tea up to serving the tea.

- Q.4** Write a presentation on the topic “India and Democracy” by preparing slides on the basis of the following data: **10**

- a) India’s freedom struggle
- b) Indian freedom fighters
- c) India’s independence
- d) Indian constitution
- e) Democracy
- f) India as a nation
- g) Place of India in the world
- h) Future of India

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Set **P**

**B.Sc. (Entrepreneurship) (Semester - II) (New) (CBCS) Examination:  
Oct/Nov-2022**

**ENTREPRENEURSHIP SCIENCE (Paper – III)  
Principles of marketing & Management accounting**

Day &amp; Date: Wednesday, 08-02-2023

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 a 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) \_\_\_\_\_ is the Father of Modern Marketing.
  - a) Abraham Maslow
  - b) Lester Wundeman
  - c) Peter Drucker
  - d) Philips Kotlar
- 2) Marketing is a process of which aims at \_\_\_\_\_.
  - a) Production
  - b) Profit Making
  - c) The satisfaction of customer needs
  - d) Selling Product
- 3) The companies that targets markets very narrowly is called \_\_\_\_\_.
  - a) Mass Marketing
  - b) Segmental Market
  - c) Niche Markets
  - d) Micro Marketing
- 4) The major focus of the societal Marketing concepts is \_\_\_\_\_.
  - a) Profit Only
  - b) Society well being Only
  - c) Satisfaction of customer only
  - d) All of these
- 5) Markets begins and ends with \_\_\_\_\_.
  - a) Consumer
  - b) Transport
  - c) Price
  - d) Product
- 6) \_\_\_\_\_ create a particular image in the minds of consumer.
  - a) Branding
  - b) Personal Selling
  - c) Grading
  - d) Product Planning
- 7) \_\_\_\_\_ is language of Business which used to communicate financial Information.
  - a) Accounting
  - b) Marketing
  - c) Profit
  - d) Pricing
- 8) Overall Profitability ratio are based on \_\_\_\_\_.
  - a) Investment
  - b) Sales
  - c) Both a & b
  - d) None of these

**Q.2 Answer Any Four of the following:****08**

- a) Define Market.
- b) Define Segmentation.
- c) Define Research.
- d) Define E-Marketing.

- e) Define Working Capital.
- f) Define Management

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

- a) Types of Marketing.
- b) Advantage of Segmentation.
- c) Problem of Working Capital.

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

- a) What is Nature and Scope of Marketing?
- b) Explain the types of Ratio.
- c) Explain the Difference Selling & Marketing.

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

- a) Explain the Objective & Scope of Management Accounting.
- b) Explain the benefit and Problem of E-Marketing.



**B.Sc. (Entrepreneurship) (Semester - II) (New) (CBCS) Examination:  
Oct/Nov-2022**

## Max. Marks: 40

08

- 08

- Page 1 of 2

- Q.3 Write short notes. (Any Two)** **08**
- a) Explain elements of cost sheet.
  - b) Explain importance of SSIs.
  - c) Explain importance of project management.
- Q.4 Answer the following questions. (Any Two)** **08**
- a) Explain objectives of cost accounting.
  - b) Explain project life cycle.
  - c) Explain roles and responsibilities of project manager.
- Q.5 Answer the following questions. (Any One)** **08**
- a) Explain classification of projects.
  - b) Explain problems of small scale industries.

**B.Sc. (Entrepreneurship) (Sem-II) (New) (CBCS) Examination:  
Oct/Nov-2022**

Day & Date: Friday, 10-02-2023  
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 diagrams and give equations wherever necessary.  
4) Use of log table and scientific calculator is allowed.  
(At. Wts. H=1, C=12, O=16, N=14, Na=23, Cl= 35.5)

- The number of moles of solute dissolved per liter of solution is called as \_\_\_\_\_.
  - Molarity
  - Molality
  - Mole fraction
  - Normality
- Photochemical union of  $H_2$  and  $Cl_2$  is an example of \_\_\_\_\_ order reaction.
  - first
  - second
  - third
  - zero
- Gas which obeys the gas laws at all temperatures and pressures is called as \_\_\_\_\_.
  - ideal gas
  - non ideal gas
  - real gas
  - all of these
- $P_c$ ,  $V_c$  and  $T_c$  are known as \_\_\_\_\_.
  - gas constants
  - van der Waals constants
  - critical constants
  - critical constants
- The SI unit of viscosity is \_\_\_\_\_.
  - poise
  - newton
  - dyne
  - pascal
- The ratio of weight of one component to the total weights of all components in the solution is called as \_\_\_\_\_ of that component.
  - mole fraction
  - weight fraction
  - fraction
  - none of these
- The number of molecules whose concentration changes during the chemical reaction is called \_\_\_\_\_.
  - molecularity
  - velocity
  - order
  - rate
- The reaction between  $K_2S_2O_8$  and  $KI$  is an example of \_\_\_\_\_ order reaction.
  - first
  - second
  - third
  - zero

**Q.2 Answer Any Four of the following:**

08

- Define:  
1) Normality  
2) Mole
- Define first order reaction. Give the SI unit of velocity constant for the first order reaction.
- Which are the causes of the deviations of the real gases from ideal behavior?
- What is Poiseuille's equation? Explain the terms involved in it.
- Define pseudo-unimolecular reaction.
- Which are the requirements for the liquefaction of gases?

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

08

- Mole fraction method of expression for concentration of solution
- Factors affecting the rate of reaction
- Joule-Thomson effect

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

08

- a)** Write the van der Waal's equation. Mention the significance of the terms involved in it.  
The van der Waals constants for HCl are  $a = 0.3704 \text{ N m}^4 \text{ mol}^{-2}$  and  $b = 4.08 \times 10^{-5} \text{ m}^3$ . Find its critical constants  $P_c$ ,  $V_c$  and  $T_c$ .  
(Given  $R = 8.314 \text{ J K}^{-1} \text{ mol}^{-1}$ )
- b)** Show that for the first order reaction, time taken to complete half of a reaction is independent of initial concentration of the reactant.
- c)** Distinguish between order and molecularity of a reaction.

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

08

- Sketch and explain the construction and working of Ostwald's viscometer.
- Discuss drop-weight method for the determination of surface tension.

Seat No.	
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**B.Sc. (Entrepreneurship) (Sem-II) (New) (CBCS) Examination:  
Oct/Nov-2022**

**INDUSTRIAL CHEMISTRY (Paper – IV)  
Fundamentals of Analytical Chemistry**

Day & Date: Saturday, 11-02-2023  
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.

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

- 1) A homopolymer carries \_\_\_\_\_.  
 a) one type of monomer                      b) different type of monomer  
 c) mixed types of monomers              d) elastomer
- 2) Octane number is the scale used to determine \_\_\_\_\_ quality of food.  
 a) anti knocking                              b) hydro forming  
 c) knocking                                      d) none
- 3) The protein of milk consists \_\_\_\_\_.  
 a) Casein    b) Fat  
 c) Glucose                                        d) Vitamins
- 4) The polymer which softens on heating & harden on cooling is called as \_\_\_\_\_.  
 a) Rubber    b) Elastomer  
 c) Thermoplastic                              d) Plastic
- 5) Refining of petroleum yields \_\_\_\_\_ major fractions.  
 a) 1    b) 5  
 c) 2    d) 7
- 6) Cis platin has \_\_\_\_\_ activity.  
 a) Anti-diabetic                                  b) Antifungal  
 c) Anti-tubercular                              d) Anticancer
- 7) When Ca & Mg are present in water, water is known as \_\_\_\_\_ water.  
 a) soft    b) hard  
 c) normal    d) acidic
- 8) All natural processes are \_\_\_\_\_.  
 a) Non spontaneous                            b) Reversible  
 c) Adiabatic                                        d) Spontaneous

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

- a) Define monomer & elastomer.
- b) State Hess law of mixing.
- c) Define calorific value.
- d) Name the methods of adulteration of milk
- e) Define COD.
- f) Define enthalpy.

- Q.3 Write Notes. (Any Two)** **08**
- a) Chemical composition of milk
  - b) Petroleum refining
  - c) Difference between spontaneous & non spontaneous process.
- Q.4 Answer the following questions. (Any Two)** **08**
- a) Explain homogenous & heterogenous polymers.
  - b) Explain Joule Thomson effect.
  - c) Explain or give statements second law of thermodynamics.
- Q.5 Attempt the following questions. (Any One)** **08**
- a) Explain essential nutrients of plants & write their functions.
  - b) Explain cracking & octane number of fuel.

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## INDUSTRIAL MICROBIOLOGICAL – III

### Fundamentals of Industrial Microbiology

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 diagram and give equation wherever necessary.

## 08

- 1) \_\_\_\_\_ technique used for screening of organic acid producers.  
a) Crowded plate                      b) Giant colony  
c) pH indicating dye plate        d) streak plate
- 2) \_\_\_\_\_ is the major problem in continuous fermentation.  
a) Sterilization                      b) Waste Disposal  
c) Contamination                  d) Recovery
- 3) \_\_\_\_\_ is used for control of foam in production medium during fermentation.  
a) Agitator                              b) Silicon  
c) Sparger                              d) Aerator
- 4) Pilot scale Fermenter has \_\_\_\_\_ liter capacity.  
a) 15 -1000 L                      b) 10 -12 ml  
c) 10 -12 L                              d) 15 -1000 ml
- 5) \_\_\_\_\_ is not the method of strain improvement.  
a) Mutation                              b) Replica plate method  
c) Protoplast fusion                  d) Recombination
- 6) Whey is the waste generated from \_\_\_\_\_ industry.  
a) Corn                                      b) Dairy  
c) Confectionary                      d) Paper and pulp
- 7) The configuration and composition obtained in laboratory scale or flask level study is extrapolated for large scale production is called as \_\_\_\_\_.  
a) Strain improvement                  b) Inoculum Development  
c) Scale up                              d) Downstream Processing
- 8) \_\_\_\_\_ criteria is not used for selection of raw material for production medium for submerged fermentation.  
a) It should be cheap                  b) It should be easily available  
c) It should be easily sterilizable     d) It should be water insoluble

## 08

- Write in short about scope of Industrial Microbiology.
- Define Batch and Continuous fermentation.
- Define Primary screening.
- Define D value and write in short about its significance.
- Define Secondary Metabolite and give any two examples.
- Enlist the various types of fermentation.

- Q.3 Write short notes on any Two of the following. 08**
- a) Write note on process used for development of yeast inoculum.
  - b) Write in short about filtration as an efficient continuous sterilizing procedure.
  - c) Define precursors and write in short about use of precursors in fermentation.
- Q.4 Answer any two of the following. 08**
- a) Differentiate between solid state and liquid state fermentation.
  - b) Write note on methods used for preservation and maintenance of industrial strain.
  - c) Write in short about Screening of antibiotic producers.
- Q.5 Answer any One of the following. 08**
- a) Define strain improvement and describe in detail about various methods used for strain improvement.
  - b) Describe in detail the structure of typical Fermenter with neat labeled diagram.



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**B.Sc. (Entrepreneurship) (Semester - II) (New) (CBCS) Examination:  
Oct/Nov - 2022**

**INDUSTRIAL MICROBIOLOGY – IV  
Basics Techniques in Industrial Microbiology**

Day & Date: Tuesday, 14-02-2023

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 and labeled diagram wherever necessary.

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

- 1) Dissolved oxygen probe is used for maintaining \_\_\_\_\_ of fermentation.  
a) only aeration                      b) only agitation  
c) both aeration and agitation      d) temperature
- 2) Data obtained from \_\_\_\_\_ have been feed to the computer for fermentation control.  
a) sensors                              b) valves  
c) computer                            d) nutrients
- 3) Speed of agitation is measured using \_\_\_\_\_ unit.  
a) RPM                                  b) RSM  
c) RTM                                  d) RAM
- 4) Acetone and ethanol can be separated from the mixture using \_\_\_\_\_ technique.  
a) filtration                            b) centrifugation  
c) fractional distillation              d) precipitation
- 5) The recovery and purification of fermentation products refers \_\_\_\_\_.  
a) downstream processing          b) upstream processing  
c) incubation                          d) inoculation
- 6) \_\_\_\_\_ is measured of animal in Pyrogen testing by LAL test.  
a) moisture                              b) pH  
c) humidity                              d) temperature
- 7) The higher the BOD, the \_\_\_\_\_.  
a) lower the water pollution          b) lesser the bacteria in it  
c) more the water pollution          d) more the air pollution
- 8) Fermentation economics dependent on \_\_\_\_\_.  
a) Upstream processing              b) Downstream processing  
c) Labor cost                          d) All of these

**Q.2 Explain Any Four of the following: 08**

- a) Contamination
- b) Precipitation
- c) Broth
- d) Assay
- e) Recycling of water
- f) Legal aspects

- Q.3 Write short notes on any Two of the following. 08**
- a) Control of process parameters
  - b) Chromatography
  - c) Principles of bioassay
- Q.4 Answer any two of the following. 08**
- a) Write in brief on Effluent treatment.
  - b) Describe in brief 'Plan for industry'.
  - c) Explain in brief various Aseptic techniques.
- Q.5 Answer any One of the following. 08**
- a) Explain in detail sterility testing and pyrogen testing.
  - b) Describe in detail various product recovery methods.

**Seat  
No.**

## INDUSTRIAL BIOTECHNOLOGY (Paper – III)

### Basics of Biomolecules

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 and labeled diagram wherever necessary.

**Q.1 Rewrite the following sentences by choosing the correct alternative:** **08**

- 1) The simplest amino acid is \_\_\_\_\_.  
a) Alanine                                      b) Asparagine  
c) Glycine                                        d) Tyrosine
- 2) Carbohydrates are also known as \_\_\_\_\_.  
a) Hydrates of carbon                        b) Carbonates  
c) Glycolipids                                  d) Polysaccharides
- 3) \_\_\_\_\_ is a component of the coenzyme A.  
a) Retinol                                         b) Retinoic acid  
c) Pantothenic acid                            d) Pyridoxine
- 4) The nature of an enzyme is \_\_\_\_\_.  
a) Carbohydrate                                b) Protein  
c) Lipid    d) Vitamin
- 5) \_\_\_\_\_ vitamin helps in blood clotting.  
a) Vitamin A                                      b) Vitamin D  
c) Vitamin C                                      d) Vitamin K
- 6) The difference between amino acid and imino acid is \_\_\_\_\_.  
a) Bonding of carbonyl group with the amide group  
b) Presence of covalent bond between amide and carbonyl group  
c) Bonding of nitrogen in the carbonyl group  
d) Bonding of nitrogen in the amide group
- 7) Nucleoside contains \_\_\_\_\_.  
a) base-phosphate                              b) base-sugar-phosphate  
c) base-sugar                                     d) sugar-phosphate
- 8) A \_\_\_\_\_ is a biocatalyst that increases the rate of the reaction without being changed.  
a) Aluminum oxide                              b) Enzyme  
c) Silicon dioxide                                d) Hydrogen peroxide

**Q.2 Answer Any Four of the following:** **08**

- a) Monosaccharides
- b) Sphingolipids
- c) Protein Purification
- d) Specific activity
- e) Nucleosides & Nucleotides
- f) Cholesterol

- Q.3 Write short notes on any Two of the following. 08**
- a) Write a note on Double helical model of DNA structure.
  - b) Explain Fibrous and globular proteins.
  - c) Describe different Level of structural organization of proteins.
- Q.4 Answer any two of the following. 08**
- a) Explain denaturation and renaturation of DNA.
  - b) Write a note on fat soluble vitamins.
  - c) Add a note on Glycoprotein's and their biological functions.
- Q.5 Answer any One of the following. 08**
- a) Write a note on Classification, nomenclature and properties of fatty acids.
  - b) Write a detailed note on Physical & chemical properties of Nucleic acids.

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**B.Sc. (Entrepreneurship) (Semester - II) (New) (CBCS) Examination:  
Oct/Nov-2022**

**INDUSTRIAL BIOTECHNOLOGY (PAPER - IV)  
Basics of Metabolism**

Day & Date: Thursday, 16-02-2023  
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.

