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B.Sc. – I (Entrepreneurship) (Semester – I) (CBCS Pattern) Examination, 2018
ENGLISH COMPULSORY
Golden Petals

Day and Date : Monday, 29-10-2018
Time : 2.30 p.m. to 5.00 p.m.

Max. Marks : 70

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

1. Fill in the blanks choosing the correct answer from the alternatives given below. **14**
- Charlie Chaplin was born in _____
a) London b) Paris
c) Scotland d) America
 - Charlie Chaplin did his first film with _____ company.
a) FOX b) 20th century
c) Sony d) Keystone
 - Shanti Tigga was the mother of _____ children.
a) one b) three c) two d) five
 - During the training, Shanti Tigga impressed the instructor with her skill in handling _____.
a) gun b) sword c) rifle d) AK-47
 - Shanti Tigga joined army at the age of _____.
a) 25 b) 27 c) 35 d) 37
 - _____ was Charlie Chaplin's middle name.
a) William b) Spencer
c) John d) Albert
 - _____ was the father of Nachiketa.
a) Vajasrawas b) Vijayaraj
c) Vijayakamal d) Vijay



- 8) Nachiketa decided to meet the god of _____
- a) Water b) Fire
c) Death d) Air
- 9) The theme of the poem 'I Find No Peace' is _____
- a) Peace b) Love
c) Hateful nature d) Beauty
- 10) The poem 'Success is counted sweetest' is written by _____
- a) Emily Dickenson b) John Dickenson
c) John Milton d) John Abraham
- 11) A reporter from _____ was assigned to write a review of Charlie's first film.
- a) Washington b) London
c) New York d) Paris
- 12) Ranjit wrote a story; the underlined word 'wrote' is _____
- a) verb b) adverb
c) adjective d) pronoun
- 13) She had written all answers in her book. The tense of this given sentence is _____
- a) Present perfect tense b) Past perfect tense
c) Past tense d) Past continuous tense
- 14) Rani is going to her village to attend the village _____
- a) Fair b) Fare
c) Fairie d) Fer

2. Answer **any four** of the following questions in brief :

16

- 1) Describe the get up of Charlie Chaplin.
- 2) How did Charlie Chaplin get his first role in films ?
- 3) Describe the character of Shanti Tigga.
- 4) What did Shanti Tigga's relative feel after her death ?
- 5) Why did Nachiketa feel troubled ?
- 6) What did Nachiketa hope to achieve from his journey ?



3. Answer **any two** of the following : **12**
- 1) Describe the theme of the poem 'I Find No Peace'.
 - 2) Comment on the use of contrast in the poem 'Success is counted sweetest'.
 - 3) Write in detail what is communication.
 - 4) State the possible causes when you missed a lecture because you did not know that the lecture was scheduled at that particular time.
4. Answer **any one** of the following : **14**
- 1) Explain where and why e-mail, video calls, mobile phones, radio and movie these channels of – communication are used in particular communication.
 - 2) Why do you think we need language and vocabulary ?
5. What is the difference between one way and two way communication ? Write in detail. **14**
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B.Sc. – I (Semester – I) (CBCS) Examination, 2018
ENTREPRENEURSHIP (Paper – I)
Entrepreneurship and the World of Business

Day and Date : Tuesday, 30-10-2018

Max. Marks : 70

Time : 10.30 a.m. to 1.00 p.m.

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

1. Choose the correct alternative and rewrite the sentences again. **14**
- 1) Entrepreneurs are motivated by
 - a) Money
 - b) Personal values
 - c) Pull influences
 - d) All the above
 - 2) Business means
 - a) Commerce
 - b) Industry and Commerce
 - c) Trade and Commerce
 - d) Selling and buying of goods
 - 3) Business risks can be
 - a) Avoided
 - b) Reduced
 - c) Ignored
 - d) Erased
 - 4) The oldest form of business organization is
 - a) Partnership
 - b) Sole proprietorship
 - c) Joint stock company
 - d) Undertaking
 - 5) Entrepreneurship can best be described as
 - a) A process that requires setting up a business
 - b) Taking a significant risk in a business context
 - c) Having a strong vision
 - d) A process involving innovation, new products or services and value creation
 - 6) Today, many companies are using managerial techniques that are designed to encourage
 - a) Increasing profits
 - b) Legal compliances
 - c) Ethical behaviour
 - d) Shareholders value

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- 7) Entrepreneur helps to reduce
- a) Conflict
 - b) Unemployment
 - c) Wealth distribution
 - d) All of the above
- 8) Entrepreneurs are high in
- a) Need achievement
 - b) Leadership
 - c) Quality
 - d) Motivation
- 9) Barriers to Entrepreneurship is
- a) Lack of seed capital
 - b) Lack of market knowledge
 - c) Lack of technical skill
 - d) All of the above
- 10) _____ and insurance are basic aids to trade and commerce.
- a) Manufacturing
 - b) Service
 - c) Banking
 - d) Trading
- 11) The entrepreneurs who undertake agricultural pursuit are called _____ entrepreneurs.
- a) Social
 - b) Agricultural
 - c) Retail
 - d) None of these
- 12) _____ is function of entrepreneur.
- a) Risk taking
 - b) Innovation
 - c) Project planning
 - d) All of above
- 13) The most suitable type of entrepreneur for a developing economy like India is
- a) Innovating
 - b) Drone
 - c) Fabian
 - d) Imitative
- 14) Entrepreneurship is _____ process.
- a) Creative process
 - b) Imaginative process
 - c) Real process
 - d) None of these
2. A) Define and explain **any four** of the following : 8
- 1) HUF.
 - 2) Comment on agents/brokers in business.
 - 3) Joint sector.
 - 4) Comment on cooperative society.
 - 5) Define Insurance.
- B) Write short note on **any two** of the following : 6
- 1) Characteristics of entrepreneur.
 - 2) Comment on partnership.
 - 3) Explain innovation.



3. A) Answer **any two** of the following : 8
- 1) Comment on qualities of entrepreneur.
 - 2) Public sector.
 - 3) Creativity in entrepreneurship development.
- B) Answer **any one** of the following : 6
- 1) Program supporting to entrepreneurship.
 - 2) Entrepreneur Vs Manager.
4. A) Answer **any two** of the following : 10
- 1) Comment on idea generation.
 - 2) Types of entrepreneurs.
 - 3) Factors influencing to entrepreneurship.
- B) Answer **any one** of the following : 4
- 1) Explain importance of location.
 - 2) Comment on role of banking in commerce.
5. Answer **any two** of the following : 14
- 1) Explain concept of women entrepreneurship in India.
 - 2) Explain scope of entrepreneurship in India.
 - 3) Comment on management of business growth.
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**B.Sc. – I (Semester – I) (Entrepreneurship) (CBCS) Examination, 2018
ECONOMICS FOR MANAGER AND MANAGERIAL ACCOUNTING (Paper – II)**

Day and Date : Wednesday, 31-10-2018

Max. Marks : 70

Time : 10.30 a.m. to 1.00 p.m.