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

**08**

- 1) A kinase is an enzyme that \_\_\_\_\_.  
 a) uses ATP to add a phosphate group to the substrate  
 b) removes water from a double bond  
 c) removes phosphate groups of substrates  
 d) uses NADH to change the oxidation state of the substrate
- 2) Chemical compounds involved in the process of metabolism is known as \_\_\_\_\_.  
 a) Radicals  
 b) Intermediates  
 c) Catabolites  
 d) Metabolites
- 3) Salvage pathway is used in the synthesis of \_\_\_\_\_.  
 a) Amino acid  
 b) Nucleotide  
 c) Fatty acid  
 d) Carbohydrate
- 4) \_\_\_\_\_ is the biosynthetic source of all steroid hormones.  
 a) Cholesterol  
 b) Carbohydrate  
 c) Ketone bodies  
 d) Protein
- 5) Amino acids are mostly synthesised from \_\_\_\_\_.  
 a) Volatile acids  
 b) fatty acid  
 c)  $\alpha$  – ketoglutaric acid  
 d) mineral salts
- 6) The enzymes for  $\beta$ -oxidation are present in \_\_\_\_\_.  
 a) Nucleus  
 b) Mitochondria  
 c) Golgi apparatus  
 d) Cytosol
- 7) Salvage pathway is used in the synthesis of \_\_\_\_\_.  
 a) Carbohydrate  
 b) Amino acid  
 c) Nucleotide  
 d) Fatty Acid
- 8) Glycolysis is the conversion of \_\_\_\_\_.  
 a) Fructose into phosphoenolpyruvate  
 b) Glucose into pyruvate  
 c) Glucose into phosphoenolpyruvate  
 d) Fructose into pyruvate

- Q.2 Answer Any Four of the following:** **08**
- a) Metabolism
  - b) Coricycle
  - c) Transamination
  - d) Significance of Ketogenesis
  - e) Anabolism and Catabolism
  - f) Nucleotidyl group transfer
- Q.3 Write short notes on any Two of the following.** **08**
- a) Write a note on HMP pathway.
  - b) Explain monounsaturated and poly-unsaturated fatty acids.
  - c) Add a note on Biosynthesis of amino acids.
- Q.4 Answer any two of the following.** **08**
- a) Explain salvage pathway of purines.
  - b) Describe metabolism of glycerol.
  - c) Write a note on TCA cycle.
- Q.5 Answer any one of the following.** **08**
- a) Write a detailed note on Glycolysis.
  - b) Add a note on Biodegradation of amino acids.

<b>Seat No.</b>	
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# Principles of Business Management & Business Organization

Max. Marks: 40

### Q.1 Multiple choice questions.

08

- 1) Management is need at \_\_\_\_\_.  
a) Top level                      b) Middle level  
c) lower level                  d) All level
- 2) Father of Administrative management is \_\_\_\_\_.  
a) F.W. Taylor                  b) Max Weber  
c) Henry Fayol                d) Elton Mayo
- 3) Planning is \_\_\_\_\_.  
a) forward looking  
b) backward looking  
c) both forward and backward looking  
d) None of the above
- 4) \_\_\_\_\_ introduced the functional type of organization.  
a) F.W. Taylor                  b) Chester Bernard  
c) Allen                          d) Max Weber
- 5) The first step in decision making is to:  
a) establish priorities  
b) establish specific goals and objectives  
c) identify and define the problem  
d) None of the above
- 6) \_\_\_\_\_ theory explains that there are two separate factors influence motivation.  
a) Adam's Equity theory              b) Maslow's need hierarchy theory  
c) Herzberg's two factor theory      d) McGregor's Theory X and Theory Y
- 7) A leader should have \_\_\_\_\_.  
a) Technical Knowledge              b) Empathy  
c) Initiative                          d) All of these
- 8) Deal with routing and repetitive problems is a \_\_\_\_\_.  
a) programmed decision              b) non-programmed decision  
c) major decision                      d) minor decision

- Q.2 Answer the following questions. (Any Four)** **08**
- a) Define Business.
  - b) Define Decision making.
  - c) Define Motivation
  - d) Define Business Organization.
  - e) Define Control.
  - f) What is Autocratic Leadership?
- Q.3 Write short notes. (Any Two)** **08**
- a) Functions of management
  - b) Types of decision
  - c) Roles of manager
  - d) Need for control
- Q.4 Answer the following questions. (Any Two)** **08**
- a) Explain importance of business management.
  - b) McGregor's Theory X and Theory Y
  - c) Explain importance of motivation.
- Q.5 Answer the following questions. (Any One)** **08**
- a) What is planning? Explain process of planning.
  - b) Explain function and qualities of leader.



**B.Sc. (Entrepreneurship) (Semester - III) (New) (CBCS) Examination:  
Oct/Nov-2022**

**Entrepreneurship (Paper-VI)**  
**Advanced Accountancy & Auditing**

Max. Marks: 40

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

08

- 1) Current Assets - Current Liability = \_\_\_\_\_.  
a) Working Capital                      b) Fixed Capital  
c) Total Capital                         d) None of these
- 2) Payment Key in Tally = \_\_\_\_\_.  
a) F4    b) F5  
c) F6    d) F7
- 3) Sales key in tally = \_\_\_\_\_.  
a) F4    b) F5  
c) F6    d) F8
- 4) Purchase key in tally = \_\_\_\_\_.  
a) F4    b) F8  
c) F6    d) F9
- 5) Golden Rules of Accounting are \_\_\_\_\_.  
a) Personal                                b) Real  
c) Nominal                                 d) All of these
- 6) To select payroll voucher from Inventory Voucher/Accounting Screen \_\_\_\_\_.  
a) CTRL+F1                                b) CTRL+F2  
c) CTRL+F4                                d) CTRL+F8
- 7) To Select Contra Voucher \_\_\_\_\_.  
a) F4    b) F6  
c) F5    d) F8
- 8) Qualified audit report means \_\_\_\_\_.  
a) Pending report  
b) Non submission report  
c) Clear report  
d) Auditor express opinion with reservation of material nature but not pervasive

08

- Explain concept of Goods and Service Tax (GST).
- Explain concept of Value Added Tax (VAT).
- Explain Classification of Accounts in accounting.
- Company Creation - Process in tally.
- Ledger Creation-Process in tally.
- Format of Voucher – Payments.

**Q.3 Write Notes. (Any Two)****08**

- a) Explain Internal Audit.
- b) Explain Loss of Profit by Fire.
- c) Write detailed note on statutory audit report.

**Q.4 Answer the following questions. (Any Two)****08**

- a) Explain External Audit.
- b) Explain Statutory Audit Report.
- c) Explain concept of Vouching & Explain Its need and importance.

**Q.5 Answer the following questions. (Any One)****08**

- a) From the following information prepare statement showing changes in working capital.

**ABC Company Ltd.**

<b>Current Liability</b>	<b>2018</b>	<b>2019</b>	<b>Current Assets</b>	<b>2018</b>	<b>2019</b>
	Rs.	Rs.		Rs.	Rs.
Creditors	50000	45000	Cash & Bank Balance	150000	122000
Bills Payable	46000	72000	Debtors	150000	172000
O/S Exp. For Labour	89000	79000	Stock	105000	92000

- b) From the following particulars of Anil & Co. prepare a bank reconciliation statement as On August 31, 2017.
  - 1) Balance as per the cash book 54,000.
  - 2) 100 bank incidental charges debited to Anil & Co. account, which is not recorded in cash book.
  - 3) Cheques for 5,400 is deposited in the bank but not yet collected by the bank.
  - 4) A cheque for 20,000 are issued by Anil & Co. not presented for payment.

**Seat  
No.**

- Q.3 Write short note (Any Two) 08**
- a) Describe in detail the Ostwald's theory.
  - b) Explain the process of precipitation.
  - c) Discuss the characteristics of catalytic reactions.
- Q.4 Answer the following questions. (Any Two) 08**
- a) Define the catalysis and explain the industrial applications of catalysis.
  - b) Write note on electrochemical theory of corrosion.
  - c) Discuss the neutralization curve and choice of indicator for strong acid and weak base.
- Q.5 Answer the following questions. (Any One) 08**
- a) Explain in detail physicochemical principle & manufacturing of Sodium carbonate by Solvay process.
  - b) Describe in detail the role of organic precipitants in gravimetric analysis with respect to DMG and 8-hydroxy quinoline.

**Seat  
No.**

Max. Marks: 40

- Q.3 Write short note (Any Two)** **08**
- a) Clarification of juice
  - b) CNS drug
  - c) Agrochemicals
  - d) Classification of fiber
- Q.4 Answer the following questions. (Any Two)** **08**
- a) Write the synthesis and uses of isonizide.
  - b) Explain the pesticides with classification.
  - c) Discuss the byproducts of sugar industry.
- Q.5 Answer the following questions. (Any One)** **08**
- a) What is the sizing process? Discuss different ingredients and their function for sizing.
  - b) What are the soaps? Discuss the manufacturing of soap by hot process.

**P**

## MICROBIAL BIOTECHNOLOGY (Paper – V)

### Genetics

Max. Marks: 40

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

08

- 1) The genotypic ratio of a monohybrid cross is \_\_\_\_\_.  
a) 2:1:1  
b) 3:1  
c) 1:2:1  
d) 9:3:3:1
- 2) Mendel took \_\_\_\_\_ contrasting characteristics of pea plants.  
a) eight  
b) seven  
c) six  
d) Five
- 3) A human cell contains total \_\_\_\_\_ pair of chromosomes.  
a) 23  
b) 46  
c) 22  
d) 44
- 4) In chromosomal aberration, if parts of chromosome lost or deleted is known as \_\_\_\_\_.  
a) translocation  
b) Inversion  
c) duplication  
d) deletion
- 5) Bacteriophage mediated gene transfer method is known as \_\_\_\_\_.  
a) replication  
b) transformation  
c) transduction  
d) conjugation
- 6) Complete linkage has been reported in \_\_\_\_\_.  
a) Maize  
b) Human female  
c) Male Drosophila  
d) Female Drosophila
- 7) Transposons were first discovered in \_\_\_\_\_.  
a) Rice  
b) Bacteria  
c) Mice  
d) Maize
- 8) The average of all observations in a set of data is known as \_\_\_\_\_.  
a) Median  
b) Mean  
c) Range  
d) Mode

08

- a) Trait
- b) Chromosomal inversion
- c) Exogenote
- d) Mode
- e) Mutation
- f) Epistasis

- Q.3 Write short notes on any two of the following:** **08**
- a) Law of independent assortment.
  - b) Types of chromosomes.
  - c) Conjugation.
- Q.4 Answer any Two of the following.** **08**
- a) Describe the types of linkages.
  - b) Explain in brief induced mutation.
  - c) Write in brief mean.
- Q.5 Answer any one of the following.** **08**
- a) Explain in detail on transduction.
  - b) Write in detail on crossing over.



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Set P
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**B.Sc. (Entrepreneurship) (Semester - III) (New) (CBCS) Examination:  
Oct/Nov-2022**

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

Day & Date: Monday, 27-02-2023  
Time: 09:00 AM To 11:00 AM

Max. Marks: 40

- 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 calculators is allowed.

**Q.1 Multiple choice questions.**

**08**

- 1) \_\_\_\_\_ material is used as a bioplastic.
  - a) PHB
  - b) Alkane
  - c) PVC
  - d) Polystyrene
- 2) In penicillin G production \_\_\_\_\_ precursor is used during production.
  - a) Methoxy acetic acid
  - b) Acetic acid
  - c) Phenyl acetic acid
  - d) Lactic acid
- 3) Extraction and purification of ethanol is mainly carried out by using \_\_\_\_\_ technique.
  - a) Precipitation
  - b) Distillation
  - c) Drying
  - d) Solvent extraction
- 4) 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
- 5) Commercial production of citric acid is carried by \_\_\_\_\_.
  - a) *Rhizopus*
  - b) *Candida albicans*
  - c) *Apergillus niger*
  - d) *Fusarium*
- 6) The root nodules of legumes contain a pink coloured pigment which have more affinity to oxygen is called as \_\_\_\_\_.
  - a) Haemoglobin
  - b) Leghaemoglobin
  - c) nod haemoglobin
  - d) Bilirubin
- 7) The parasporal body of single large crystal of toxin secreted by spores of *Bacillus thuringiensis* called as \_\_\_\_\_.
  - a)  $\alpha$  exotoxin
  - b)  $\beta$  exotoxin
  - c)  $\gamma$  exotoxin
  - d)  $\delta$  endotoxin
- 8) \_\_\_\_\_ is produced with the help of methanogenic bacteria by anaerobic digestion.
  - a) Ethanol
  - b) Biogas
  - c) Biodiesel
  - d) Butanol

- Q.2 Answer any Four of the following:** **08**
- a) Define antibiotics.
  - b) Define bio fertilizer.
  - c) Define bioplastic.
  - d) Enlist applications of citric acid.
  - e) What is SCP?
  - f) Enlist types of wine.
- Q.3 Write short notes on any two of the following:** **08**
- a) Discuss in brief production of Amylase enzyme.
  - b) Discuss in brief lager beer production.
  - c) Discuss in brief citric acid production.
- Q.4 Answer any Two of the following.** **08**
- a) Describe in brief SCP production.
  - b) Discuss in short production of red wine.
  - c) Describe in detail *Rhizobium* as bio fertilizer.
- Q.5 Answer any one of the following.** **08**
- a) Explain in detail Micro-organisms involved, media & product recovery of Penicillin.
  - b) Discuss in detail biogas production.

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Set **P**

**B.Sc. (Entrepreneurship) (Semester - IV) (New) (CBCS) Examination:  
Oct/Nov - 2022**

**ENTREPRENEURSHIP (PAPER – VII)  
Corporate Accounting & Professional Ethics**

Day & Date: Tuesday, 21-02-2023  
Time: 12:00 PM To 02:00 PM

Max. Marks: 40

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

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

- 1) \_\_\_\_\_ is the capital mentioned in the Memorandum of Association.
 

a) Subscribed share capital	b) Paid up share capital
c) Authorized share capital	d) Issued capital
- 2) The document inviting offers from public to subscribe its share is called \_\_\_\_\_.
 

a) Share certificate	b) Table A
c) Prospectus	d) None of the above
- 3) If share are issued at their face value, it is called as issued at \_\_\_\_\_.
 

a) Premium	b) Par
c) Discount	d) Market
- 4) The amount set apart from profit for future is known as \_\_\_\_\_.
 

a) Provision	b) Reserve
c) Capital A/c	d) Cash in hand
- 5) Liquidation without intervention of the court is known as \_\_\_\_\_.
 

a) Compulsory winding up
b) Compulsory liquidation
c) Winding up by order of court
d) Voluntary liquidation
- 6) Provision of taxation is shown in \_\_\_\_\_.
 

a) Asset side of the balance sheet
b) Liability side of the balance sheet
c) Credit side of the P & L A/c
d) Debit side of the trading A/c
- 7) Ethics is related to \_\_\_\_\_.
 

a) The wider community	b) Business
c) Right and wrong	d) Nothing
- 8) Which of the following dose the term Corporate Social Responsibility relate to?
 

a) Ethical conduct	b) Environmental practice
c) Community investment	d) All of the above

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

- 1) Define forfeiture of shares.
- 2) Define interim dividend.
- 3) Define code of conduct.
- 4) Who is a liquidator?
- 5) What is business ethics?
- 6) Corporate governance

**Q.3 Write short note on any two of the following.****08**

- 1) Explain ethics in areas of marketing and HRM.
- 2) Explain Corporate Social Responsibility in detail.
- 3) What are the functions of Liquidators?

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

- 1) Explain modes of company liquidation.
- 2) Explain importance of business ethics.
- 3) The following is the Balance Sheet of Asian India Ltd. as on 31.12.2017

Liabilities	Rs.	Assets	Rs.
Share Capital		Land & building	55,000
10,000 shares of Rs. 10 each	1,00,000	Plant	65,000
General Reserve	20,000	Trademark	10,000
Taxation Reserve	30,000	Stock	24,000
Workmen's savings A/c	15,000	Debtors	44,000
Profit & Loss A/c	16,000	Cash at Bank	26,000
Sundry Creditors	49,000	Preliminary Expenses	6,000
	<b>2,30,000</b>		<b>2,30,000</b>

The Plant is worth Rs. 60,000 and Land and Building have been valued at Rs. 1,20,000. Debtors include Rs. 4,000 as bad. Value of Goodwill is Rs. 80,000. Ignore Income-tax.

Find out the Fair Value of the Equity Share.

**Q.5 Answer any ONE of the following.****08**

- a) What is liquidation? Explain Liquidators final statement of account and order of payment.
- b) Anjana Industries Ltd. issued 2,000 equity shares of Rs. 100 each at premium of Rs. 5 per share payable as follows:  
 On application Rs. 35 per share (including premium)  
 On allotment Rs. 25 per share  
 On First Call Rs. 30 per share  
 On Final Call Rs. 15 per share  
 Applications were received for 2,200 equity shares. 2,000 equity shares were allotted to the applicants. The remaining applications for 200 equity shares were rejected and the application money thereon refunded.

Pass the necessary journal entries.

Seat No.	
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Set **P**

**B.Sc. (Entrepreneurship) (Semester - IV) (New) (CBCS) Examination:  
Oct/Nov-2022**

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

Day &amp; Date: Wednesday, 22-02-2023

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 and labeled diagram wherever necessary.

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

- 1) The life cycle of a product includes \_\_\_\_\_.  
a) Extraction of natural Resources  
b) Processing of raw Material  
c) Manufacturing Product  
d) All of the above
- 2) The Chemical properties a good product material are \_\_\_\_\_.  
a) Oxidation  
b) Corrosion  
c) Surface Treatment  
d) All of above
- 3) Extension of marking activities across the globe is called as \_\_\_\_\_.  
a) Internal Business  
b) Universal Marketing  
c) International Marketing  
d) Borderless Market
- 4) The consumer promotion technique according to which seller sells two or three units of product at reduced price is classified as \_\_\_\_\_.  
a) Price Packets  
b) Cents of deals  
c) Advertising specializations  
d) Both a & b
- 5) Consumer Day is celebrated to \_\_\_\_\_.  
a) 15 March  
b) 16 March  
c) 20 March  
d) 25 March
- 6) A consumer can collect information from \_\_\_\_\_.  
a) Internal Source  
b) External Source  
c) Digital Resource  
d) All of the above
- 7) The Company's Strength and Weakness are evaluated in \_\_\_\_\_.  
a) Pest Analysis  
b) SWOT Analysis  
c) Both a & b  
d) None of the above
- 8) Brand elements is also known as \_\_\_\_\_.  
a) Awareness  
b) Recall  
c) Identity  
d) Image

**Q.2 Answer Any Four of the following:****08**

- a) Write down Meaning of Product Planning?
- b) Define Brand
- c) What is Consumer Behavior
- d) What is Global Marketing
- e) Write down meaning of Super Market?
- f) Define E-Commerce

- Q.3 Write short notes on any Two of the following. 08**
- a) Types of Product
  - b) Concept of Internet Banking
  - c) Strategy in Competitive Market
- Q.4 Answer any two of the following. 08**
- a) What is Product Idea? Explain the its process?
  - b) Explain the use of Website Marketing?
  - c) Explain the Model of behavior
- Q.5 Answer any One of the following. 08**
- a) What is Whole Seller? Explain the types & Function?
  - b) Explain the Global Brand and Multinational Company

**Seat  
No.**

## Analytical & Industrial Aspects of Physical Chemistry

Max. Marks: 40

## 08

- 1) To determine the cell constant is \_\_\_\_\_ electrolyte is used.  
a) NaCl  
b)  $K_2SO_4$   
c) KCl  
d)  $Na_2SO_4$
- 2) In premix burner only \_\_\_\_\_% of sample is used.  
a) 50  
b) 5  
c) 100  
d) 0
- 3) When the flame temperature decrease, the intensity of the emitted radiation \_\_\_\_\_.  
a) decreases  
b) remains constant  
c) Increases  
d) none of these
- 4) During the conductance measurement \_\_\_\_\_ current is used.  
a) AC  
b) DC  
c) both of these  
d) None of these
- 5) Opacity is defined as reciprocal of \_\_\_\_\_.  
a) Absorbance  
b) Transmittance  
c) Reflectance  
d) none of these
- 6) In potentiometric titrations Quinhydrone electrode is used as \_\_\_\_\_ electrode.  
a) Indicator  
b) Standard  
c) Reference  
d) all of these
- 7) The photocurrent in photoelectric colorimeter is measured by \_\_\_\_\_.  
a) Voltmeter  
b) Ammeter  
c) Galvanometer  
d) all of these
- 8) The burner in which all samples enter the flame is called as \_\_\_\_\_ burner.  
a) Meckers  
b) total consumption  
c) Premix  
d) Lundegraph

## 08

- 1) Give the principle of Wheatstone bridge circuit.
- 2) State Lambert-Beer law.
- 3) Define equivalent electrolyte. Give its unit.
- 4) Represent glass electrode.
- 5) How the conductivity water is prepared?
- 6) What do you mean by buffer solution? Mention different types of it.

- Q.3 Write short notes on any two of the following:** **08**
- 1) Basic circuit of direct reading potentiometer.
  - 2) Wheatstone bridge circuit and its principle.
  - 3) Applications of Beer-Lambert's law.
- Q.4 Answer any two of the following:** **08**
- 1) Explain how you would determine the pH of a solution using glass electrode.
  - 2) Mention various methods of color comparison and describe the photoelectric photometer.
  - 3) What are the applications of flame photometry in qualitative and quantitative analysis?
- Q.5 Answer any one of the following:** **08**
- 1) Mention different types of conductometric titrations. Explain conductometric titration between weak acid and weak base.
  - 2) Discuss instrumentation of flame photometry.



**B.Sc. (Entrepreneurship) (Semester - IV) (New) (CBCS) Examination:  
Oct/Nov-2022**

**Industrial Chemistry (Paper – VIII)**  
**Industrial Aspects of Applied Chemistry**

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 and labeled diagram wherever necessary.

08

- 1) For good quality nickel plating the optimum pH range is \_\_\_\_\_.  
a) 5-6  
b) 3-4  
c) 4-5  
d) 2-3
- 2) Triple super phosphate contains 44-47% of \_\_\_\_\_.  
a)  $N_2O_5$   
b)  $P_2O_5$   
c)  $K_2O$   
d)  $NO_2$
- 3) The upper part of blast furnace is called \_\_\_\_\_.  
a) body  
b) base  
c) throat  
d) tank
- 4)  $C_uSO_4 \cdot 2H_2O$  is added to \_\_\_\_\_ the rate of setting of cement.  
a) increase  
b) make normal  
c) extremely high  
d) slow down
- 5) The process of cleaning article in acid is known as \_\_\_\_\_.  
a) washing  
b) coating  
c) removal of coating  
d) picking
- 6) Urea has highest percentage of \_\_\_\_\_.  
a) K  
b) P  
c) N  
d) S
- 7) The sharp edge of glass are removed by cutting, grinding and polishing these process is called as \_\_\_\_\_.  
a) shaping  
b) finishing  
c) fusion  
d) Annealing
- 8) N, P, K consumed in large quantities by the plants for their growth are called \_\_\_\_\_ nutrients.  
a) primary  
b) secondary  
c) tertiary  
d) micro

08

- Write basic principle of electroplating.
- Write 2 properties of ceramics.
- What do you mean by direct and indirect fertilizers?
- Define calcinations and roasting.
- Give 2 applications of anodizing.
- State 1<sup>st</sup> law of faraday.

- Q.3 Write short notes on any Two of the following. 08**
- a) Pollution caused by fertilizer
  - b) Raw materials used in preparation of glass
  - c) Anodising
- Q.4 Answer any two of the following. 08**
- a) Write qualities of Ideal fertilizers.
  - b) Define flux, slug and give two physical properties of glass.
  - c) Explain froth floatation process.
- Q.5 Answer any One of the following. 08**
- a) Describe in details types of glass.
  - b) Explain manufacture of steel by L.D. Process.

**B.Sc. (Entrepreneurship) (Semester - IV) (New) (CBCS) Examination:  
Oct/Nov-2022**

Day & Date: Saturday, 25-02-2023  
Time: 12:00 PM To 02:00 PM

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

- 1) Termination of replication is triggered by \_\_\_\_\_.  
a) SSB  
b) Tus protein  
c) DNA polymerase  
d) Helicase
- 2) Lac operon is an example of \_\_\_\_\_.  
a) only positive regulation  
b) only negative regulation  
c) both positive and negative regulation  
d) sometimes positive sometimes negative
- 3) \_\_\_\_\_ RNA polymerase can bind CBP.  
a) I  
b) II  
c) III  
d) IV
- 4) The \_\_\_\_\_ mechanisms will remove uracil and incorporate the correct base.  
a) Direct repair  
b) Mismatch repair  
c) Nucleotide excision repair  
d) Base excision repair
- 5) \_\_\_\_\_ enzymes separate the two strands of DNA during replication.  
a) Helicase  
b) DNA polymerase  
c) Gyrase  
d) Topoisomerase
- 6) Codons which do not code for amino acids are \_\_\_\_\_.  
a) 3  
b) 9  
c) 5  
d) 11
- 7) The type of coiling in DNA is \_\_\_\_\_.  
a) Right-handed  
b) Zig-zag  
c) Left-handed  
d) Opposite
- 8) The significance of codons was elaborated by \_\_\_\_\_.  
a) James Watson  
b) George Gamow  
c) Thomas Morgan  
d) H. J. Muller

- a) Transcription
- b) Operon concept
- c) SOS repair
- d) DNA Polymerases
- e) Salient features of double helix
- f) The Central Dogma

- Q.3 Write short notes on any two of the following:** **08**
- a) Define and explain structure of DNA.
  - b) Write a note on Post transcriptional modification of RNA.
  - c) Add a detailed note on nucleotide Excision repair in prokaryotes.
- Q.4 Answer any two of the following:** **08**
- a) Write n note on DNA replication.
  - b) Add a detailed note on Types of DNA.
  - c) Define and explain RNA Polymerases and its types.
- Q.5 Answer any One of the following:** **08**
- a) Define Transcription and explain transcription in Eukaryotic Cell.
  - b) Write a detailed note on Regulation of Lac Operon.

<b>Seat No.</b>	
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**MICROBIAL BIOTECHNOLOGY (Paper – VIII)**  
**Food & Dairy Technology**

Max. Marks: 40

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

08

- 1) Legal butter must contain at least \_\_\_\_\_ % of fat.  
a) 70                                      b) 80  
c) 90                                      d) 100
- 2) Example of soft cheese is \_\_\_\_\_.  
a) Cheddar                                b) Swiss  
c) Brick                                    d) Cottage
- 3) Anaerobic souring in meat is a result of \_\_\_\_\_.  
a) enzyme action  
b) proteolysis  
c) production of lactic and fatty acids  
d) all of these
- 4) \_\_\_\_\_ is regarded as the father of canning.  
a) John Hall                                b) Nicolas Appert  
c) Louis Pasteur                          d) Bryan Dokin
- 5) Sun drying food preservation method is most suitable for \_\_\_\_\_.  
a) grains                                      b) vegetables  
c) meat                                        d) fruits
- 6) Heating of milk at 135°C for 1-2 seconds is followed in \_\_\_\_\_ pasteurization  
a) HTAT                                      b) LTH  
c) UHT                                        d) HTST
- 7) Efficiency of pasteurization is determined by \_\_\_\_\_.  
a) MBRT test                                b) MPN test  
c) Phosphatase test                      d) Resazurin test
- 8) \_\_\_\_\_ is not the extrinsic parameter in the food responsible for microbial growth.  
a) Temperature of storage  
b) pH  
c) Presence of gases in environment  
d) Relative humidity of environment

- Q.2 Define any four of the following. 08**
- 1) Milk
  - 2) Dairy
  - 3) Contamination
  - 4) Spoilage
  - 5) Poisoning
  - 6) Preservation
- Q.3 Write short notes on any two of the following. 08**
- 1) Dye reduction test
  - 2) Methods of Food preservation
  - 3) Pasteurization
- Q.4 Answer any two of the following. 08**
- 1) Describe the composition, classification, defect and uses of Butter.
  - 2) Explain the microbial spoilage of fruits and vegetables.
  - 3) Explain Chemical and Physical properties of food affecting microbial growth (intrinsic and extrinsic factors).
- Q.5 Answer any one of the following. 08**
- 1) Describe in detail Homogenized milk, flavored milk and Tanned milk.
  - 2) Explain in detail composition and types, manufacturer & uses of Cheese.

<b>Seat No.</b>	
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<b>Set P</b>
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**B.Sc. (Entrepreneurship) (Semester - V) (New) (CBCS) Examination:  
Oct/Nov-2022  
ENGLISH  
Business English**

Day & Date: Friday, 27-01-2023  
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 Choose the correct alternative from the given option.**

**08**

- 1) What was Della's fear with her new haircut?
  - a) Jim wouldn't love her anymore
  - b) made her look like a nun
  - c) made her look ugly
  - d) She would look less fashionable
- 2) What was Phatik's deepest desire in the story 'The Home Coming'?
  - a) to belong and be loved
  - b) to be a ring leader
  - c) to be a boats man
  - d) to become a teacher
- 3) What makes the maidens song extraordinary?
  - a) it's musicality
  - b) it's eternal nature
  - c) it's theme
  - d) her voice
- 4) What does Queen Gulnar desire in the poem?
  - a) the Kings alteration
  - b) more jewellery
  - c) a rival
  - d) more clothes
- 5) What did the school master love above all?
  - a) discipline
  - b) learning
  - c) debate
  - d) sports
- 6) The hunter killed the tiger. (change into passive voice)
  - a) The tiger was killed by the hunter
  - b) The tiger was killed by someone
  - c) The hunter killed some tigers
  - d) The tiger killed the hunter
- 7) Her grandfather \_\_\_\_\_ after a long illness.
  - a) passed out
  - b) passed away
  - c) passes by
  - d) passed by
- 8) She \_\_\_\_\_ among all her classmates because of her intelligence and smartness.
  - a) stands away
  - b) stand above
  - c) stands out
  - d) stand by

- Q.2 Answer any four of the following Questions. 12**
- a) What did the couple in the story 'The Gift of Magi' decide to gift each other?
  - b) Why did Phatik feel suffocated in the big city?
  - c) What trouble did the poet have with the song in the poem 'The solitary reaper'?
  - d) Why is the Queen unsatisfied in the poem 'The Queens Rival'?
  - e) What is the significance of the two roads in the poem 'The Road Not Taken'?
  - f) Describe the character of the village school master.
- Q.3 Answer the following question. (Any one) 10**
- a) You are the student Secretary of Cultural department, a differences arouse among the students of Group dance ones a minor issue of dance steps. What step will you initiate to resolve the issue and ensure that harmony prevails.
  - b) What are the 21<sup>st</sup> Century Skills? Explain them in details.
- Q.4 As a native of Solapur, how will you solve the problem of deforestation (cutting down the trees) due to the construction of the National and State Highways. 10**



Seat No.	
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Set **P**

**B.Sc. (Entrepreneurship) (Semester - V) (New) (CBCS) Examination:  
Oct/Nov-2022  
BUSINESS FINANCE**

Day & Date: Saturday, 28-01-2023  
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 diagrams and give equations wherever necessary.