- Instructions :** 1) **All questions are compulsory.**
2) **Marks indicate to the right side.**
3) **Draw a diagram where necessary.**

1. Choose the correct answers from the given alternatives :

14

- 1) Giffen goods are the _____ goods.
a) Superior b) Quality c) Prestigious d) Inferior
- 2) When marginal utility is zero, total utility is
a) Nil b) One
c) Minimum d) Maximum
- 3) The concept was _____ introduced by Marshall.
a) Real cost of production b) Money cost of production
c) Opportunity cost d) Total cost
- 4) A firm under _____ competition has a regular tendency to show excess capacity.
a) Oligopoly b) Perfect
c) Monopolistic d) Imperfect
- 5) When the demand changes in the same proportion to the change in price, it is
a) Unitary inelastic b) Unitary elastic
c) Perfectly inelastic d) Perfectly elastic
- 6) _____ refers to the market structure where there are at least two seller in the market.
a) Monopoly b) Duopoly
c) Oligopoly d) Perfect competition



- 7) _____ can be defined as a contractual agreement.
 a) Venture b) Lease c) Portfolio d) OTCI
- 8) Wealth consist of all the _____ goods.
 a) Financial b) Economic
 c) Monetary d) None
- 9) _____ serves as a trading centre for stocks, shares and bonds.
 a) OTCI b) Stock exchange
 c) NSDL d) Mutual funds
- 10) Demand is a function of
 a) Price b) Firm c) Product d) Cost
- 11) An example of fixed asset is
 a) Live stock b) Value stock c) Income stock d) All above
- 12) Profit and Loss A/c is also called as
 a) Income statement b) Fund flow statement
 c) Current ratio d) Retained earning statement
- 13) Cost of capital is helpful in corporate analysis is
 a) Source of finance b) Source of service
 c) Source of material d) Product
- 14) Bank A/c is a
 a) Personal A/c b) Real A/c c) Nominal A/c d) None
2. A) Answer the following questions (**any four**) : 8
- 1) What is meant by Macro Economics ?
 - 2) What is meant by Business Economics ?
 - 3) What is meant by Managerial Accounting ?
 - 4) Give the rules of Nominal A/c.
 - 5) What is meant by Monopoly ?
- B) Short notes (**any two**) : 6
- 1) Nature of Managerial Economics.
 - 2) Elasticity of Demand.
 - 3) Features of Oligopoly.



3. A) Answer the following questions (**any two**) : **8**
- 1) Define returns of scale with the help of diagram.
 - 2) Define in detail basic accounting concepts.
 - 3) What are the different types of A/c ?
- B) Answer the following questions (**any one**) : **6**
- 1) Features of perfect competition.
 - 2) What is demand analysis and give its objectives ?
4. A) Answer the following questions (**any two**) : **10**
- 1) Scope of Business Finance.
 - 2) Define Demand Schedule.
 - 3) Features of Monopoly.
- B) Answer the following questions (**any one**) : **4**
- 1) External returns of scale.
 - 2) What is Internal source of finance ?
5. Answer the following questions (**any two**) : **14**
- 1) Journalise the following transaction in the journal of Mr. Suresh for the month of Oct. 2011.
 - 11th Oct. 2011 Drew from bank Rs. 1,000 for office use and Rs. 200 for self
 - 12th Oct. 2011 Received from Ramesh Rs. 1,000 less 2% cash discount
 - 15th Oct. 2011 Sold goods to Ramesh Rs. 3,000 less 10% trade discount
 - 16th Oct. 2011 Ramesh return goods Rs. 150
 - 18th Oct. 2011 Deposited Rs. 1,500 into Bank
 - 20th Oct. 2011 Cash sales for the month of Rs. 5,600
 - 22nd Oct. 2011 Cash purchases for the month of Rs. 4,800
 - 30th Oct. 2011 Goods withdrew for personal use Rs. 800
 - 2) Define production function.
 - 3) What is the scope of managerial accounting ?
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B.Sc. Entrepreneurship (Semester – I) (CBCS) Examination, 2018
INDUSTRIAL CHEMISTRY
Paper – I : Fundamental of Inorganic Chemistry

Day and Date : Thursday, 1-11-2018
Time : 10.30 a.m. to 1.00 p.m.

Max. Marks : 70

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

1. Choose the correct alternative and rewrite the sentences. 14
- The number of unpaired electron possessed by an atom determines its
a) valency
b) angular momentum
c) co-ordination
d) none of these
 - By the combination of one s and two p orbital, gets _____ hybridization.
a) sp
b) sp^2
c) sp^3
d) dsp^2
 - In $BeCl_2$ the bond angle is
a) 120°
b) 90°
c) 72°
d) 180°
 - Cesium chloride is having _____ stoichiometry.
a) 1 : 1
b) 1 : 2
c) 2 : 1
d) 3 : 2
 - Ionic solids are generally soluble in _____ solvent.
a) polar
b) non-polar
c) organic
d) all of these
 - Typhoid is the cause of _____ pollution.
a) air
b) noise
c) water
d) automobile
 - Sound intensity beyond _____ dB is hazardous to human life.
a) 10
b) 50
c) 75
d) 90 – 120
 - The bond order of lithium molecule is
a) one
b) three
c) four
d) five
 - CO is _____ molecule.
a) homonuclear diatomic
b) heteronuclear diatomic
c) imaginary
d) non-existent
 - About _____ % of total water present in the form of fresh water.
a) 1.0
b) 2.5
c) 9.7
d) T shaped



- 11) Out of phase combination gives _____ MOs.
a) Bonding b) Anti bonding c) Non-bonding d) None of these
- 12) Heitler-London theory was introduced in
a) 1927 b) 1931 c) 1936 d) 1913
- 13) Limiting radius ratio for octahedral geometry is
a) 0.732 b) 0.414 c) 0.225 d) 0.175
- 14) _____ gas is responsible for acid rain.
a) CO b) H₂S c) H₂O d) SO₂
2. A) Answer **any four** of the following. **8**
1) Name the different types of overlaps.
2) Define co-ordination number.
3) Define covalent bond, with suitable examples.
4) What do you mean by COD of water ?
5) Define air pollution with suitable example.
- B) Write short note on **any two** of the following : **6**
1) Electron affinity.
2) Assumption of valence bond theory.
3) Atomic and molecular orbitals.
3. A) Answer **any two** of the following : **8**
1) Explain the formation of BeCl₂ on the basis of hybridization.
2) Explain the terms : (i) BOD (ii) Alkanity.
3) Distinguish between bonding and anti bonding molecular orbital.
- B) Answer **any one** of the following : **6**
1) Explain the types and sources of air pollutants.
2) Explain the properties of ionic solid.
4. A) Answer **any two** of the following : **10**
1) Draw the MO diagram of nitrogen molecule. Comment on stability and magnetic property of nitrogen molecule.
2) Explain the Born-Haber cycle for NaCl.
3) What is the effect of carbon monoxide on human health ?
- B) Answer **any one** of the following : **4**
1) Explain the terms dissolved oxygen and hardness of water.
2) Write a note on formation of ionic solid.
5. Answer **any two** of the following. **14**
1) Explain the formation of Ammonia molecule on the basis of VSEPR theory.
2) Draw the MO diagram of oxygen molecule. Comment on stability and magnetic property of oxygen molecule.
3) Explain the radius ratio for octahedral geometry.



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B.Sc. – I (Semester – I) Entrepreneurship (CBCS) Examination, 2018
INDUSTRIAL CHEMISTRY
Paper – II : Fundamentals of Organic Chemistry

Day and Date : Friday, 2-11-2018
Time : 10.30 a.m. to 1.00 p.m.