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

- 1) \_\_\_\_\_ is market where new securities are bought and sold for the first time.
  - a) Money market
  - b) Capital Market
  - c) Primary market
  - d) Secondary Market
- 2) \_\_\_\_\_ stock have priority of claim on assets.
  - a) Equity
  - b) Preference
  - c) Debenture
  - d) Common
- 3) \_\_\_\_\_ is the process of making investment decision in capital expenditure.
  - a) Dividend decision
  - b) Capital budgeting
  - c) Managerial accounting
  - d) Cost accounting
- 4) Finance function comprises \_\_\_\_\_.
  - a) Safe custody of funds only
  - b) Expenditure of funds only
  - c) Procurement of finance only
  - d) Procurement & effective use of funds
- 5) Internal sources of finance include \_\_\_\_\_.
  - a) Public Deposits
  - b) Retained earnings
  - c) Bank Loan
  - d) Debenture
- 6) \_\_\_\_\_ is not a method of issuing ordinary shares.
  - a) Public Placement
  - b) Private Placement
  - c) Sale through intermediaries
  - d) Auction
- 7) \_\_\_\_\_ is contracture agreement between the owner of the assets and user of the assets for a specific period by a periodical rent.
  - a) Venture capital
  - b) Lease
  - c) Factoring
  - d) Underwriting
- 8) \_\_\_\_\_ is regarded as the life blood of business.
  - a) Marketing
  - b) Finance
  - c) Human Resource
  - d) Management
- 9) E-banking is also known as \_\_\_\_\_.
  - a) Virtual Banking
  - b) Internet Banking
  - c) Online Banking
  - d) All the above

**10)** \_\_\_\_\_ funds are required by business firms for purpose of acquire fixed assets.

- a) Long term
- b) Short term
- c) Medium term
- d) All the above

**B) Answer in one sentence / Fill in the blanks.**

**06**

- 1) Full form of ADR \_\_\_\_\_.
- 2) Full form of GDR \_\_\_\_\_.
- 3) Full form of SEBI \_\_\_\_\_.
- 4) Full form of BSE \_\_\_\_\_.
- 5) Full form of NSE \_\_\_\_\_.
- 6) Full form of FEMA \_\_\_\_\_.

**Q.2 Answer the followings (Any Eight):**

**16**

- 1) Equity shares
- 2) Preference shares
- 3) Public deposit
- 4) Working capital
- 5) Lease finance
- 6) E-banking
- 7) E-Trading
- 8) Commercial Banks
- 9) Reserve bank of India
- 10) ADR & GDR

**Q.3 A) Answer the followings (Any Two):**

**10**

- 1) Explain Venture Capital in India.
- 2) Explain Recent Development in Commercial Banks.
- 3) Explain Methods of Capital Budgeting in Details.

**B) Write Short note on Cross listing of Equities**

**06**

**Q.4 A) Answer the followings (Any Two):**

**08**

- 1) Explain Right Issue in details.
- 2) Explain Private Placement in details.
- 3) Explain in brief about Stock market / Exchange.

**B) Explain functions of SEBI.**

**08**

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

**16**

- a) Define financial planning. Explain types of financial plan.
- b) Explain in detail Functions and structure of forex market.
- c) Define commercial bank? Explain investment policy of commercial banks.

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Day & Date: Monday, 30-01-2023  
Time: 03:00 PM To 06:00 PM

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

**10**

- Page 1 of 2

- b) Give Definitions:** **06**
- 1) HRM
  - 2) Selection
  - 3) Training
  - 4) Promotion
  - 5) Performance Appraisal
  - 6) External mobility
- Q.2 Solve (Any Eight):** **16**
- a) Job Analysis
  - b) Job Specification
  - c) HRM objectives
  - d) Convenience Allowance
  - e) What is mean by succession - planning?
  - f) Concept of Provident - fund
  - g) Purpose of Performance Appraisal
  - h) Job satisfaction
  - i) Internal source of recruitment
  - j) Transfer benefits
- Q.3 a) Attempt the following (Any Two)** **10**
- 1) Define the role of HRM.
  - 2) What are the steps in selection procedure?
  - 3) Define the problems of Performance Appraisal?
- b) Short note:** **06**
- What are the Promotion types?
- Q.4 Answer the following. (Any Two)** **08**
- a)
    - 1) External sources of Recruitment?
    - 2) E.S.I. maintenance Allowance
    - 3) Recent trends in selection
  - b) **Explain** **08**

What is mean by training?

Give its need & objectives?
- Q.5 Attempt the following (Any Two)** **16**
- a) What is mean by Performance Appraisal? Give its methods.
  - b) Functions & importance of HRM
  - c) Elements of careers development programme.

Seat No.	
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**B.Sc. (Entrepreneurship) (Semester - V) (New) (CBCS) Examination:  
Oct/Nov-2022  
SPECTROSCOPIC METHODS**

Day & Date: Tuesday, 31-01-2023  
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) Mass spectrum is obtained by using \_\_\_\_\_.  
a) Electron beam                      b) UV light  
c) IR light                                d) Radio waves
- 2) UV spectroscopy is also known as \_\_\_\_\_ spectroscopy.  
a) vibrational                            b) rotational  
c) raman                                    d) electronic
- 3) 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
- 4) The functional group region is in between \_\_\_\_\_.  
a)  $4000 - 1350 \text{ cm}^{-1}$                       b)  $1350 - 650 \text{ cm}^{-1}$   
c)  $4000 - 650 \text{ cm}^{-1}$                       d)  $2000 - 950 \text{ cm}^{-1}$
- 5) Which type of electronic transition required highest energy?  
a)  $\sigma \rightarrow \sigma^*$                                       b)  $\pi \rightarrow \pi^*$   
c)  $n \rightarrow \sigma^*$                                       d)  $n \rightarrow \pi^*$
- 6) Among the following which is a IR active transition?  
a) HCl    b)  $\text{N}_2$   
c)  $\text{CCl}_4$     d)  $\text{Cl}_2$
- 7) The methylene proton case of impure ethanol gives the splitted peak having \_\_\_\_\_ multiplicity.  
a) singlet    b) doublet  
c) triplet    d) quartet
- 8) Mass spectra, is obtained by plotting \_\_\_\_\_ and \_\_\_\_\_ on X and Y-axis respectively  
a) charge, abundance                      b) abundance, charge/mass  
c) mass, charge on ions                      d) mass, abundance
- 9) The intensity of transmitted light to that incident light is known as \_\_\_\_\_.  
a) opacity    b) absorbance  
c) transmittance                                      d) none of these
- 10) Higher  $\delta$  values shows \_\_\_\_\_.  
a) upfield    b) resonance  
c) downfield    d) flipping

- b) Answer the following.** **06**
- 1) Which type of energy is used in mass spectroscopy?
  - 2) State Lambert's law.
  - 3) What is IR spectrum?
  - 4) Define molecular ion.
  - 5) Which internal standard used in NMR spectroscopy.
  - 6) Write the types of stretching vibrations.
- Q.2 Solve any eight of the following.** **16**
- a) Write any two application of UV spectroscopy.
  - b) Explain the term hyperchromic shift.
  - c) What is mean by delta scale?
  - d) Define mass spectrum.
  - e) Write the selection rule for the absorption of radiation in IR spectroscopy
  - f) What are the types of the bending vibrations?
  - g) Mention the different types of ions formed in mass spectroscopy.
  - h) What is mean by IR active transition and IR inactive transition?
  - i) What is the basic principle of mass spectroscopy?
- Q.3 a) Write short note on any two of the following.** **10**
- 1) Lambert-Beer law
  - 2) Flipping the spin
  - 3) Functional group region
- b) How many signals are expected in the NMR spectra of the following compound?** **06**
- 1) 1, 2 -dichloropropane
  - 2) Vinyl chloride
- Q.4 A) Answer any two of the following.** **08**
- 1) Explain the basic principle of mass spectroscopy.
  - 2) Discuss in detail effect conjugation on the position of UV bands.
  - 3) Discuss in detail fragmentation ion.
- b) Discuss in detail the applications of UV spectroscopy.** **08**
- Q.5 Answer any two of the following.** **16**
- a) An organic compound having molecular formula  $C_4H_8Br_2$  gives following NMR data:
    - 1) 1.9  $\delta$  (6H, S)
    - 2) 3.87  $\delta$  (2H,S)
 Assign the structure to the compound
  - b) What is mean by (M + 1) and (M + 2) peaks in mass spectroscopy?
  - c) What is the figure print region in IR spectra? Draw the double beam IR spectrophotometer.

**TABLE - 1**  
**Characteristic Infrared Absorptions of Functional Groups**

GROUP		FREQUENCY RANGE $\text{cm}^{-1}$	INTENSITY
<b>A. Alkyl</b>			
C - H (stretching)		2853 - 2962	(m - s)
Isopropyl - $\text{CH}(\text{CH}_3)_2$		1380 - 1385	(s)
	and	1365 - 1370	(s)
tert - Butyl - $\text{C}(\text{CH}_3)_3$		1385 - 1395	(m)
	and	- 1365	(s)
<b>B. Alkenyl</b>			
C-H (stretching)		3010 - 3095	(m)
<b>C = C (stretching)</b>		<b>1620 - 1680</b>	<b>(v)</b>
R - CH = CH <sub>2</sub>		985 - 1000	(s)
	and	905 - 920	(s)
R <sub>2</sub> C = CH <sub>2</sub>	(out of plane	880 - 900	(s)
cis - RCH = CHR	C-H bendings)	675 - 730	(s)
trans - RCH = CHR		960 - 975	(s)
<b>C. Alkynyl</b>			
$\equiv$ C - H (stretching)		- 3300	(s)
C $\equiv$ C (stretching)		2100 - 2260	(v)
<b>D. Aromatic</b>			
Ar - H (stretching)		- 3030	(v)
Aromatic substitution type (C-H out-of-plane bendings)			
Monosubstituted		690 - 710	(very s)
	and	730 - 770	(very s)
o - Disubstituted		735 - 770	(s)
m - Disubstituted		680 - 725	(s)
	and	750 - 810	(very s)
p - Disubstituted		800 - 840	(very s)
<b>E. Alcohols, Phenols, Carboxylic Acids</b>			
OH (alcohols, phenols, dilute solutions)		3590 - 3650	(sharp v)
OH (alcohols, phenols, hydrogen bonded)		3200 - 3550	(broad s)
OH (carboxylic acids, hydrogen bonded)		2500 - 3000	(broad v)
<b>F. Aldehydes, Ketones, Esters and Carboxylic Acids</b>			
C = O stretch	1720	1630 - 1780	(s)
aldehydes - 1720 (Stre 2700 - 2900		1690 - 1740	(s)
ketones		1680 - 1750	(s)
esters		1735 - 1750	(s)
carboxylic acids		1710 - 1780	(s)
amides		1630 - 1690	(s)
<b>G. Amines</b>			
N - H		3300 - 3500	(m)
<b>H. Nitriles</b>			
C $\equiv$ N		2220 - 2260	(m)

TABLE - 2  
Approximate Proton Chemical Shifts in NMR

TYPE OF PROTON	CHEMICAL SHIFT, DELTA, PPM ( $\delta$ )	
1° Alkyl, $RCH_3$	0.8 - 1.0	
2° Alkyl, $RCH_2R$	1.2 - 1.4	
3° Alkyl $R_3CH$	1.4 - 1.7	
Allylic, $R_2C = \underset{\substack{  \\ R}}{C} - CH_3$	1.6 - 1.9	$\begin{array}{c} \text{O} \\    \\ \text{Ester } R - C - O - CH_2 - R \text{ 4 to 4.5} \\   \quad \quad \quad   \\ N - CH_3 \quad \quad 2.3 \end{array}$
Benzylic, $ArCH_3$	2.2 - 2.5	
Alkyl chloride, $RCH_2Cl$	3.6 - 3.8	
Alkyl bromide, $RCH_2Br$	3.4 - 3.6	
Alkyl iodide, $RCH_2I$	3.1 - 3.3	
Ether, $ROCH_2R$	3.3 - 3.9	
Alcohol, $HOCH_2R$	3.3 - 4.0	
Ketone, $RC(=O)CH_3$	2.1 - 2.6	
Aldehyde, $RCH(=O)H$	9.5 - 9.6	
Vinylic, $R_2C = CH_2$	4.6 - 5.0	
Vinylic $R_2C = \underset{\substack{  \\ R}}{CH}$	5.2 - 5.7	
Aromatic, $ArH$	6.0 - 9.5	
Acetylenic, $RC \equiv CH$	2.5 - 3.1	
Alcohol hydroxyl, $ROH$	0.5 - 6.0 <sup>a</sup>	
Carboxylic, $RC(=O)OH$	10 - 13 <sup>a</sup>	
Phenolic, $ArOH$	4.5 - 7.7 <sup>a</sup>	
Amino $R-NH_2$	1.0 - 5.0	



## Spectroscopic Chart

Woodward's-Fieser's rules for calculating ultraviolet absorption maxima

A) For substituted dienes (Ethanol solution)

No.	Basic Value	$\lambda_{\text{max}}$ (nm)
1)	Acyclic and heteroannular dienes	214
2)	Homoannular dienes	253
3)	Addition for each substituent	
	a) - R alkyl (including part of carbocyclic ring)	5
	b) - OR (alkoxy)	6
	c) - Cl, -Br	5
	d) - OCOR (acyloxy)	0
	e) - $\text{NR}_2$ , (N - alkyl)	60
	f) - SR (S - alkyl)	30
	g) - $\text{CH}=\text{CH}$ - additional conjugation i.e. extending conjugation	30
	h) If one double bond is exocyclic to one ring	5
	i) If exocyclic to two rings simultaneously	10

B) Rules for  $\alpha, \beta$  – Unsaturated Enones (Ethanol Solution)

No.	Basic value	$\lambda_{\max}$ (nm)
1)	Ketones : $-\overset{\beta}{\underset{ }{\text{C}}}=\overset{\alpha}{\underset{ }{\text{C}}}-\text{CO}-$	
	a) Acyclic or 6 – membered ring	215
	b) 5 – membered ring	202
2)	Aldehydes $-\overset{ }{\text{C}}=\overset{ }{\text{C}}-\text{CHO}$	207
3)	Extended Conjugation	30
	$-\overset{\delta}{\underset{ }{\text{C}}}=\overset{\gamma}{\underset{ }{\text{C}}}-\overset{\beta}{\underset{ }{\text{C}}}=\overset{\alpha}{\underset{ }{\text{C}}}-\text{CO}-\text{etc.,}$	
4)	Homodiene component	39
5)	a) If one double bond is exocyclic to one ring	5
	b) If exocyclic to two rings simultaneously	10
6)	Addition for substituents	

Substituents		Position			
		$\alpha$	$\beta$	$\gamma$	$\delta$
a)	- R alkyl (including part of carbocyclic ring)	10	12	18	18
b)	- OR (alkoxy)	35	30	17	31
c)	- OH (hydroxy)	35	30	-	50
d)	- SR (thioether)	-	85	-	-
e)	- Cl (chloro)	15	12	-	-
f)	- Br (bromo)	25	30	-	-
g)	- OCOR (acyloxy)	6	6	-	6
h)	- NH <sub>2</sub> , - NHR <sub>1</sub> , - NR <sub>2</sub>	-	95	-	-

### Solvent correction

	Solvent	
a)	Ethanol	0
b)	Methanol	0
c)	Dioxan	-5
d)	Chloroform	-1
e)	Ether	-7
f)	Water	+8
g)	Hexane	-11
h)	Cyclohexane	-11

Seat No.	
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**B.Sc. (Entrepreneurship) (Semester - V) (New) (CBCS) Examination:  
Oct/Nov-2022**

**ADVANCES IN FERMENTATION TECHNOLOGY**

Day & Date: Wednesday, 01-02-2023  
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 right indicate full marks.  
4) Use of log table and calculators is allowed.

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

**10**

- 1) \_\_\_\_\_ is a polycyclic antibacterial peptide produced by the bacterium *Lactococcus lactis* that is used as a food preservative.
  - a) Pancreas
  - b) Cheese
  - c) Antibiotic
  - d) Nisin
- 2) GLP stands for \_\_\_\_\_.
  - a) Good manufacturing practices
  - b) Good laboratory practices
  - c) Quality control
  - d) All of these
- 3) \_\_\_\_\_ is used for production of xanthan gum.
  - a) Yeast species
  - b) *E. Coli*
  - c) *Pseudomonas*
  - d) *Xanthomonas compestris*
- 4) *Agaricus bisporus* is an example of \_\_\_\_\_ type of mushroom.
  - a) Right
  - b) Button
  - c) Class
  - d) Straight
- 5) \_\_\_\_\_ a system of maintaining standards in manufactured products by testing a sample of the output against the specification.
  - a) Quality control
  - b) Quality assurance
  - c) Quality management
  - d) None
- 6) \_\_\_\_\_ is an antiviral substance produced by host cell after viral infection.
  - a) Insulin
  - b) Interferon
  - c) DNA
  - d) RNA
- 7) Acetone - Butanol is mainly produced by using \_\_\_\_\_ organism.
  - a) *B. subtilis*
  - b) *Pseudomonas Putida*
  - c) *Clostridium acetobutylicum*
  - d) *E. coli*
- 8) A symbol, word, or words legally registered or established by use as representing a company or product is \_\_\_\_\_.
  - a) Copyright
  - b) Trademark
  - c) Patent
  - d) Secret

- 9) Insulin is secreted by \_\_\_\_\_.  
a) Pancreas                      b) Heart  
c) Spleen                        d) Stomach
- 10) \_\_\_\_\_ production is an example of dual step process.  
a) Amylase                      b) Xanthan  
c) Ethanol                        d) Vinegar

**B) Answer the following.**

06

- 1) Define Biosafety.
- 2) Define Copyright.
- 3) Define IPR.
- 4) Define Toxoid.
- 5) Types of interferon.
- 6) Define quality assurance.

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

16

- a) What is PHB?
- b) What is pyrogen?
- c) What is attenuated vaccine?
- d) Enlist application of bacteriocin.
- e) What is international code?
- f) What is TRIPS?
- g) Define bioethics.
- h) What is significance of sterility testing?
- i) Enlist applications of glycerol.
- j) Enlist the names of rubber producing microorganisms.

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

10

- 1) Explain in detail production of Xanthan gum.
- 2) Describe in detail production of peptide vaccine.
- 3) Discuss in brief test for carcinogenicity.

**B) Short note/Solve**

06

Write detail account on mushroom cultivation.

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

08

- 1) Write in detail insulin production.
- 2) Explain in detail IPR and its types.
- 3) Define patent and give suitable example of patenting of biological material.

**B) Describe/Explain/Solve**

08

Explain in detail the process of acetone - butanol production with its applications.

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

16

- Explain in detail the process of vinegar production.
- Describe in detail production of Pullulan and its role.
- Describe in detail GMP.

Set P

## Wine Technology

Max. Marks: 80

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

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

10

- 1) Wine is obtained after alcoholic fermentation of \_\_\_\_\_.  
a) Grapes  
b) Mango  
c) Apple  
d) Banana
- 2) Rum is distilled from \_\_\_\_\_.  
a) Molasses  
b) Sugarcane  
c) Grapes  
d) All of these
- 3) The heart of Agave plant is known as \_\_\_\_\_.  
a) Tea plant  
b) Pinas  
c) Plam  
d) Arena
- 4) \_\_\_\_\_ type of press produces the most high- quality juice or wine.  
a) Membrane press  
b) Circular basket  
c) Vertical basket press  
d) Horizontal basket press
- 5) The term Racking refers to \_\_\_\_\_.  
a) Stacking unlabeled wine in bins for aging  
b) storing hoses to drain on a slanted board  
c) adding yeast to initiate fermentation  
d) removing clear liquid from sediment
- 6) \_\_\_\_\_ is the desirable sugar content of the grapes required for the wine production.  
a) 5-10%  
b) 2-5%  
c) 14-20%  
d) 10-14%
- 7) Ales are the beer in which fermentation is carried out using \_\_\_\_\_.  
a) top yeast  
b) bottom yeast  
c) either of the above  
d) middle yeast
- 8) In sparkling wine production, the cuvee is \_\_\_\_\_.  
a) Drambuie  
b) the base wine  
c) Both a and b  
d) Top wine
- 9) Alcohol content of sake varies from \_\_\_\_\_.  
a) 10-20%  
b) 12-15%  
c) 4-17 %  
d) All of these
- 10) Wort is boiled with the hops \_\_\_\_\_.  
a) to help in protein coagulation  
b) to provide bitter taste and flavour to the beer  
c) to help in the coagulation of tannins  
d) All of the above

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

- 1) Wine History.
- 2) Fermentation
- 3) Enlist Environmental Factors Affecting Fermentation
- 4) Clarification
- 5) Aging
- 6) Status of Indian brewing

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

- a) Write note on Grapes variety.
- b) Write note on Chemical constituents of Grapes and Wine.
- c) Explain in brief Rejuvenation of Old Wines
- d) Write note on Wine classification
- e) Explain in brief Biochemistry of wine production.
- f) Write note on Wine Laws and Authentications.
- g) Explain alcoholic beverages & human health
- h) Explain in brief New concept in wine production.
- i) Write note on Factors Affecting on Aging.
- j) Write Visual Sensations in wine.

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

- 1) Explain Importance of automation operation in wine industries.
- 2) Explain Acidity and pH Adjustment in wine.
- 3) Explain anatomical and chemical constituents of oak.

**B) Short note/Solve 06**

Explain in detail Wine Assessment Method.

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

- 1) Explain in brief Odor Assessment in Wine Testing.
- 2) Write in brief must preparation and clarification.
- 3) Explain in brief Advantages and Disadvantages of Oak Cooperage.

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

Explain in detail Physiology of matured grapes.

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

- a) Describe in detail Pre-fermentation Practices.
- b) Explain in detail Post-fermentation Treatments.
- c) Write in detail basic procedures in wine making.





**Q.3 Answer the following questions. (Any One) 10**

**a)** What is an Information Literacy? Explain the benefits of Information Literacy?

**OR**

**b)** Write a note on Leadership skill with its characteristics.

**Q.4 What is Environment consciousness skill? Mention habits for environment conservation. 10**

Seat No.	
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Set **P**

**B.Sc. (Entrepreneurship) (Semester - VI) (New) (CBCS) Examination:  
Oct/Nov-2022  
International Business**

Day & Date: Monday, 27-03-2023  
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) \_\_\_\_\_ means any type of business activity that crosses the national border.
 

a) export	b) international trade
c) international business	d) import
- 2) The Reciprocal demand theory of international business was given by \_\_\_\_\_.
 

a) J. S. Mill	b) David Ricardo
c) M. Porter	d) Adam Smith
- 3) The SAARC was started in \_\_\_\_\_.
 

a) 1985	b) 1990
c) 1995	d) 1965
- 4) \_\_\_\_\_ are also called as 'Integrated Global' Enterprise!
 

a) Joint Venture	b) Foreign institution
c) Global firms	d) MNC's
- 5) \_\_\_\_\_ is that rate at which one currency is exchanged for another.
 

a) fixed exchanged rate	b) foreign exchange rate
c) flexible rate	d) domestic rate
- 6) Most favoured nation treatment is the basic principle of \_\_\_\_\_.
 

a) GATT	b) WTO
c) IMF	d) IBRD
- 7) The term exercise price is related with \_\_\_\_\_.
 

a) futures	b) swaps
c) options	d) forwards
- 8) FDI means \_\_\_\_\_.
 

a) Flexible Direct Investment	b) Foreign Direct Investment
c) Full Direct Investment	d) None
- 9) Flexible Exchange Rate \_\_\_\_\_ as per requirement of the economy.
 

a) fixed	b) constant
c) varies	d) none
- 10) International finance corporation is one type of \_\_\_\_\_.
 

a) financial institution	b) development bank
c) Non banking com	d) Industrial corporation

**B) Give the name.****06**

- 1) World Trade Organisation headquarter is at \_\_\_\_\_.
- 2) The ASEAN was formed in \_\_\_\_\_.
- 3) The Economist Heckscher was which country \_\_\_\_\_.
- 4) Increases the competitive ability of the business \_\_\_\_\_.
- 5) India's economy is type of \_\_\_\_\_.
- 6) The finance minister of India \_\_\_\_\_.

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

- a) What is mean by International Business?
- b) What is mean by Joint Venture?
- c) Forms of FDI.
- d) What is mean by Balance of Payment?
- e) What is mean by MNC's?
- f) Objectives of ADB.
- g) E-commerce concept – B to B.
- h) Economic Union.
- i) Franchising concept.
- j) Full form of:
  - 1) SAFTA
  - 2) SAARC

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

- 1) What are the features of International Business?
- 2) What are the components of balance of payments?
- 3) What are the advantages of Globalization?

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

Import and Export Procedure

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

- 1) Define the problems of International Business.
- 2) What are the advantages of MNC's?
- 3) What are the objectives of GATT?

**B) Describe or Explain.****08**

Define Human Resources Module.

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

- a) What is mean by FDI? Which factors influencing on FDI?
- b) What are the features and trends of Foreign Trade Policy of India?
- c) What is Economic Union and give its functions in detail?

<b>Seat No.</b>	
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# ORGANIZATIONAL BEHAVIOR

Max. Marks: 80

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

10

- Page 1 of 2

- B) Answer in One Sentence. 06**
- 1) What is Structure?
  - 2) What is Behavior?
  - 3) Long for of WWW.
  - 4) Define Politics.
  - 5) Define Management.
  - 6) What is Electronic?
- Q.2 Solve any Eight of the following. 16**
- a) Write down Electronic Payment.
  - b) Write down thinking Memory.
  - c) What is Work Stress?
  - d) What is Perceptions?
  - e) What is Internet?
  - f) What is Electronic Market?
  - g) What is Security?
  - h) Write down job satisfaction.
  - i) Write down use of Industries.
- Q.3 A) Attempt any Two of the following. 10**
- 1) Explain the Evolution of Organization Behavior.
  - 2) Explain the type of Political Activity.
  - 3) Describe Source of Stress.
- B) Shorts Note on "Personality". 06**
- Q.4 A) Attempt any Two of the following. 08**
- 1) Explain the Nature & Scope in Organization Behavior.
  - 2) Explain the type of E-Commerce.
  - 3) Write down Individual and Interpersonal Behavior.
- B) Describe the following. 08**
- Explain the Nature, Importance of Motivation.
- Q.5 Attempt any Two of the following. 16**
- a) Explain the Maslow's and Goal Setting Theory.
  - b) What is power? Explain Sources and Tactics of Power.
  - c) Describe the Individual & Organization Behavior.

Seat No.	
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Set **P**

**B.Sc. (Entrepreneurship) (Semester - VI) (New) (CBCS) Examination:  
Oct/Nov-2022**

**TECHNIQUES IN INDUSTRIAL CHEMISTRY**

Day &amp; Date: Tuesday, 07-02-2023

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

- 1) The Zeolite is regenerated by soaking it in \_\_\_\_\_ solution.
 

a) 10%NaCl	b) 10% HCl
c) 10%NaOH	d) 10% H <sub>2</sub> SO <sub>4</sub>
- 2) The ratio of distance travelled by solute to that of solvent is known as \_\_\_\_\_.
 

a) Constant value	b) Partition coefficient
c) R <sub>f</sub> value	d) Capillary action
- 3) The residue left in the round bottom flask in the process of distillation is \_\_\_\_\_.
 

a) volatile	b) nonvolatile
c) both	d) none of the above
- 4) Titanium and aluminium materials can be classified under which of the following categories?
 

a) A	b) C
c) D	d) B
- 5) Paper chromatography is \_\_\_\_\_ form of chromatography.
 

a) liquid-gas	b) liquid-solid
c) liquid-liquid	d) all
- 6) Due to presence of Ca<sup>+</sup> and Mg<sup>2+</sup> ions water is \_\_\_\_\_.
 

a) potable	b) soft
c) normal	d) hard
- 7) \_\_\_\_\_ is an example of type fire A.
 

a) Wood	b) Oil
c) Electrical source	d) All of these
- 8) Fractional distillation is different from distillation because of the presence of \_\_\_\_\_.
 

a) fractionating column	b) condenser
c) distillation flask	d) conical flask
- 9) Soda ash fire extinguishers consists of \_\_\_\_\_ and acid.
 

a) NaHCO <sub>3</sub>	b) Na <sub>2</sub> CO <sub>3</sub>
c) NaOH	d) Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>
- 10) The silica gel is used in column chromatography as \_\_\_\_\_.
 

a) effluent	b) Column support
c) absorbent	d) adsorbent

**B) Fill in the blanks and complete the following sentence. 06**

- 1) Halon-1301 is also known as \_\_\_\_\_.
- 2) Most of the enzymatic reactions are in the range of pH \_\_\_\_\_.
- 3) Oil is an example of type fire \_\_\_\_\_.
- 4) In gas chromatography, the \_\_\_\_\_ is used as mobile phase.
- 5) Rectifying continuously is known as \_\_\_\_\_.
- 6) \_\_\_\_\_ type of fire extinguisher must not be used in case of electrical base.

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

- a) What are the different types of Chromatography?
- b) Define Friedel craft's alkylation reaction.
- c) Name the factors which affects the distillation.
- d) Write the class of fire extinguishers
- e) How Rf value can be calculated?
- f) What are the Microwave assisted reaction?
- g) Write the different adsorbents used in column chromatography.
- h) How will you prepare benzoic acid from toluene?
- i) Why carbon dioxide is used in fire extinguisher?
- j) How does fractional distillation separate crude oil?

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

- 1) What are the biocatalysts? Write the advantages of biocatalyst.
- 2) Describe the Soda acid extinguishers.
- 3) Draw the neat labeled diagram of continuous distillation and explain it.

**B) Write a note on oxidation of benzene to phenol and hydroquinone. 06**

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

- 1) Explain CO<sub>2</sub> as fire extinguisher.
- 2) What are the applications of TLC?
- 3) Write structure and uses of Zeolite.

**B) Describe in details how paper chromatography is carried out. 08**

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

- a) Give the brief description of the principle of fractional distillation.
- b) Explain the portable fire extinguishers and antifreeze extinguishers.
- c) Explain the High pressure liquid chromatography.

**B.Sc. (Entrepreneurship) (Semester - VI) (New) (CBCS) Examination  
Oct/Nov-2022  
GENETIC ENGINEERING**

Max. Marks: 80

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

## 10

- A gene produced for recombinant DNA technology contains a gene from one organism joined to the regulatory sequence of another gene. Such a gene is called \_\_\_\_\_.
  - oncogene
  - chimeric gene
  - junk gene
  - none
- Self-replicating, small circular DNA molecules present in bacterial cell are known \_\_\_\_\_.
  - Plasmids
  - Cosmids
  - Plasmomeros
  - plastids
- Which group of enzymes are popularly called “Molecular stichers”?
  - Restriction Endonuclease
  - Ligases
  - RNA polymerase
  - DNA polymerase
- RFLP is \_\_\_\_\_.
  - Renewed Fragment Length Polymorphism
  - Required Fragment Length Polymorphism
  - Restriction Fragment Length Polymorphism
  - Repeated Fragment Length Polymorphism
- The first human protein produced through recombinant DNA technology is \_\_\_\_\_.
  - insulin
  - erythropoietin
  - interferon
  - somatostatin
- Ti plasmids are found in \_\_\_\_\_.
  - Pseudomonas spp*
  - Mycoplasma*
  - E. coli*
  - Agrobacterium tumifaciens*
- \_\_\_\_\_ type of restriction enzyme most commonly used in r-DNA technology.
  - Type I
  - Type II
  - Type III
  - Type IV
- ‘Molecular scissors’ in genetic engineering are \_\_\_\_\_.
  - DNA polymerase
  - DNA ligase
  - Restriction endonuclease
  - Helicase



- 9) PCR stands for \_\_\_\_\_.  
 a) Polymerase chain reaction  
 b) Poly chain reaction  
 c) Both a and b  
 d) All of these
- 10) Western blotting is technique for detection of \_\_\_\_\_.  
 a) specific glycolipid in a sample  
 b) specific RNA in a sample  
 c) specific protein in a sample  
 d) specific DNA in a sample

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

- 1) Define vector in genetic engineering.
- 2) Write any two transgenic plant names.
- 3) Applications of DNA Fingerprinting.
- 4) Role of restriction endonuclease in genetic engineering.
- 5) Which type of restriction endonuclease is used in genetic engineering?
- 6) Give the any two name of DNA modifying enzymes.