Total Marks : 70

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

1. Choose the correct alternative and rewrite the sentences again : **14**
- 1) Electrolysis of Sodium salt of butanoic acid gives
a) n-Hexane b) Isobutane c) But-1-ene d) Butane
 - 2) Benzene contains how many π electrons ?
a) 3 b) 0 c) 6 d) 12
 - 3) Compound containing conjugated double bond is
a) Butyne b) Isobutylene c) 1,3-butadiene d) Butylene
 - 4) Sodium nitroprusside when added to an alkaline solution of sulphide ions produces _____ coloration.
a) Red b) Green c) Black d) Purple
 - 5) Saturated hydrocarbon mainly undergoes
a) Substitution reaction b) Addition reaction
c) Elimination reaction d) Polymerization
 - 6) The catalyst used in Friedel-Craft's reaction is
a) Ni b) Pt c) $AlCl_3$ d) None of these
 - 7) Ibuprofen is an _____ drug.
a) Antibacterial b) Antibiotic
c) Anti-inflammatory d) Antidiabetic



- 8) The Chromophore present in nitroso dye is
a) $-\text{NO}_2$ b) $-\text{N} = \text{N}-$ c) $-\text{N} = \text{O}$ d) $-\text{N} = \text{S}$
- 9) Which of the following alkane cannot be prepared by Wurtz reaction ?
a) Methane b) Ethane c) Propane d) Butane
- 10) Alizarin is an example of _____ dye.
a) Azo b) Nitroso c) Stilbene d) Anthraquinone
- 11) Tranquillizer is a _____ functional drug.
a) Antipyretic b) CNS
c) Anti-inflammatory d) None of these
- 12) Olefins can be hydrogenated by
a) $\text{Zn} + \text{HCl}$ b) Raney Ni + H_2
c) Nascent H_2 d) LiAlH_4
- 13) The nature of pyridine is
a) Basic b) Acidic c) Amphoteric d) Neutral
- 14) Decarboxylation of higher fatty acid by heating with soda lime gives
a) Higher alkanes b) Lower alkanes
c) Alkenes d) Cycloalkanes
2. A) Define and explain **any four** of the following : 8
- 1) Write internal Wurtz reaction for the preparation of Cycloalkanes.
 - 2) State and explain Huckel's rule.
 - 3) Write principle used in combustion method.
 - 4) Define bacteriostatic and bactericidal.
 - 5) Define chromophore with suitable example.
- B) Write short note on **any two** of the following : 6
- 1) How carbon and hydrogen in an organic compound are detected ?
 - 2) Molecular orbital theory of benzene.
 - 3) What is the action of following on cyclopropane ?
 - i) HBr
 - ii) Conc. H_2SO_4
 - iii) Raney Ni/ H_2 .



3. A) Answer **any two** of the following : **8**
- 1) Write the qualities of good drug.
 - 2) What are dyes ? Explain Witt's theory .
 - 3) Determination of molecular weight of an acid by titration method.
- B) Answer **any one** of the following : **6**
- 1) Define nitration. Explain mechanism of nitration of benzene.
 - 2) What are dienes ? Give the classification of dienes with example.
4. A) Answer **any two** of the following : **10**
- 1) How will you estimate nitrogen by Kjeldahl's method ?
 - 2) Write classification of drug based on therapeutical action.
 - 3) What is meant by dehydration ? Explain dehydration of ethanol.
- B) Answer **any one** of the following : **4**
- 1) Describe Friedel Crafts alkylation with mechanism.
 - 2) Write the classification of dyes based on their constitution.
5. Answer **any two** of the following : **14**
- 1) Explain E¹ and E² mechanisms for dehydrohalogenation of alkyl halide.
 - 2) Explain Carius method for detection of halogen.
 - 3) Explain in brief sulphonation of benzene with mechanism.
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B.Sc. – I (Semester – I) Entrepreneurship (CBCS) Examination, 2018
INDUSTRIAL MICROBIOLOGY
Paper – I : Fundamentals of Microbiology

Day and Date : Saturday, 3-11-2018

Max. Marks : 70

Time : 10.30 a.m. to 1.00 p.m.

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

1. Rewrite the sentences by choosing the correct alternative given below : **14**

- 1) Rabies vaccine was prepared by
 - a) Pasteur
 - b) Jenner
 - c) Koch
 - d) Hock
- 2) The main feature of prokaryotic organism is
 - a) absence of nuclear material
 - b) absence of nuclear envelope
 - c) absence of locomotion
 - d) absence of protein synthesis
- 3) The inventor of microscope is
 - a) Louis Pasteur
 - b) Klein Berger
 - c) Robert Koch
 - d) Antony von Leeuwenhock
- 4) Virus will contain
 - a) Cell membrane
 - b) Cell wall
 - c) Ribosome
 - d) DNA or RNA
- 5) Bacterial ribosomes are of _____ types.
 - a) 80 S
 - b) 70 S
 - c) 60 S
 - d) 40 S
- 6) Father of Medical Microbiology is
 - a) Pasteur
 - b) Jenner
 - c) Koch
 - d) Hock
- 7) M-ring of flagellum present in
 - a) periplasmic space
 - b) cell membrane
 - c) peptidoglycan layer
 - d) lipopolysaccharide layer

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- 8) Cell wall of Gram positive bacteria contains _____% of peptidoglycan.
a) 90
b) 20
c) 5
d) 0.1
- 9) Study of colony margin is _____ approach to bacterial classification.
a) morphological
b) cultural
c) genetic
d) biochemical
- 10) _____ is placing organisms into groups based on their relationship.
a) Identification
b) Nomenclature
c) Classification
d) None of these
- 11) Hot air oven works on the principle of _____ sterilization.
a) chemical
b) gaseous
c) moist heat
d) dry heat
- 12) _____ is the major component in Cresols, Xylenols and Lysol.
a) phenol
b) ethanol
c) chlorine
d) methanol
- 13) Algae are _____ type of organisms.
a) chemoautotroph
b) chemoheterotroph
c) photoautotroph
d) photochemotroph
- 14) _____ is the direct cell counting method.
a) Microscopy
b) Turbidostat
c) Chemostat
d) SPC
2. A) Answer **any four** of the following : 8
- 1) Slime layer.
 - 2) Morphology.
 - 3) Desiccation.
 - 4) Pasteurization.
 - 5) Auxotroph.
- B) Write short note on **any two** of the following : 6
- 1) Tyndallization.
 - 2) Milk.
 - 3) Virus.



3. A) Answer **any two** of the following : **8**
- 1) What is growth ? Explain in detail bacterial growth phases.
 - 2) Explain morphological characteristics of bacteria with examples.
 - 3) What is sterilization ? Explain control of microbes using heat treatment.
- B) Answer **any one** of the following : **6**
- 1) Write in detail structure, composition and functions of bacterial capsule.
 - 2) Explain the structure of cell membrane.
4. A) Answer **any two** of the following : **10**
- 1) Give the general principles of microbial taxonomy.
 - 2) Discuss in brief control of microbes using chemical agents.
 - 3) Explain the role of chemostat and turbidostat in continuous growth.
- B) Answer **any one** of the following : **4**
- 1) Enlist the applications of various branches of microbiology.
 - 2) Briefly explain Diauxic growth.
5. Answer **any two** of the following : **14**
- 1) Explain in detail arrangement, structure and function of Bacterial flagella.
 - 2) Take account of the contribution of Louis Pasteur and Robert Koch in microbiology.
 - 3) Explain in detail difference between Prokaryotic and Eukaryotic cells.
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B.Sc. – I (Entrepreneurship) (Semester – I) (CBCS) Examination, 2018
INDUSTRIAL MICROBIOLOGY – I
Basic Techniques in Microbiology

Day and Date : Monday, 12-11-2018

Max. Marks : 70

Time : 10.30 a.m. to 1.00 p.m.