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

- a) Write a note on BAC.
- b) Role of phosphatase and kinase in r-DNA technology.
- c) Explain the electroporation technique.
- d) Draw a neat and labelled diagram of p UC vector.
- e) Define probe and give its types.
- f) Write a note on edible vaccine.
- g) Define electrophoresis and give its types.
- h) Explain the concept protein engineering.
- i) Write a note on DNA polymerase.
- j) Write a note on cosmid.

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

- 1) Define the nuclease and explain the types of Restriction endonucleases.
- 2) Explain the liposome mediated gene transfer technique.
- 3) Describe the microarray technique.

**B) Short note/Solve 06**

Explain in detail the various gene transfer techniques.

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

- 1) Write a note on expression vectors.
- 2) Explain the PCR techniques and its applications.
- 3) Write a note on Recombinant vaccine.

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

Explain the agarose gel electrophoresis and give its application.

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

- a) Explain the SDS- PAGE and give its applications.
- b) Explain in detail the Southern and Northern blotting.
- c) Describe in detail the Sangers method of DNA sequencing.

Seat No.	
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Set **P**

**B.Sc. (Entrepreneurship) (Semester - VI) (New) (CBCS) Examination:  
Oct/Nov-2022**

**TECHNIQUES IN PLANT TISSUE CULTURE**

Day & Date: Wednesday, 08-02-2023  
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) Use of logarithmic table and calculator is allowed.  
4) Draw neat labelled diagrams wherever necessary.

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

**10**

- 1) \_\_\_\_\_ is the advantage of animal tissue culture.
  - a) It is cost effective
  - b) No skilled personnel is required
  - c) Tissue culture can be stored after long time
  - d) Maintenance of environmental conditions is easy
- 2) \_\_\_\_\_ is the primary equipment required for animal tissue culture laboratories.
  - a) Glassware
  - b) Laminar air flow
  - c) Sterilizer
  - d) all of these
- 3) What is the cell line?
  - a) Multilayer culture
  - b) Transformed cells
  - c) Multiple growth of cells
  - d) Sub culturing of primary culture
- 4) Haploid plants can be obtained from \_\_\_\_\_.
  - a) Anther culture
  - b) Pollen culture
  - c) leaf culture
  - d) Root culture
- 5) \_\_\_\_\_ solidifying agent is used to plant tissue culture.
  - a) Nicotinic acid
  - b) Cobalt chloride
  - c) Agar
  - d) EDTA
- 6) Plant tissue culture is artificial method of \_\_\_\_\_.
  - a) Hybridization
  - b) Vegetative propagation
  - c) Asexual reproduction
  - d) Selection
- 7) Cellular totipotency is the property of \_\_\_\_\_.
  - a) Plants
  - b) Animals
  - c) Bacteria
  - d) all of these
- 8) Animal cell culture are used widely for production of \_\_\_\_\_.
  - a) Insulin
  - b) Somatostatin
  - c) Mabs
  - d) Thyroxine
- 9) \_\_\_\_\_ is the concentration of CO<sub>2</sub> required for culturing animal cell.
  - a) 2-5%
  - b) 10-15%
  - c) 1-10%
  - d) 15-20%

10) Which breeding method is uses a chemical to strip the cell of plant cell of two sexual incompatible species?

- a) Mass selection
- b) Protoplast fusion
- c) Transformation
- d) Transpiration

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

- 1) Natural Media
- 2) Complete Media
- 3) Surface Sterilization
- 4) Physical Method
- 5) Haploid
- 6) Cytokinin

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

- a) Write note on Concept of cell theory.
- b) Write note on Growth of suspension culture.
- c) Explain in brief Culture room.
- d) Write note on Principle Protoplast fusion.
- e) Explain in brief Inoculum room.
- f) Write note on Principal of callus culture.
- g) Explain in brief Pollen culture.
- h) Explain in brief Mechanical Method.
- i) Write note on Morphology of callus culture.
- j) Explain in brief Sterilization of animal media.

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

- 1) History of animal tissue culture.
- 2) Define Anther culture and factors affecting anther culture.
- 3) Types of organ culture in animal tissue culture.

**B) Write Short Note 06**

Principal and application of shoot tip culture.

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

- 1) Explain in brief Cell Monitoring.
- 2) Write callus culture application and limitations.
- 3) Explain in brief Concept of Embryo culture.

**B) Explain Laboratory organization of animal tissue culture. 08**

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

- a) Describe in detail Serum containing media and physicochemical properties of media.
- b) Draw the structure Autoclave and its Principle & Application.
- c) Explain the Micropropagation and its Stages, Applications.

<b>Seat No.</b>	
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**B.Sc. (Entrepreneurship) (Semester - VI) (Old) (CBCS) Examination:  
Oct/Nov-2022  
ENGLISH  
Literary Quest**

Day & Date: Tuesday, 28-03-2023  
Time: 03:00 PM To 05:30 PM

Max. Marks: 70

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

**Q.1 Choose the correct alternatives from the options. 14**

- 1) 'Values in Life' is a speech delivered by Kipling before a group of university students in \_\_\_\_\_.  
a) Canada  
b) England  
c) Scotland  
d) Ireland
- 2) 'Don't be \_\_\_\_\_' is the message delivered by Kipling.  
a) selfish  
b) liar  
c) smart  
d) thief
- 3) Shaw is addressing to \_\_\_\_\_ students in 'Spoken English and Broken English'.  
a) native  
b) foreign  
c) British  
d) common
- 4) According to Shaw, if foreigners want to be understood by the British people, they should not try and speak \_\_\_\_\_ English.  
a) perfect  
b) broken  
c) incorrect  
d) bad
- 5) When the grandmother died, the house withdrew into \_\_\_\_\_.  
a) silence  
b) noise  
c) darkness  
d) happiness
- 6) O Captain! my Captain! rise up and hear the \_\_\_\_\_.  
a) song  
b) music  
c) bells  
d) sounds
- 7) 'All that is best of \_\_\_\_\_ and \_\_\_\_\_ meet in the woman's aspects and her eyes,' according to Byron.  
a) day and night  
b) day and bright  
c) dark and bright  
d) dark and night
- 8) Upagupta was the disciple of \_\_\_\_\_.  
a) Buddha  
b) Tagore  
c) Ashoka  
d) None of the above
- 9) \_\_\_\_\_ is the synonym for 'cheat'.  
a) honest  
b) serene  
c) deceive  
d) dexterity
- 10) 'Wax' is the antonym for \_\_\_\_\_.  
a) fax  
b) wane  
c) dewax  
d) decline

- 11) \_\_\_\_\_ is the antonym for 'folly'.
- |           |            |
|-----------|------------|
| a) Wisdom | b) Silly   |
| c) Clear  | d) Mistake |
- 12) \_\_\_\_\_ is the synonym for 'remote'.
- |           |            |
|-----------|------------|
| a) Wet    | b) Shadow  |
| c) Mobile | d) Distant |
- 13) \_\_\_\_\_ is the synonym for 'novel'.
- |          |          |
|----------|----------|
| a) New   | b) Prize |
| c) Medal | d) Old   |
- 14) \_\_\_\_\_ is the antonym for 'eager'.
- |           |              |
|-----------|--------------|
| a) Meager | b) Sugar     |
| c) Sad    | d) Reluctant |

**Q.2 Answer any four of the following questions. 16**

- Comment on the subject matter of the poem 'My Grandmother's House'.
- What is the speaker's desire in the poem 'My Grandmother's House'?
- What awaits the Captain in the poem 'O Captain! My Captain!'?
- Analyze the metaphors used in the poem 'O Captain! My Captain!'.
- Comment on the beauty of the woman described in the poem 'She Walks in Beauty'.
- Comment on the theme of the poem 'Upagupta'.

**Q.3 Answer any two of the following questions. 12**

- What will happen when you will meet a man who does not want money, according to Kipling?
- How should a foreigner speak when he/she wants to communicate or ask for directions, according to Shaw?
- What is meant by Prefix? Give four examples of prefixes.
- What is meant by Suffix? Give four examples of suffixes.

**Q.4 Answer any one of the following questions. 14**

What is meant by leadership Skills? Comment on qualities of a good leader.

**OR**

What are the techniques one should follow to become an effective team member?

**Q.5 Write in detail about how to manage your time in a better way. 14**

Seat No.	
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Set **P**

**B.Sc. (Entrepreneurship) (Semester - VI) (Old) (CBCS) Examination:  
Oct/Nov-2022  
International Business**

Day & Date: Monday, 27-03-2023  
Time: 03:00 PM To 05:30 PM

Max. Marks: 70

**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. 14**

- 1) \_\_\_\_\_ is the exchange of goods and services between the two countries, across their international borders.
 

a) International Trade	b) Domestic Trade
c) Illegal Trade	d) Future Market
- 2) WTO was established on \_\_\_\_\_.
 

a) 1945	b) 1995
c) 1955	d) 1992
- 3) World's largest trading Block is \_\_\_\_\_.
 

a) NAFTA	b) SAFTA
c) AFTA	d) SAARC
- 4) \_\_\_\_\_ refers to a process of increasing economic integration and growing economic interdependence between countries in the world economy.
 

a) Liberalisation	b) Privatisation
c) Globalisation	d) Multinational Company
- 5) \_\_\_\_\_ is a contract under which a firm agrees to fully design, construct and equip a manufacturing or business or service facility and turn the project to the purchaser ready for operation for remuneration.
 

a) Franchising	b) Management Contract
c) Turnkey Project	d) Joint Venture
- 6) SAP SE is \_\_\_\_\_ multinational software company.
 

a) Indian	b) Chinese
c) German	d) American
- 7) EXIM policy is also called as \_\_\_\_\_.
 

a) Foreign trade Policy	b) Export Policy
c) Import Policy	d) Trade Policy
- 8) The General Agreement on Tariff and Trade was replaced by \_\_\_\_\_.
 

a) North American Free Trade Agreement
b) Association of South East Asian Nations
c) World Trade Organisation
d) Multilateral Agreement
- 9) A tax imposed on certain type of imported goods is \_\_\_\_\_.
 

a) A tariff	b) A surcharge
c) A goods and service tax	d) A quota

- 10)** Balance of payments of a country includes \_\_\_\_\_.  
a) Capital Account                      b) Current Account  
c) Official Reserve Account          d) All the above
- 11)** \_\_\_\_\_ is popularly known as World Bank.  
a) IMF                                        b) WTO  
c) IBRD                                      d) ADB
- 12)** NAFTA stands for \_\_\_\_\_.  
a) North African Free Trade Association  
b) North American Free Trade Agreement  
c) North Asian Free Trade Area  
d) North Asian Free Trade Association
- 13)** Bill of Lading is issued by the \_\_\_\_\_.  
a) Captain of the vessel                b) Shipping company  
c) Customs authorities                  d) Consignor
- 14)** The apex body of the Foreign Trade is \_\_\_\_\_.  
a) The Central Government            b) The State Government  
c) The Ministry of Commerce         d) All the above

**Q.2 A) Define and explain the following. (Any Four) 08**

- 1) Define Joint Venture.
- 2) Define Trade Bloc.
- 3) What is letter of credit?
- 4) What is globalization?
- 5) Define FDI.

**B) Write short notes on (Any Two)** **06**

- 1) Explain nature of international business.
- 2) Explain licensing.
- 3) Explain Free Trade Area.

**Q.3 A) Answer the following questions. (Any Two) 08**

- 1) Explain mercantilism theory of international business.
- 2) Explain importance of international business.
- 3) What is B2B and B2C business model in ecommerce?

**B) Answer the following questions. (Any One)** **06**

- 1) Explain various SAP modules.
- 2) Explain problems of international business.

**Q.4 A) Answer the following questions. (Any Two) 10**

- 1) Explain components of balance of payment.
- 2) Explain role of MNCs in economic development.
- 3) Explain types of trade blocs.

**B) Answer the following questions. (Any One)** **04**

- 1) Explain drivers of globalization.
- 2) Explain functions of WTO.

**Q.5 Answer the following questions. (Any Two) 14**

- Explains modes of entering into international business.
- Explain advantages and disadvantages of globalization.
- Explain import / export procedure.

**B.Sc. (Entrepreneurship) (Semester - VI) (Old) (CBCS) Examination:  
Oct/Nov-2022**

## Max. Marks: 70

14

- Page 1 of 2



- 12) \_\_\_\_\_ is the fore of action or Motivation.  
a) Behavior                                      b) Stimulus  
c) Perception                                  d) Attitude
- 13) \_\_\_\_\_ is a study of individual Behavior.  
a) Anthropology                                b) Psychology  
c) Political Science                          d) Sociology
- 14) The job satisfaction of employee depends on the \_\_\_\_\_.  
a) Behavior                                      b) Attitude  
c) Personality                                  d) Employee

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

- 1) Define organization.
- 2) Define Industries.
- 3) What is Politics?
- 4) What is Motivation?
- 5) Define E-Commerce.

**B) Write notes on the following. (Any Two) 06**

- 1) Evolution of OB.
- 2) Security Requirement.

**Q.3 A) Answer the following. (Any Two) 08**

- 1) Write down uses of Industries.
- 2) Write down determinants of group behavior.
- 3) Difference between Traditional Commerce and E-commerce.

**B) Answer the following. (Any One)** **06**

- 1) What is Power? Explain the Source of Power?
- 2) What is Perceptions? Write down perceptual process.

**Q.4 A) Answer the following. (Any Two) 10**

- 1) Write down Theory of Motivation "Maslews".
- 2) Write down Theory of Motivation "Hereberg".
- 3) What is Stress? Write down sources of Stress?

**B) Answer the following. (Any One)** **04**

- 1) What is Group? Write down type of Groups.
- 2) Explain the Jon Satisfaction.

**Q.5 Answer the following. (Any Two) 14**

- What is Personality? Write down Maslos and Trait Theory.
- Explain the Modes of E-Commerce.
- Difference between E-Cash and E-Payment.

Set P

- 12) In paper chromatogram the basic material used is \_\_\_\_\_.  
a) cellulose                                      b) cotton  
c) pulp    d) starch
- 13) Green chemistry containing mainly \_\_\_\_\_ principles.  
a) 8    b) 14  
c) 16    d) 12
- 14) Biocatalytical reactions are catalysed by \_\_\_\_\_.  
a) alcohol    b) carbohydrates  
c) enzyme                                         d) protein

**Q.2 A) Answer any four of following. 08**

- 1) Give faradays law of electrolysis
- 2) Name different types of fire extinguisher
- 3) Define zeolite. Give its stretcher.
- 4) How Rf value is calculated.
- 5) What is portable fire extinguisher?

**B) Answer any two of following. 06**

- 1) Describe microwave assisted reactions.
- 2) Describe electrolysis.
- 3) Explain packing of column in gas chromatography.

**Q.3 A)** Answer any tow of following **08**

- 1) Explain antifreeze extinguisher.
- 2) Explain uses of TLC.
- 3) Write note on HPLC

**B) Answer any one of following. 06**

- 1) Explain nickel electroplating.
- 2) Explain thin layer chromatography.

**Q.4 A) Answer any two of following. 10**

- 1) What do you understand the term biocatalytic hydroxylation?
- 2) Explain Anodising.
- 3) explain principle & experimental procedure for paper chromatography.

**B) Answer any one of following. 04**

- 1) Write note on soda ash extinguisher.
- 2) Cleaning of article explain in brief.

**Q.5 Answer any two of following. 14**

- Give 12 principles of green chemistry.
- Explain alkylation & acylation reactions.
- What are bio catalyst? Write advantages & disadvantages of biocatalyst.