- N.B.*** : 1) ***All questions are compulsory and carry equal marks.***
2) ***Draw a neat labelled diagram wherever necessary.***
3) ***Figure to the right indicates full marks.***

1. Rewrite the following sentences by choosing correct alternatives from given below :

14

- 1) _____ is used to visualize the surface view of object.
A) TEM
B) SEM
C) Dark field
D) Compound
- 2) The process of obtaining growth of microorganism in artificial environment is called as
A) Cultivation
B) Isolation
C) Screening
D) Inhibition
- 3) The population of more than one type of microorganism is known as _____ culture.
A) Pure
B) Synchronous
C) Axenic
D) Mixed
- 4) _____ staining is example of differential staining used to stain mycobacterial strain.
A) Acid-Fast
B) Grams
C) Cell wall
D) Capsule



- 5) The total cell count is carried out by _____ method for enumeration of growth.
- A) SPC
B) DMC
C) MPN
D) Membrane filter
- 6) The ability of lens system to distinguish two adjacent points as distinct and separate is called as _____
- A) Magnification
B) Numerical aperture
C) Resolving power
D) Condenser
- 7) _____ used as mordant in Gram staining.
- A) Alcohol
B) Grams iodine
C) Bouins fixative
D) Tannic acid
- 8) _____ stain contains negative charged chromophore group.
- A) Acidic
B) Basic
C) Neutral
D) Ramanovsky
- 9) _____ is the direct method used for enumeration of bacteria in the suspension.
- A) SPC
B) Electronic counters
C) Turbidity
D) Filtration
- 10) Mac'Conckey's agar is an example of _____ media.
- A) Selective
B) Differential
C) Both A) and B)
D) Enriched
- 11) Continuous cell culture used for cultivation of virus is an example of _____ of media.
- A) living
B) non living
C) synthetic
D) complex
- 12) _____ stain contains both positive and negative charged chromophore groups.
- A) Congo red
B) Safranin
C) Giemsa
D) Nigrosin



13) The media which is composed from pure chemical ingredient is called as _____ media.

- A) Living
- B) Non living
- C) Synthetic
- D) Complex

14) The osmotic pressure of culture media is adjusted by _____ component.

- A) NaCl
- B) Agar-Agar
- C) Gelatin
- D) Yeast

2. A) Answer the following **(any four)** :

8

- i) Define enriched media. Give one example.
- ii) Define semi synthetic media.
- iii) Enlist types of objective lenses.
- iv) DMC.
- v) Define selective media.

B) Answer the following **(any two)** :

6

- 1) Principle of fluorescent microscopy.
- 2) Principle of monochromatic staining.
- 3) Serial dilution technique.

3. A) Answer the following **(any two)** :

10

- 1) Describe in brief principle and mechanism negative staining.
- 2) Discuss in detail tissue culture as living media.
- 3) Give significance of peptone, glucose, bile salt and lactose in culture media.

B) Answer the following **(any one)** :

4

- 1) Define stain. Describe in detail the types of stain with example.
- 2) Write note on principle and applications of dark field microscopy.



4. A) Answer the following **(any two)** : **10**
- i) Give a detailed account on indirect methods of cell enumeration.
 - ii) Describe in detail phase contrast microscope. Add a note on its applications.
 - iii) Define culture media. Describe in detail synthetic, natural and enrichment media.
- B) Answer the following **(any one)** : **4**
- 1) Discuss in brief principle and applications of electron microscope.
 - 2) Discuss in short mechanism and procedure of acid fast staining.
5. Answer the following **(any two)** : **14**
- i) Discuss in detail theories and mechanism of Gram staining.
 - ii) Describe in detail methods of pure culture techniques.
 - iii) Explain in detail principle, ray diagram and working of compound microscope.
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B.Sc. – I (Entrepreneurship) (Semester – I) (CBCS) Examination, 2018
INDUSTRIAL BIOTECHNOLOGY
Paper – I : Cell Biology

Day and Date : Tuesday, 13-11-2018

Max. Marks : 70

Time : 10.30 a.m. to 1.00 p.m.

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

1. Rewrite the following sentences by choosing the correct alternative : **14**

- 1) _____ is the most variable stage of cell cycle.
a) G1 b) S c) G2 d) M
- 2) During meiosis chiasmata are observed at
a) Pachytene b) Diplotene c) Leptotene d) Diakinesis
- 3) Cell theory was proposed by
a) Beadle and tatum b) Robert Hooke
c) Leuwenhoeck d) Schleiden and Schwann
- 4) Prokaryotic genetic system has
a) DNA but no histones b) Both DNA and histones
c) Neither DNA nor histones d) Either DNA or histones
- 5) _____ is double membrane organelle.
a) Lysosome b) Mitochondria
c) Golgi complex d) Smooth Endoplasmic reticulum
- 6) Cell sap is a
a) Living content of the cell
b) Non living content of the vacuole
c) Non-living content of the Protoplasm
d) Living content of the cytoplasm



- 7) _____ is not a unique feature of meiosis.
a) Synapsis b) Homologous recombination
c) Reduction division d) Diakinesis
- 8) _____ helps in protein synthesis.
a) Ribosomes b) Nucleus
c) Mitochondria d) Endoplasmic reticulum
- 9) Golgi bodies are related with
a) Secretion b) Energy liberation
c) Pinocytosis d) Excretion
- 10) _____ does not require energy.
a) Facilitated diffusion b) Osmosis
c) Active transport d) Passive transport
- 11) The cell wall of plants mainly contain
a) Starch b) Lipids
c) Cellulose d) Glucose
- 12) Tightly packed form of DNA is called
a) Supercoiling b) Compressed state
c) Euchromatin d) Heterochromatin
- 13) The programmed cell death of a cell is also known as
a) Cancer b) Osmosis c) Apoptosis d) Mitosis
- 14) X and Y chromosomes are also known as
a) Autosome b) Sex Chromosome
c) Quantosomes d) Factors

2. A) Answer **any four** of the following :

8

- 1) Define cell senescence and explain in short how programmed cell death occurs.
- 2) Draw a neat labeled diagram of Endoplasmic Reticulum.
- 3) Explain characteristics of Genetic material.
- 4) Define Exocytosis with suitable example.
- 5) Add a note on cell theory.



- B) Answer **any two** of the following : **6**
- 1) Add a note on Biochemical composition of cell.
 - 2) Define Phagocytosis with suitable example.
 - 3) Explain Euchromatin and Heterochromatin.
3. A) Answer **any two** of the following : **8**
- 1) Explain Ultrastructure of Prokaryotic cell.
 - 2) Add a note on lipid bilayer membrane.
 - 3) Describe structure and functions of Ribosomes.
- B) Answer **any one** of the following : **6**
- 1) Add a note on cell as a basic unit of living system.
 - 2) Explain structure and enlist in detail, characteristics of Eukaryotic cell.
4. A) Answer **any two** of the following : **10**
- 1) Write a detail account on Endoplasmic Reticulum.
 - 2) Describe Meiosis in detail.
 - 3) Enlist differences between Prokaryotic and Eukaryotic cell.
- B) Answer **any one** of the following : **4**
- 1) Explain cell theory and add a note on significant event in Cell Biology.
 - 2) Add a detailed note on cell differentiation.
5. Answer **any two** of the following : **14**
- 1) Explain structure and function of Golgi complex.
 - 2) Add a note on Mitosis and explain its functions.
 - 3) Define Chromosome and explain types of chromosomes based on centromere.
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B.Sc. – I (Semester – I) Entrepreneurship (CBCS) Examination, 2018
Industrial Biotechnology
Paper – II : ANIMAL AND PLANT PHYSIOLOGY

Day and Date : Wednesday, 14-11-2018
Time : 10.30 a.m. to 1.00 p.m.

Total Marks : 70

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

1. Choose the **correct** alternative and rewrite the sentences again. **14**

- 1) Proteins are formed by condensation of _____
 - a) Nucleic acid
 - b) Amino acid
 - c) Fatty acid
 - d) Lipids
- 2) The plastids in green plants which contain chlorophyll are known as
 - a) Chloroplast
 - b) Mitochondria
 - c) Terpins
 - d) Lipids
- 3) Heart is made up of _____
 - a) Cardiac tissue
 - b) Adipose tissue
 - c) Nervous tissue
 - d) Bones
- 4) Sterilizing agent of plant tissue culture is _____
 - a) Autoclave
 - b) Laminar air flow
 - c) Ethanol
 - d) All of these
- 5) The _____ are the chlorophyll pigments mainly present in green plants and BGA.
 - a) Chlorophyll A and B
 - b) Xanthophyll and carotein
 - c) Chlorophyll D and E
 - d) All of these



- 6) _____ is the empirical formula for chlorophyll A.
- a) $C_{55}H_{72}O_5N_4Mg$ b) $CaCl_2$
c) NaCl d) HCl
- 7) _____ is called father of plant tissue culture.
- a) Bonner b) Haberlandt
c) Laibach d) Robert coach
- 8) The solidifying agent used to solidify culture media during tissue culture is _____
- a) Distilled water b) Stock solution
c) Growth regulators d) Agar agar powder
- 9) There are total _____ teeth are present in buccal cavity of humans.
- a) 30 b) 32 c) 65 d) 16
- 10) Testis secretes the _____ hormone.
- a) Estrogen b) Progesterone
c) Prothrombin d) Testosterone
- 11) Alpha cells of pancreas secrete _____
- a) Insulin b) Glucagon
c) Bile d) Pancreatic juice
- 12) Squamous epithelium is also called as _____
- a) Bridge b) Pavement
c) Connective d) Cuboidal
- 13) The source of CO_2 during C4 cycle in calvin cycle is
- a) Malic acid b) PEP
c) RuBp d) All of these
- 14) Kupffer cells are characteristics of _____
- a) Stomach b) Intestine
c) Liver d) Pancreas



2. A) Answer **any four** of the following : 8
- 1) Explain the function of kidney.
 - 2) Which are the major classes of tissue present in animal ?
 - 3) What is totipotency ?
 - 4) Name the hormones secreted by Ovary.
 - 5) Define photosynthesis.
- B) Write short note on **any two** of the following : 6
- 1) Importance of nitrogen as basic element.
 - 2) Plant tissue culture.
 - 3) The location and function of nervous tissue.
3. A) Answer **any two** of the following : 8
- 1) Write structure of nervous tissue and its locations.
 - 2) Explain Structure of epithelial tissue.
 - 3) What are the function of salivary gland ?
- B) Answer **any one** of the following : 6
- 1) Explain schematic representation of non cyclic electron transfer.
 - 2) Give note on liver.
4. A) Answer **any two** of the following : 10
- 1) Write a note on C₄ cycle in plants.
 - 2) Give note on esophagus.
 - 3) Describe in detail of structure and function of testis.
- B) Answer **any one** of the following : 4
- 1) Explain CAM pathway.
 - 2) Give the importance of vitamins with its types.
5. Answer **any two** of the following : 14
- 1) Describe the structure and functions of ovary.
 - 2) Explain in detail the process of Plant Tissue Culture.
 - 3) Explain in detail the animal tissue culture.



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B.Sc. – I (Entrepreneurship) (Semester – II) (Old CBCS) Examination, 2018
ENGLISH (Compulsory)
On Track – English Skills for Success

Day and Date : Saturday, 17-11-2018
Time : 10.30 a.m. to 1.00 p.m.

Max. Marks : 70

1. Rewrite the following sentences by choosing correct alternative. **14**
- 1) The first V2 missile was tested unsuccessfully in
a) May 1942 b) June 1942 c) August 1942 d) Sept. 1942
 - 2) _____ is the common denominator among all successful men and women, according to Dr. Abdul Kalam.
a) wealth b) fame
c) knowledge d) total commitment
 - 3) Wernher Von Braun was _____ scientist who produced the Jupiter missile.
a) An American b) A German c) A Russian d) A Roman
 - 4) The First Session on the Parliament of Religion was open on
a) 11 July 1993 b) 31 May 1993 c) 31 April 1993 d) 11 Sept. 1993
 - 5) What is the vanishing act Palkhiwala writes about ?
a) the removal of poverty b) the disappearance of inequality
c) the removal of discrimination d) the disappearance of dissenters
 - 6) The primary idea of human rights involves
a) rights of the government
b) rights for the government
c) rights formulated by the government
d) rights to operate against the government
 - 7) _____ is the speakers of the poem Brahma.
a) Ralph Waldo Emerson b) Brahma
c) Slayer d) Vanished Gods
 - 8) _____ is the colour of slayer in Brahma.
a) black b) white c) yellow d) red



- 9) _____ is the goddesses in the poem full moon.
 - a) moon
 - b) mother goose
 - c) getsmane
 - d) pierced
- 10) She borrowed _____ Pen drive (belonging to Manas).
 - a) Manas'
 - b) Manas
 - c) Manases
 - d) None of the above
- 11) The birds flew into _____ nests.
 - a) them
 - b) these
 - c) their
 - d) there
- 12) Mother is _____ singer than me. (good)
 - a) good
 - b) better
 - c) best
 - d) all
- 13) She _____ (rarely) plays the violin now.
 - a) rarely
 - b) seldomly
 - c) carefully
 - d) forcefully
- 14) Write antonyms of the following.
 - a) acquit
 - b) clockwise

2. Answer **any seven** of the following in **two** or **three** lines. **14**

- 1) What was the motivating solgan of the American Civil War ?
- 2) What has caused more deaths than all the weapons of mass destruction ?
- 3) Who were other Indians present the Parliament of Religion ?
- 4) What is the complex than Von Braun attributed to Americans ?
- 5) What happened the first V2 missile when it was first test ?
- 6) Why was Vivekananda not prepared for the weather conditions in Chicago ?
- 7) What is the origin of the poem Brahma ?
- 8) Why is the moon a brilliant challenger of rocket experts ?

3. A) Write short note on **any two** of the following. **8**

- 1) Palkhiwala's view about human rights.
- 2) Parliament of Religion.
- 3) Dr. Kalam's attitude on work.



B) Answer **any three** of the following in **30 to 40** words. **6**

- 1) What is the origin and background of the poem Brahma ?
- 2) Who does the speaker address at the end of the poem Brahma ?
- 3) Who were the watchers of the moon ? What happened to them ?
- 4) How was the moon's light made holy in Gethsemane ?

4. You are the secretary of the Bharat Sport Club in your town. The meeting of the office bearer of the club is scheduled on 15 of the next month prepare an agenda and minutes for the meeting. **14**

OR

Write an email forwarding job application for the post of software developer in Patel IT Solutions. **14**

5. Prepare a curriculum vitae to apply for the post of software developer. **14**



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B.Sc. – I (Entrepreneurship) (Semester – II) Examination, 2018
ENGLISH (Compulsory) (New) (CBCS)
Golden Petals

Day and Date : Saturday, 17-11-2018
Time : 10.30 a.m. to 1.00 p.m.