<b>Seat No.</b>	
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- 10) Which of the following is not restriction endonuclease?
  - a) Eco RI
  - b) DNA ligase
  - c) Hind III
  - d) None of these
- 11) DNA staining is done by \_\_\_\_\_.
  - a) Crystal violet
  - b) Giemsa stain
  - c) Feulgen stain
  - d) Methylene blue
- 12) Nick translation is done by \_\_\_\_\_.
  - a) Kinase
  - b) DNA polymerase I
  - c) DNA polymerase II
  - d) DNA ligase
- 13) The uptake of plasmid DNA into bacterial cell is facilitated in presence of \_\_\_\_\_.
  - a) Calcium chloride
  - b) Magnesium chloride
  - c) Potassium chloride
  - d) All of these
- 14) \_\_\_\_\_ are the Molecular Scissors' of genetic engineering.
  - a) Restriction endonuclease
  - b) Endonucleases
  - c) Polymerase
  - d) Isomerase

**Q.2 A) Define and explain. (Any Four) 08**

- 1) Define Microinjection.
- 2) Define PCR.
- 3) Define Chromosome jumping.
- 4) Define recombinant vaccine.
- 5) What is Transgenic plant?

**B) Write short note. (Any Two)** **06**

- 1) Define plasmid and its application.
- 2) Explain in brief Western blotting.
- 3) Write short note on Chromosome Walking.

**Q.3 A) Answer the following questions. (Any Two) 08**

- 1) Explain SDS-PAGE.
- 2) Write note on microarray analysis.
- 3) Explain Cosmid and BAC vector.

**B) Answer the following questions. (Any One)** **06**

- 1) Discuss Southern blotting.
- 2) Explain Bacteriophage lambda and M13 vector.

**Q.4 A) Answer the following questions (Any Two) 10**

- 1) Explain DNA modifying enzyme and their application.
- 2) Write note on Colony hybridization and colony PCR.
- 3) Explain Gene delivery with Microinjection and Electroporation.

**B) Answer the following questions. (Any One)** **04**

- 1) Explain Northern blotting.
- 2) Explain transgenic plant Bt cotton.

**Q.5 Answer the following questions. (Any Two) 14**

- Describe engineering and site directed mutagenesis.
- Explain DNA polymerase with trasferase and kinase phoshotases.
- Singer's method of DNA sequencing'.

## Max. Marks: 70

14

- Page 1 of 2

- 10) Murashige and Skoog invented \_\_\_\_\_.  
 a) root culture  
 b) tissue culture medium  
 c) Virus-free Dahlia and potato plants  
 d) test-tube fertilization in flowering plants
- 11) Auxins and Cytokinins are \_\_\_\_\_.  
 a) growth hormones  
 b) antibiotics  
 c) salts  
 d) energy sources
- 12) \_\_\_\_\_ PGR inhibits plant metabolism and seed germination.  
 a) Ethylene  
 b) Cytokinins  
 c) Absciscic acid  
 d) Gibberellins
- 13) Male gametophyte of angiosperms/monocots is \_\_\_\_\_.  
 a) microporangium  
 b) nucellus  
 c) microspore  
 d) stamen
- 14) The plant part used for tissue culture is known as \_\_\_\_\_.  
 a) tissue  
 b) organ  
 c) callus  
 d) explant

**Q.2 A) Answer any four of the following questions. 08**

- 1) What is natural nutrient media?
- 2) What is enzyme?
- 3) What is totipotency?
- 4) What is meristem culture?
- 5) What is PGR?

**B) Write short notes. (Any Two) 06**

- 1) Serum free media
- 2) Primary culture
- 3) Cell theory

**Q.3 A) Answer any two of the following questions. 08**

- 1) Explain in brief root tip culture.
- 2) Describe in brief sterilization of nutrient media.
- 3) Write in brief cell synchronization.

**B) Answer any one of the following questions. 06**

- 1) Write in brief callus culture.
- 2) Explain in brief ovary and ovule culture.

**Q.4 A) Answer any two of the following questions. 10**

- 1) Describe in detail characteristics of animal cell in culture.
- 2) Explain in detail cell line establishment process.
- 3) Write in detail suspension culture.

**B) Answer any one of the following questions. 04**

- 1) Explain in brief Anther and Pollen Culture.
- 2) Describe in brief tissue culture laboratory design.

**Q.5 Answer any two of the following questions. 14**

- a) Write an essay on cell separation methods.
- b) Describe in detail micro propagation.
- c) Explain in detail cell counting and monitoring methods.

<b>Seat No.</b>		<b>Marks Obtained</b>		<b>Signature of Examiner</b>		<b>Signature of Junior Supervisor</b>	
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**B.Sc. (Entrepreneurship) (Semester - II) (New) (First Year) Examination:  
Oct/Nov-2022**

**DEMOCRACY, ELECTIONS AND GOOD GOVERNANCE**

Day & Date: Sunday, 12-02-2023  
Time: 12:00 PM to 02:00 PM

Max. Marks: 50

सूचना : 1) सर्व प्रश्न अनिवार्य आहेत.  
2) उजवीकडील अंक गुण दर्शवतात.

**Answer**

**प्र.1 योग्य पर्याय निवडा.**

1. महाराष्ट्रातील स्थानिक स्वराज्य संस्थांमध्ये महिलांसाठी किती जागा राखीव आहेत?

अ) 50%

ब) 33%

क) 25%

ड) 70%

2. ——— हे भारताचे सध्याचे मुख्य निवडणूक आयुक्त आहेत.

अ) सुनिल अरोरा

ब) तामिळ सेल्वम

क) के. उन्नीकृष्णन

ड) रामनाथ कोविंद

3. भारतीय राज्यघटनेत मूलभूत हक्कांचा समावेश ——— भागात करण्यात आला आहे.

अ) तिसऱ्या

ब) घटनादुरुस्ती

क) त्याहत्तराव्या

ड) सारांश

4. अप्रत्यक्ष लोकशाहीला ——— लोकशाही असेही म्हटले जाते.

अ) वाईट

ब) प्रातिनिधिक

क) नकारात्मक

ड) सकारात्मक

5. जर भारतात कोणी व्यक्ती किंवा राज्यसंस्थेने मूलभूत हक्कांवर बंधने आणली तर नागरिकांना ——— दाद मागता येते.

अ) सर्वोच्च आणि उच्च न्यायालय

ब) संसदेत

क) सरकारकडे

ड) ग्रामसभेत

6. सामाजिक लोकशाहीचे उद्दिष्ट ——— प्रोत्साहन देणे होय.

अ) सामाजिक न्यायाला

ब) नोकरशाहीला

क) श्रीमंत लोकांना

ड) सुशिक्षितांना

7. भारतीय राज्यघटनेत किती मूलभूत अधिकारांचा समावेश करण्यात आला आहे.

अ) सहा

ब) एक

क) दहा

ड) बारा



8. आदिवासी रोजंदारीवरील कामगार, मच्छिमार, बांधकाम मजूर यांचा समावेश भारताच्या ——— समूहांमध्ये होतो.

अ) पुढारलेल्या

ब) वंचित

क) सत्ताधारी

ड) यापैकी सर्व

☐

9. प्रातिनिधिक लोकशाहीत ——— प्रक्रिया शासन आणि जनतेला जोडते.

अ) भ्रष्टाचार

ब) हुकूमशाही

क) निवडणूक

ड) अर्थशास्त्र

☐

10. प्रत्यक्ष लोकशाही इसवी सन पूर्व तिसऱ्या शतकात ——— येथे सुरु झाली.

अ) भारत

ब) इंग्लंड

क) अथेन्स

ड) अमेरिकेची संयुक्त संस्थाने

☐

11. खालीलपैकी कोणता अधिकार भारतीय राज्यघटनेमधील मूलभूत अधिकार आहे?

अ) शिक्षणाचा अधिकार

ब) संप करण्याचा अधिकार

क) संपत्तीचा अधिकार

ड) क्रांती करण्याचा अधिकार

☐

12. ——— ही तळपातळीवरील संसदेची छोटी प्रतिकृती आहे.

अ) लोकसभा

ब) विधानपरिषद

क) ग्रामसभा

ड) राज्यसभा

☐

13. सुशासनासाठी ——— हे आवश्यक आहे.

अ) केंद्रीकरण

ब) खाजगीकरण

क) लोकसहभाग

ड) दंगा नियंत्रक पोलीस

☐

14. भारतीय मतदार ——— सदस्य प्रत्यक्षपणे निवडतात.

अ) राज्यसभेचे

ब) लोकसभेचे

क) विधान परिषदेचे

ड) निवडणूक आयोगाचे

☐

15. 73 वी आणि 74 वी घटना दुरुस्ती ——— सरकारशी संबंधित आहेत.

अ) केंद्र

ब) राष्ट्रीय

क) राज्य

ड) स्थानिक

☐

16. लोकशाहीला घटनात्मक शासन असेही म्हटले जाते, याचा अर्थ ——— राज्य असा होतो.

अ) शक्तीचे

ब) कायद्याचे

क) सत्ताधारी शक्तीच्या लहरीप्रमाणे

ड) हुकूमशहाचे

☐

17. सार्वजनिक उत्तरदायित्व म्हणजे प्रातिनिधीने लोकांना ——— असणे होय.

अ) विरोधी

ब) बेजबाबदार

क) जबाबदार

ड) यापैकी सर्व

☐

18. स्वातंत्र्य, समता आणि बंधुता ही ——— लोकशाहीची मुख्य मूल्ये आहेत.

अ) जुन्या

ब) ग्रीक

क) सामाजिक

ड) परदेशी

☐

19. ज्या राजकीय प्रक्रियेद्वारे केंद्र सरकारकडून स्थानिक सरकारकडे प्रशासकीय अधिकार आणि जबाबदाऱ्या हस्तांतरित केल्या जातात त्याला ——— असे म्हणतात.  
 अ) विकेंद्रिकरण ब) केंद्रीकरण  
 क) हुकूमशाही ड) हस्तक्षेप
20. राजकारणाने गुन्हेगारीकरण हे भारतीय लोकशाहीपुढील मुख्य ——— आहे.  
 अ) गरज ब) आव्हान  
 क) पात्रता ड) देणगी
21. भारतात राजकीय सहभागाच्या संधी ——— मर्यादित असतात.  
 अ) महिलांना ब) नेत्यांना  
 क) श्रीमंत लोकांना ड) यापैकी नाही
22. लोकसभेत ——— सदस्य आहेत आणि ते प्रत्यक्ष पद्धतीने निवडले जातात.  
 अ) 555 ब) 250  
 क) 288 ड) 543
23. सोलापूर शहर हे ——— कार्यक्षेत्रात येते.  
 अ) महानगरपालिकेच्या ब) ग्रामपंचायतीच्या  
 क) नगरपरिषदेच्या ड) पंचायत समितीच्या
24. भारतातील स्थानिक स्वराज्य संस्थांमधील एक तृतीयांश जागा ——— राखीव असतात.  
 अ) महिलांसाठी ब) मच्छिमारांसाठी  
 क) स्थलांतरित मजुरांसाठी ड) बांधकाम मजुरांसाठी
25. महाराष्ट्र विधानसभेत ——— सदस्य निवडून येतात.  
 अ) 75 ब) 200  
 क) 288 ड) 388
26. भारतातील शासन पद्धतीमध्ये ——— स्तर आहेत.  
 अ) चार ब) तीन  
 क) दोन ड) पाच
27. उत्तरदायित्व आणि पारदर्शकता ही दोन तत्वे ——— याच्याशी संबंधित आहेत.  
 अ) वॉर्ड शासन ब) जुने शासन  
 क) झुंडशाही ड) सुशासन
28. भारतीय नागरिकांना माहितीच्या अधिकाराद्वारे ——— माहिती मागविता येते.  
 अ) खाजगी कंपन्यांकडून ब) सरकारी अधिकाऱ्यांकडून  
 क) बहुराष्ट्रीय कंपन्यांकडून ड) यापैकी सर्व
29. शिक्षणाच्या अधिकाराद्वारे राजसंस्थेने ——— या वयोगटातील बालकांना शाळेत नाव नोंदविले आहे याची खात्री करून घेणे आवश्यक बनले आहे.  
 अ) 6 ते 14 ब) 1 ते 5  
 क) 15 ते 20 ड) यापैकी नाही



41. प्रत्यक्ष लोकशाहीलाच ——— लोकशाही असेही म्हणतात.  
 अ) सहभागी ब) प्रातिनिधीक  
 क) नवीन ड) नकारात्मक ☐
42. लोकशाहीमध्ये विधिमंडळ, मंत्रिमंडळ आणि इतर समितीमधील प्रश्न सोडविण्यासाठी ——— हे तत्व वापरतात.  
 अ) अल्पमताचे नियम ब) बहुमताचा नियम  
 क) नेतृत्व ड) हुकूमशाही ☐
43. डॉ.आंबेडकर यांनी ——— लोकशाहीचा पुरस्कार केला.  
 अ) प्रत्यक्ष ब) सामाजिक  
 क) प्राचीन ड) आधुनिक ☐
44. महाराष्ट्र गांधी राष्ट्रीय ग्रामीण रोजगार हमी कायदा हे ——— योजनेचे उदाहरण आहे.  
 अ) राजकीय ब) सामाजिक कल्याण  
 क) लोकप्रिय ड) निवडणूक ☐
45. खालीलपैकी कोणते लोकशाहीचे तत्व नाही?  
 अ) सहमतीने शासन ब) सार्वजनिक उत्तरदायित्व  
 क) कायद्याचे राज्य ड) हुकूमशाही ☐
46. भारतात खुल्या आणि न्यायपूर्ण निवडणूक सातत्याने घेतल्या गेल्या. याला ——— हे वर्ष अपवाद होते.  
 अ) 2014  
 ब) 1976  
 क) 1967  
 ड) 2000 ☐
47. बलवंतराय मेहता आणि अशोक मेहता समिती या भारतातील ——— या घटकाशी संबंधित आहेत.  
 अ) जी.एस.टी ब) संसद  
 क) राज्य सरकार ड) पंचायती राज्य संस्था ☐
48. अर्थशास्त्र या प्राचीन भारतीय ग्रंथात सुशासनाची तत्वे सांगितली आहेत. अर्थशास्त्राचा लेखक कोण?  
 अ) रामचंद्रन ब) कौटिल्य  
 क) मंडन मिश्र ड) कालिदास ☐
49. स्वातंत्र्य, समता आणि बंधुता हा ——— राज्यक्रांतीचा नारा होता.  
 अ) इंडोनेशियन ब) फ्रेंच  
 क) अमेरिकन ड) रशियन ☐
50. ——— हे अधिकार पारदर्शकता आणि उत्तरदायित्वाचे उदाहरण आहे.  
 अ) माहितीचा ब) संपत्तीचा  
 क) एकत्र येण्याचा ड) धार्मिक ☐

<b>Seat No.</b>		<b>Marks Obtained</b>		<b>Signature of Examiner</b>		<b>Signature of Junior Supervisor</b>	
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**B.Sc. (Entrepreneurship) (Semester - II) (New) (First Year) Examination:  
Oct/Nov-2022**

## DEMOCRACY, ELECTIONS AND GOOD GOVERNANCE

Day & Date: Sunday, 12-02-2023

Max. Marks: 50

Time: 12:00 PM to 02:00 PM

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

### Answer

**Q.1 Choose the correct option and rewrite the sentence.**

- 1) How many seats are reserved for women in Local self government in Maharashtra?

- a) 50%                      b) 33%
- c) 25%                      d) 70%

7

- 2)** is the present Chief Election Commissioner of India.