Max. Marks : 70

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

1. Rewrite the following sentences by using the correct options : **14**

- 1) *Letter to a Teacher* exposes the class bias of the _____ system.
- a) political b) cultural
c) educational d) social
- 2) The claims that men and women make on us are beyond
- a) imagination b) enumeration
c) expectations d) evaluation
- 3) Jim Corbett was a colonel with the British Army during the _____ India.
- a) colonial b) postcolonial
c) neocolonial d) free
- 4) The gymnastics teacher wanted the poor boys to play
- a) cricket b) rugby c) football d) basketball
- 5) Social service in the modern times is _____ neighbours' aspirations.
- a) criticizing b) understanding
c) evaluating d) underestimating
- 6) After having hunted the man-eater, Corbett felt that he didn't give the animal a _____ chance.
- a) spiteful b) sporting c) spiring d) spiritual



- 7) At the break of day, the weavers wove a gay garment for a new-born
a) puppy b) monster c) baby d) pet
- 8) Maya Angelou was worried about the death of her
a) enemies b) critics
c) rivals d) near and dear ones
- 9) The moonlight chill is paralleled with _____ by Sarojini Naidu.
a) birth b) death
c) regeneration d) salvation
- 10) *When I think of death* is
a) a sonnet b) a lyric
c) a free verse d) an ode
- 11) He was sanctioned a _____ of 10 lakh rupees.
a) lone b) loan c) loun d) loen
- 12) We celebrate Mahatma Gandhi's _____ Anniversary on 2nd October.
a) berth b) barth c) birth d) breath
- 13) She runs a _____ shop.
a) stationary b) stationer
c) stationery d) stationory
- 14) The _____ today is quite pleasant.
a) wither b) weather c) whether d) whather
2. Answer the following bits in **two to three** sentences **each (any seven)** : **14**
- 1) Why did the students feel that their teacher would forget them ?
 - 2) Describe the two types of neighbours according to Ernest Barker.
 - 3) How did Jim Corbett suppress his cough ?
 - 4) Why did the poor children fail the gymnastics examination ?
 - 5) What are the natural claims of our neighbours ?
 - 6) What was the tiger doing when Corbett went near it ?
 - 7) What were the poor boys good at ?
 - 8) What is the meal of a fully grown tiger ?



3. A) Answer the following questions in about **50** words **each (any two)** : **8**
- 1) What are the qualities of a good email ?
 - 2) What is the format of a formal email ?
 - 3) What is the process of writing a blog ?
- B) Explain with reference to the context **(any two)** : **6**
- 1) “Weavers, weaving at fall of night,
Why do you weave a garment so bright ?
Like the plumes of a peacock, purple and green,
We weave the marriage-veils of a queen”.
 - 2) “I find it impossible to let a friend or relative
Go into that country of no return”.
 - 3) “Weavers, weaving solemn and still,
What do you weave in the moonlight chill ?
White as a feather and white as a cloud,
We weave a dead man’s funeral shroud”.
4. A) What is an interview ? Write a detailed note on the objectives of interview and the types of interview.
- OR
- B) Write the script of a group discussion on the topic “Corruption: A Monster” discussed by Amit, Deepika, Saleem and Mohan. **14**
5. What is the importance of Minutes ? Bring out the types of Minutes along with its features. **14**
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**B.Sc. – I (Semester – II) Entrepreneurship Examination, 2018
(CBCS Pattern)
Entrepreneurship Science (Paper – I)
PRINCIPLES OF MARKETING AND MANAGEMENT ACCOUNTING**

Day and Date : Monday, 19-11-2018
Time : 10.30 a.m. to 1.00 p.m.

Total Marks : 70

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

1. Multiple Choice Questions. 14

1) Good marketing is no accident, but a result of careful planning and _____.

- | | |
|---------------|-------------|
| 1) Execution | 2) Selling |
| 3) Strategies | 4) Research |

2) Parents buy toys for their children act as _____ in the buying process.

- | | |
|---------------|---------------------|
| 1) Decider | 2) Buyer |
| 3) Maintainer | 4) All of the above |

3) Adding new features to a product is advocated by which of the approaches

- | | |
|-----------------------|------------------------|
| 1) Product Approach | 2) Production Approach |
| 3) Marketing Approach | 4) Selling Approach |

4) Which of the following is considered a “key player” in the marketing industry ?

- | | |
|------------------------------|-------------------------|
| 1) Marketer | 2) Suppliers or vendors |
| 3) Distributors or retailers | 4) All of the above |

5) Which of the following is NOT considered a type of reseller ?

- | | |
|-----------------|----------------|
| 1) Wholesaler | 2) Retailer |
| 3) Manufacturer | 4) Distributor |



- 6) The act of trading a desired product or service to receive something of value in return is known as which key concept in marketing ?
- | | |
|---------------|-------------|
| 1) Product | 2) Exchange |
| 3) Production | 4) Customer |
- 7) Marketing is both an “art” and a “science” there is constant tension between the formulated side of marketing and the _____ side.
- | | |
|---------------|--------------|
| 1) Creative | 2) Selling |
| 3) Management | 4) Behavior. |
- 8) Anything that can be offered to a market for attention, acquisition, use, or consumption that might satisfy a want or need is called a(n)
- | | | | |
|---------|-----------|------------|------------|
| 1) Idea | 2) Demand | 3) Product | 4) Service |
|---------|-----------|------------|------------|
- 9) Current Ratio = _____
- | | | | |
|------------|----------|----------|----------|
| 1) CA – CL | 2) CA/CL | 3) LA-CL | 4) FL-CL |
|------------|----------|----------|----------|
- 10) Working Capital = _____
- | | | | |
|------------|----------|----------|----------|
| 1) CA – CL | 2) CA/CL | 3) LA-CL | 4) FL-CL |
|------------|----------|----------|----------|
- 11) Net profit Ratio in times = _____
- | | |
|---------------------|-----------------------|
| 1) Net Profit/Sales | 2) Gross Profit/Sales |
| 3) Sales/Net profit | 4) Sales/Gross Profit |
- 12) _____ segmentation classifies consumers on the basis of age, sex, income and occupation.
- | | |
|------------------|---------------|
| 1) Psychological | 2) Geographic |
| 3) Demographic | 4) Behavioral |
- 13) _____ is the process of identifying specific market segments.
- | | |
|---------------------|---------------------|
| 1) Market targeting | 2) Target marketing |
| 3) Positioning | 4) Marketing |
- 14) _____ referred to as zero segmentation.
- | | |
|-----------------------------|---------------------|
| 1) Mass marketing | 2) Niche marketing |
| 3) Differentiated marketing | 4) Market targeting |



2. Answer the following questions (**any 7**) : **14**
- 1) Working capital.
 - 2) Advantages of segmentation.
 - 3) Scope of marketing.
 - 4) Introduction to management accounting.
 - 5) What is meant by ratio analysis ?
 - 6) What is meant by business ?
 - 7) Debtors Turnover Ratio.
 - 8) Inventory Turnover Ratio.
 - 9) Target Marketing.
3. A) Describe the following (**any 2**). **10**
- 1) Selling Vs Marketing.
 - 2) Define Management Accounting.
 - 3) Explain scope of marketing research.
- B) Define Accounting Conventions. **4**
4. Answer **any two** of the following. **14**
- 1) From the following calculate working.

Debtors	Rs. 50,000
Cash and Bank bal.	Rs. 1,00,000
Creditors	Rs. 15,000
O/S. Salary	Rs. 40,000
Inventory	Rs. 2,50,000
Bills Payable	Rs. 25,000
Bills Receivable	Rs. 40,000
 - 2) Define Marketing Environment ? State Internal and External forces of environment.
 - 3) Explain Process of marketing research.



5. Answer **any two** of the following :

14

1) Calculate Ratios from the following information

Sales	Rs. 5,00,000
Net Profit	Rs. 1,00,000
Gross Profit	Rs. 2,00,000
Stock	Rs. 1,00,000

In the Sales 20% Sales are in Cash basis and remaining in credit basis.

- A) Net profit ratio
 - B) Gross Profit Ratio
 - C) Stock Turnover Ratio
 - D) Debtors Turnover Ratio
- 2) State Operating Cycle in business.
- 3) Explain analysis of financial statement.
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**B.Sc. – I (Entrepreneurship) (Semester – II) (CBCS) Examination, 2018
ENTREPRENEURSHIP SCIENCE (Paper – II)
Cost Accounting and Project Management**

Day and Date : Tuesday, 20-11-2018
Time : 10.30 a.m. to 1.00 p.m.

Total Marks : 70

1. Choose the **correct** answer from given alternative : 14

- 1) The total of all direct expenses is known as _____ cost.
 - a) Prime cost
 - b) Factory cost
 - c) Selling cost
 - d) Product cost
- 2) A building construction concerns employs _____
 - a) Process costing
 - b) Contract costing
 - c) Job costing
 - d) Factory cost
- 3) Aggregate of prime cost and factory overheads is _____
 - a) Cost of goods sold
 - b) Factory cost
 - c) Selling cost
 - d) Cost of production
- 4) Carriage outward is an item of _____
 - a) Prime cost
 - b) Factory cost
 - c) Selling and distribution overheads
 - d) Office and administration overheads
- 5) Calculate the prime cost from the following information :

Opening stock of raw material	Rs. 50,000
Material purchased	Rs. 1,00,000
Closing stock of raw material	Rs. 60,000
Direct labour	Rs. 70,000

 - a) Rs. 1,50,000
 - b) Rs. 1,60,000
 - c) Rs. 2,80,000
 - d) Rs. 2,10,000



2. Solve **any seven** from the following : **14**
- 1) Long form of MSMEs.
 - 2) What is costing ?
 - 3) What is management accounting ?
 - 4) What is cost sheet ?
 - 5) What is farm costing ?
 - 6) Define tiny industry.
 - 7) Define process costing with an example.
 - 8) Process of project management.
 - 9) Examples of small scale industries.
3. A) Write note on **any two** from the following : **10**
- 1) Difference between cost accounting and management accounting.
 - 2) Importance of cost accounting.
 - 3) Relation between small and large scale industry.
- B) Briefly explain characteristics of small scale industries **4**
4. Write in brief answer from the following (**any two**) : **14**
- 1) What is cost ? Explain its types.
 - 2) Problems of Small Scale Industries.
 - 3) What is project report ? Explain contents.
5. Write in brief from the following (**any two**) : **14**
- 1) Explain types of cost.
 - 2) Objectives and scope of small scale industries.



- 3) From the following particulars calculate :
- a) Prime cost
 - b) Factory cost
 - c) Cost of goods sold
 - d) Profit

	Rs.
Opening stock of raw materials	61,000
Opening stock of finished goods	40,800
Closing stock of raw materials	97,000
Closing stock of finished goods	20,000
Purchase of raw material	50,000
Opening stock of work in process	16,000
Closing stock of work in process	18,000
Sales during the year	1,90,000
Direct Wages	40,800
Factory expenses	21,000
Office expenses	11,000
Selling expenses	7,600
Distribution expenses	5,000



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B.Sc. – I (Entrepreneurship) (Semester – II) (CBCS Pattern)
Examination, 2018
INDUSTRIAL CHEMISTRY
Fundamentals of Physical Chemistry (Paper – I)

Day and Date : Thursday, 22-11-2018
Time : 10.30 a.m. to 1.00 p.m.

Total Marks : 70

N.B. : i) *All questions are compulsory.*

ii) *Draw neat labeled diagrams and write equations wherever necessary.*

iii) *Figures to the right indicate full marks.*

1. Select the most **correct** alternative from among those given below and rewrite the sentence :

14

- 1) Molecularity never be _____
 - a) Zero
 - b) Negative
 - c) Infinity
 - d) All of these
- 2) The reaction, $A + B \rightarrow \text{products}$, is
 - a) Unimolecular
 - b) Bimolecular
 - c) Tetra molecular
 - d) Trimolecular
- 3) The number of moles of solute in 1000g of Solvent is called as _____
 - a) Molality
 - b) Molarity
 - c) Mole fraction
 - d) Normality
- 4) The ratio of weight of solvent to the weight of solution is called as _____
 - a) Weight fraction of solute
 - b) Weight fraction of solvent
 - c) % composition by weight
 - d) % composition by volume
- 5) The half life period of _____ order reaction is independent of the initial concentration of the reactant.
 - a) Third
 - b) Second
 - c) First
 - d) All of these



2. Answer **any seven** of the following : 14
- i) Define the terms
 - a) Molarity b) Normality
 - ii) Give the factors affecting rate of reaction.
 - iii) Define
 - a) solute b) solvent
 - iv) Define order of reaction and give example of pseudo-first order reaction.
 - v) Define the term Co-efficient of viscosity.
 - vi) Define constitutive property with suitable example.
 - vii) Define ideal and non ideal gas.
 - viii) Write the Van der Waals equation.
 - ix) Define mole fraction and give its equation.
3. A) Attempt **any two** of the following : 10
- i) A first order reaction is half complete in 20 minutes. In how much time it will be 7/8 completed.
 - ii) Discuss the deviation from ideal gas behaviour.
 - iii) Explain the surface tension with suitable diagram.
- B) Define zero order reaction. Derive an expression for a zero order reaction. 4
4. Attempt **any two** of the following : 14
- i) Define Second order reaction. Derive an expression for a second order reaction with equal concentration.
 - ii) Give the experimental determination of co-efficient of Viscosity by Ostwald's Viscometer.
 - iii) Explain Andrew's isotherm for carbon dioxide gas.
5. Attempt **any two** of the following : 14
- i) Explain the method to determine surface tension.
 - ii) Prove that $P_c = a/27b^2$, $V_C = 3b$, $T_c = 8a/27Rb$
 - iii) Give the characteristics of First Order reaction.



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B.Sc. – I (Semester – II) (Entrepreneurship) (CBCS) Examination, 2018
Industrial Chemistry (Paper – II)
FUNDAMENTALS OF ANALYTICAL CHEMISTRY

Day and Date : Saturday, 24-11-2018
Time : 10.30 a.m. to 1.00 p.m.