- a) Sunil Arora                      b) Tamil Selvam  
c) K. Unnikrishnan                d) Ramnath Kovind

7

- 3) In India, Fundamental Rights are enshrined in \_\_\_\_\_ of the constitution.**

- a) Part III
- b) Amendment
- c) Part 73
- d) Summary

7

- 4) Indirect Democracy is also called as** representative **democracy.**

- a) bad                                  b) representative  
c) negative                         d) positive

7

- 5) If the fundamental rights in India are abridged by any individual or the state, any citizen can move the**

- a) Supreme Court & High Courts  
b) Parliament  
c) Government  
d) Gramsabha

7

- 6) Social democracy aims to promote**

- a) social justice                      b) bureaucracy  
c) rich people                         d) educated

7

- 7) How many fundamental rights are included in the Indian Constitution?**

- a) Six  
b) One  
c) Ten  
d) Twelve

7

- 8) Casual workers, Fisher folks, Construction labourers are considered as sections in India.**

- a) advanced                      b) marginalized  
c) ruling                         d) all of these

7

- 9) In representative democracy the process of \_\_\_\_\_ links the government and the people.
- |               |                 |                          |
|---------------|-----------------|--------------------------|
| a) corruption | b) dictatorship | <input type="checkbox"/> |
| c) election   | d) economics    |                          |
- 10) Direct democracy was started in \_\_\_\_\_ in 3<sup>rd</sup> century B.C.
- |           |            |                          |
|-----------|------------|--------------------------|
| a) India  | b) England | <input type="checkbox"/> |
| c) Athens | d) U.S.A.  |                          |
- 11) Which one of the following is the fundamental right in Indian constitution?
- |                       |                    |                          |
|-----------------------|--------------------|--------------------------|
| a) Right to Education | b) Right to Strike | <input type="checkbox"/> |
| c) Right to Property  | d) Right to Revolt |                          |
- 12) \_\_\_\_\_ is miniature of the Parliament of India at the grassroots level.
- |              |                   |                          |
|--------------|-------------------|--------------------------|
| a) Loksabha  | b) Vidhanparishad | <input type="checkbox"/> |
| c) Gramsabha | d) Rajysabha      |                          |
- 13) \_\_\_\_\_ is necessary for the good governance.
- |                         |                        |                          |
|-------------------------|------------------------|--------------------------|
| a) Centralization       | b) Privatization       | <input type="checkbox"/> |
| c) Public Participation | d) Riot Control Police |                          |
- 14) Indian voters directly elect the members of \_\_\_\_\_
- |                    |                        |                          |
|--------------------|------------------------|--------------------------|
| a) Rajysabha       | b) Loksabha            | <input type="checkbox"/> |
| c) Vidhan Parishad | d) Election Commission |                          |
- 15) The 73<sup>th</sup> and 74<sup>th</sup> constitutional amendments are related to the \_\_\_\_\_ government.
- |            |             |                          |
|------------|-------------|--------------------------|
| a) central | b) national | <input type="checkbox"/> |
| c) state   | d) local    |                          |
- 16) Democracy is also considered as the constitutional government which means government by \_\_\_\_\_ rather than by men.
- |                                   |             |                          |
|-----------------------------------|-------------|--------------------------|
| a) force                          | b) law      | <input type="checkbox"/> |
| c) whims and fancies of the ruler | d) dictator |                          |
- 17) Public Accountability means the representative must remain \_\_\_\_\_ to the people
- |               |                  |                          |
|---------------|------------------|--------------------------|
| a) opposite   | b) irresponsible | <input type="checkbox"/> |
| c) answerable | d) all of these  |                          |
- 18) Freedom, equality and fraternity are the core values of \_\_\_\_\_ democracy.
- |           |            |                          |
|-----------|------------|--------------------------|
| a) Old    | b) Greek   | <input type="checkbox"/> |
| c) Social | d) Foreign |                          |
- 19) The political process by which the administrative authority and responsibilities are transferred from central government to the local government is known as \_\_\_\_\_
- |                     |                          |
|---------------------|--------------------------|
| a) Decentralization | <input type="checkbox"/> |
| b) Centralization   |                          |
| c) Dictatorship     |                          |
| d) Interference     |                          |
- 20) Criminalization of politics is the basic \_\_\_\_\_ before the democracy in India.
- |                  |              |                          |
|------------------|--------------|--------------------------|
| a) need          | b) challenge | <input type="checkbox"/> |
| c) qualification | d) boon      |                          |

- 21) The opportunities for political participation are minimal to \_\_\_\_\_ in India
- |                |                  |                          |
|----------------|------------------|--------------------------|
| a) women       | b) leaders       | <input type="checkbox"/> |
| c) rich people | d) none of these |                          |
- 22) Loksabha has \_\_\_\_\_ members which are directly elected by the people.
- |        |        |                          |
|--------|--------|--------------------------|
| a) 555 | b) 250 | <input type="checkbox"/> |
| c) 288 | d) 543 |                          |
- 23) Solapur city comes under the jurisdiction of \_\_\_\_\_.
- |                          |                      |                          |
|--------------------------|----------------------|--------------------------|
| a) Municipal Corporation | b) Village Panchayat | <input type="checkbox"/> |
| c) Municipal Council     | d) Panchayat Samiti  |                          |
- 24) In the local governments of India one third of the seats are reserved for \_\_\_\_\_.
- |                     |                         |                          |
|---------------------|-------------------------|--------------------------|
| a) women            | b) fisher folks         | <input type="checkbox"/> |
| c) migrated workers | d) construction workers |                          |
- 25) There are \_\_\_\_\_ elected members in Maharashtra Vidhansabha.
- |        |        |                          |
|--------|--------|--------------------------|
| a) 75  | b) 200 | <input type="checkbox"/> |
| c) 288 | d) 388 |                          |
- 26) There are \_\_\_\_\_ tiers of Indian government.
- |         |          |                          |
|---------|----------|--------------------------|
| a) Four | b) Three | <input type="checkbox"/> |
| c) Two  | d) Five  |                          |
- 27) The principles of accountability and transparency are related to the \_\_\_\_\_.
- |                   |                    |                          |
|-------------------|--------------------|--------------------------|
| a) bad governance | b) old governance  | <input type="checkbox"/> |
| c) mobocracy      | d) good governance |                          |
- 28) Indians can seek information from \_\_\_\_\_ under the Right to Information Act.
- |                            |                         |                          |
|----------------------------|-------------------------|--------------------------|
| a) private companies       | b) government officials | <input type="checkbox"/> |
| c) multinational companies | d) all of these         |                          |
- 29) The Right to Education makes it mandatory for the state to ensure that all children of the \_\_\_\_\_ age group enroll themselves in schools.
- |             |                  |                          |
|-------------|------------------|--------------------------|
| a) 6 to 14  | b) 1 to 5        | <input type="checkbox"/> |
| c) 15 to 20 | d) none of these |                          |
- 30) Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) is one step towards implementing the provision of \_\_\_\_\_
- |                         |                       |                          |
|-------------------------|-----------------------|--------------------------|
| a) Right to Information | b) Right to Education | <input type="checkbox"/> |
| c) Right to Work        | d) Right to Liberty   |                          |
- 31) The members of Maharashtra \_\_\_\_\_ are directly elected by the people.
- |                    |              |                          |
|--------------------|--------------|--------------------------|
| a) Vidhansabha     | b) Rajysabha | <input type="checkbox"/> |
| c) Vidhan Parishad | d) Gramsabha |                          |
- 32) \_\_\_\_\_ is the example of rural local self government.
- |                      |                     |                          |
|----------------------|---------------------|--------------------------|
| a) Village Panchayat | b) Panchayat Samiti | <input type="checkbox"/> |
| c) Zilla Parishad    | d) All of these     |                          |
- 33) Gram Sabha comprised of \_\_\_\_\_ in the village.
- |                              |                       |                          |
|------------------------------|-----------------------|--------------------------|
| a) all the registered voters | b) all the people     | <input type="checkbox"/> |
| c) only male voters          | d) only female voters |                          |

- 34) \_\_\_\_\_ by all the members of society is the basic feature of good governance.
- |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|
| a) Unequal participation | b) violent participation | <input type="checkbox"/> |
| c) Equal participation   | d) none of these         |                          |
- 35) The Right to Information was passed in India in the year \_\_\_\_\_.
- |         |         |                          |
|---------|---------|--------------------------|
| a) 2005 | b) 1947 | <input type="checkbox"/> |
| c) 1950 | d) 2020 |                          |
- 36) Which of the following is not the fundamental right?
- |                                 |                          |
|---------------------------------|--------------------------|
| a) Right to Freedom             | <input type="checkbox"/> |
| b) Right to Property            |                          |
| c) Right to Equality            |                          |
| d) Right to Freedom of Religion |                          |
- 37) According to \_\_\_\_\_ Democracy is government of the people, by the people and for the people
- |                  |                   |                          |
|------------------|-------------------|--------------------------|
| a) John Wood     | b) Abraham Lincon | <input type="checkbox"/> |
| c) Mother Teresa | d) Donald Trump   |                          |
- 38) In \_\_\_\_\_ democracy, citizens participated in the affairs of the state directly and had a say in the governance of the city state
- |             |                  |                          |
|-------------|------------------|--------------------------|
| a) Indirect | b) Direct        | <input type="checkbox"/> |
| c) Indian   | d) none of these |                          |
- 39) The word democracy is derived from the Greek words Demos and Kratos. The meaning of Demos is \_\_\_\_\_ and Kratos means \_\_\_\_\_.
- |                    |                   |                          |
|--------------------|-------------------|--------------------------|
| a) people and rule | b) animal and God | <input type="checkbox"/> |
| c) God and Saints  | d) none of these  |                          |
- 40) A system of welfare and redistribution aimed to narrow social inequalities is called \_\_\_\_\_.
- |                |                |                          |
|----------------|----------------|--------------------------|
| a) Bureaucracy | b) Aristocracy | <input type="checkbox"/> |
| c) Democracy   | d) Technocracy |                          |
- 41) Direct democracy is also known as \_\_\_\_\_ democracy.
- |                  |                   |                          |
|------------------|-------------------|--------------------------|
| a) Participatory | b) Representative | <input type="checkbox"/> |
| c) New           | d) Negative       |                          |
- 42) In democracy all issues in legislature, cabinet, executive and other committees are resolved through the principle of \_\_\_\_\_.
- |                  |                  |                          |
|------------------|------------------|--------------------------|
| a) minority rule | b) majority rule | <input type="checkbox"/> |
| c) leadership    | d) dictatorship  |                          |
- 43) Dr. Babasaheb Ambedkar strongly advocated \_\_\_\_\_ democracy.
- |            |           |                          |
|------------|-----------|--------------------------|
| a) Direct  | b) Social | <input type="checkbox"/> |
| c) Ancient | d) Modern |                          |
- 44) The Mahatma Gandhi National Rural Employment Guarantee Act is the example of the largest \_\_\_\_\_ scheme of its kind in the world.
- |              |                   |                          |
|--------------|-------------------|--------------------------|
| a) political | b) social welfare | <input type="checkbox"/> |
| c) populist  | d) election       |                          |
- 45) Which among the following is not the principle of democracy?
- |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|
| a) Government by consent | b) Public Accountability | <input type="checkbox"/> |
| c) Rule of Law           | d) Dictatorship          |                          |



- 46)** The free and fair elections were conducted, at regular interval, in India except in \_\_\_\_\_.  
a) 2014  
b) 1976  
c) 1967  
d) 2000

☐

- 47)** Balwantrai Mehta and Ashok Mehta committee are related to \_\_\_\_\_ in India.  
a) G.S.T.  
b) Parliament  
c) State Governments  
d) Panchayati Raj institutions

☐

- 48)** The ancient Indian book Arthshastra highlighted the principle of Good Governace. Who is the author of Arthshashtra?  
a) Ramchandran  
b) Kautilya  
c) Mandan Mishr  
d) Kalidas

☐

- 49)** "Freedom, Equality and Fraternity" was the battlecry of the \_\_\_\_\_ revolution.  
a) Indonesian  
b) French  
c) American  
d) Russian

☐

- 50)** The Right to \_\_\_\_\_ is the example of transparency and accountability.  
a) Information  
b) Property  
c) Assembly  
d) Religion

☐

<b>Seat No.</b>	
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- प्र.2 खालीलपैकी कोणत्याही चार प्रश्नांची थोडक्यात उत्तरे लिहा. 08**
- अ) पर्यावरण अभ्यासाची व्याख्या लिहा.
  - ब) वाळवंटी परिसंस्थेतील जैविक घटक
  - क) नैसर्गिक साधनसंपत्तीचे प्रकार लिहा.
  - ड) जैवविविधता संवर्धनाचे प्रकार लिहा.
  - इ) वायु प्रदूषणाचे कारणे लिहा.
  - ई) ओझोन क्षयाची कारणे लिहा.
- प्र.3 खालीलपैकी कोणत्याही दोन प्रश्नांची उत्तरे लिहा. 08**
- अ) पर्यावरण अभ्यासाचे महत्त्व लिहा.
  - ब) परिसंस्थेतील ऊर्जाप्रवाह
  - क) पूराची कारणे लिहा.
- प्र.4 खालीलपैकी कोणत्याही दोन प्रश्नांची उत्तरे लिहा. 08**
- अ) जल प्रदूषणाची कारणे व परिणाम स्पष्ट करा.
  - ब) जैवविविधता म्हणजे काय? जैवविविधता प्रकाराचे वर्णन स्पष्ट करा.
  - क) वन्यजीव संरक्षण कायदा स्पष्ट करा.
- प्र.5 खालीलपैकी कोणत्याही एका प्रश्नाचे उत्तर लिहा. 08**
- पर्यावरण अभ्यासाचे स्वरूप व व्याप्ती स्पष्ट करा.
- किंवा**
- लोकसंख्या वाढीचा पर्यावरणावर होणारा परिणाम स्पष्ट करा.

Seat No.	
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Set **P**

**B.Sc. (Entrepreneurship) (Semester - IV) (New) (CBCS) Examination:  
Oct/Nov-2022  
Environmental Studies**

Day & Date: Sunday, 12-02-2023  
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 Choose the correct alternatives from the options.****08**

- 1) The word 'Environment' is derived from \_\_\_\_\_ language.
  - a) French
  - b) Roman
  - c) Latin
  - d) Greek
- 2) First World Environmental conference was held at \_\_\_\_\_.
  - a) Mumbai
  - b) Stockholm
  - c) London
  - d) Tokyo
- 3) Sahara is a example of \_\_\_\_\_ ecosystem.
  - a) Marine
  - b) Grassland
  - c) Forest
  - d) Desert
- 4) The primary source of energy is \_\_\_\_\_.
  - a) Hydal energy
  - b) Tidal
  - c) Sun
  - d) Wind
- 5) The 'Wildlife Protection Act' was passed in the year \_\_\_\_\_ in India.
  - a) 1971
  - b) 1972
  - c) 1974
  - d) 1976
- 6) Marine life is in danger due to \_\_\_\_\_ Pollution.
  - a) Land
  - b) Air
  - c) Water
  - d) Noise
- 7) In India \_\_\_\_\_ region is rich in biodiversity.
  - a) Western Himalaya – Aravali
  - b) Ajantha – Aravali
  - c) Eastern Himalaya -Western Ghat
  - d) Eastern Ghat – Koromandal
- 8) International Ozone Day is celebrated on \_\_\_\_\_ day.
  - a) 16<sup>th</sup> June
  - b) 16<sup>th</sup> July
  - c) 16<sup>th</sup> August
  - d) 16<sup>th</sup> September

**Q.2 Attempt any four of the following questions.****08**

- 1) Write a definition of environmental studies.
- 2) Biological components of desert ecosystems.
- 3) Write the types of natural resources.
- 4) Write the types of biodiversity conservation.
- 5) write the causes of air pollution.
- 6) Write the causes of ozone depletion.

- Q.3 Attempt any two of the following questions. 08**
- 1) Write the importance of environmental studies.
  - 2) Energy flow in the ecosystem
  - 3) Write down the reasons for the flood.
- Q.4 Attempt any two of the following questions. 08**
- 1) Explain the causes and effects of water pollution.
  - 2) What is biodiversity? Explain the type of biodiversity.
  - 3) Explain the Wildlife Conservation Act.
- Q.5 Attempt any one of the following questions. 08**
- 1) Explain the nature and scope of environmental studies.
  - 2) Explain the impact of population growth on the environment.