Total Marks : 70

- Instructions :**
- i) **All questions are compulsory.**
 - ii) **Figures to the right indicate full marks.**
 - iii) **Use of log table or scientific calculator is allowed.**

1. Choose most **correct** alternative for each of following and rewrite the sentences.

14

- i) The process of breaking down the less volatile higher hydrocarbon into more volatile lower hydrocarbon is called _____
 - a) Cracking
 - b) Knocking
 - c) Hydroforming
 - d) Isomerisation
- ii) Refining of petroleum yields _____ major fractions.
 - a) 2
 - b) 5
 - c) 1
 - d) 6
- iii) Natural gas contains _____
 - a) Methane
 - b) Ethane
 - c) Propane
 - d) All of these
- iv) Based on origin the polymers are grouped into _____ and _____
 - a) Homo, hetero
 - b) Synthetic, natural
 - c) Copolymer, polymer
 - d) Both b and c
- v) A polymer material becomes permanently hard on heating at critical temperature is _____
 - a) Rubber
 - b) Thermosetting
 - c) Polyethane
 - d) Thermoplastic



- vi) Homopolymer carries _____ type of polymer.
a) Linear b) Branched
c) One d) Two
- vii) Natural process is _____
a) Spontaneous b) Non spontaneous
c) Reversible d) Adiabatic
- viii) Efficiency of heat engine is _____
a) 0 b) 1
c) Greater than one d) Less than one
- ix) For cyclic process _____
a) $q = 0$ b) $p = 0$
c) $w = 0$ d) $q = w$
- x) In carnot heat engine lower temperature is of _____
a) Sink b) Source
c) Engine d) Working Substance
- xi) Major nutrients of plant are _____
a) C, H, O b) N, P, K
c) B, Fe, Zn d) S, Mg, Mn
- xii) The methods of adulteration of milk are _____
a) Skimming b) Watering
c) Addition of foreign material d) All of these
- xiii) For detection of starch in the milk, milk gives _____ colour with iodine.
a) Green b) Blue
c) Yellow d) Red
- xiv) Out of following _____ is used as antiacid.
a) HCl b) NH_4OH
c) Na_2CO_3 d) MgSO_4

2. Answer **any seven** of the following :

14

- i) Define i) Fire point ii) Flash point.
- ii) Give the uses of orlon.
- iii) State and explain Hess law.

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- iv) Write steps involved in Carnot cycle.
 - v) Name the major constituents of milk.
 - vi) Define i) Desalination ii) Hard water
 - vii) Define enthalpy.
 - viii) Define addition and condensation polymer.
 - ix) Define calorific value and heating value.
3. A) Answer **any two** of the following. **10**
- i) Explain refining of petroleum with suitable diagram.
 - ii) What is meant by vulcanisation of rubber.
 - iii) A heat engine works between.
 - i) 127°C and 27°C
 - ii) 500 K and 300kcalculate efficiency of engine.
- B) Give various statements of second law of thermodynamics. **4**
4. Answer **any two** of the following : **14**
- i) Explain following terms.
 - a) Octane number
 - b) Reforming
 - ii) Give the difference between spontaneous and non spontaneous process.
 - iii) Define antiaacids. Give the classification of antiaacids. Explain cis platin.
5. Answer **any two** of the following : **14**
- i) Give the synthesis and uses of
 - a) Polyethene
 - b) Polystyrene
 - ii) Explain types of fuel.
 - iii) Explain Hess law and Joule-Thomson effect.
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**B.Sc. – I (Semester – II) (Entrepreneurship) (CBCS) Examination, 2018
INDUSTRIAL MICROBIOLOGY – I
Fundamentals of Industrial Microbiology**

Day and Date : Monday, 26-11-2018

Total Marks : 70

Time : 10.30 a.m. to 1.00 p.m.

- N.B. :** 1) *All questions are **compulsory** and **carry equal marks.***
2) *Draw a **neat** labeled diagram **wherever** necessary.*
3) *Figure to the **right** indicates **full** marks.*

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

14

- i) Cobalt chloride is precursor used during _____ production.
a) Penicillin b) Acetic acid
c) Vitamin B12 d) Sodium chloride
- ii) Baffles are used to avoid the _____ formation.
a) Acid b) Base c) Foam d) Vortex
- iii) The process that eliminates all forms of life including spores and other biological agent is known as _____
a) Lyophilization b) Sterilization
c) Growth d) Disinfection
- iv) _____ is an example of batch filtration process.
a) Stage b) Rotary vacuum drum
c) Plate and Frame d) Basket
- v) Penicillin technique is used to isolate and selection of _____ strain.
a) Auxotrophic b) Pathogenic
c) Neutral d) Acidic

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- vi) Starch is mainly used as a carbon source during _____ production.
- | | |
|------------|----------------|
| a) Amylase | b) Citric acid |
| c) Ethanol | d) Amino acid |
- vii) _____ technique is used in screening of growth factor producers.
- | | |
|------------------|----------------------|
| a) Crowded plate | b) pH indicating dye |
| c) Replica Plate | d) Streak plate |
- viii) _____ process used at all scales of operation to separate suspended particles from a liquid or gas, using a porous medium.
- | | |
|------------------|-------------------|
| a) Filtration | b) Centrifugation |
| c) Precipitation | d) Streak |
- ix) In alcoholic beverages production _____ is mainly used microbial source.
- | | | | |
|------------------|----------------------|-----------------------|-------------------|
| a) <i>E.coli</i> | b) <i>B.subtilis</i> | c) <i>S.cerevisae</i> | d) <i>A.niger</i> |
|------------------|----------------------|-----------------------|-------------------|
- x) AISI 316 grade steel contains _____% chromium.
- | | | | |
|-------|-------|-------|-------|
| a) 08 | b) 10 | c) 01 | d) 18 |
|-------|-------|-------|-------|
- xi) _____ is a process in which water is removed from a product after it is frozen and placed under a vacuum, allowing the ice to change directly from solid to vapor without passing through a liquid phase.
- | | |
|-------------------|-----------------|
| a) Lyophilization | b) Growth |
| c) Sterilization | d) Disinfection |
- xii) Primary metabolites are mainly produce in _____ growth phase.
- | | | | |
|---------------|---------|--------------|-----------|
| a) Stationary | b) Idio | c) Synthetic | d) Tropho |
|---------------|---------|--------------|-----------|
- xiii) _____ is used in fermenter to provide sterile air.
- | | | | |
|-----------|------------|-------------|-------|
| a) Baffle | b) Sparger | c) Agitator | d) pH |
|-----------|------------|-------------|-------|
- xiv) _____ is the raw material used for ethanol production.
- | | | | |
|-----------------|------------|-------------|---------|
| a) Beef extract | b) Peptone | c) Molasses | d) Agar |
|-----------------|------------|-------------|---------|



2. Attempt **any seven** of the following. **14**
- i) Define fermenter.
 - ii) Enlist the precursors used in fermentation media.
 - iii) Define Precursors.
 - iv) Define Screening.
 - v) Define Industrial Microbiology.
 - vi) Define Sterilization.
 - vii) Define Antifoam agent.
 - viii) Define Antibiotic.
 - ix) Sketch neat labeled diagram of fermenter.
3. A) Answer **any two** of the following. **10**
- i) Explain fermentation process in brief.
 - ii) Explain in detail sterilization of fermentation media.
 - iii) Discuss in brief isolation and preservation of industrially important microorganisms.
- B) Describe in brief scope of Industrial Microbiology. **4**
4. Answer **any two** of the following. **14**
- i) What is screening ? Explain with suitable example, primary screening.
 - ii) Describe in detail raw material used in fermentation media.
 - iii) Describe in detail factors affecting fermentation process.
5. Attempt **any two** of the following. **14**
- i) Explain different techniques used in a secondary screening.
 - ii) Explain in detail history of industrial microbiology.
 - iii) Explain in detail different types of fermenter used in fermentation industry.



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**B.Sc. – I (Semester – II) (Entrepreneurship) (CBCS) Examination, 2018
INDUSTRIAL MICROBIOLOGY – II
Basics Techniques in Industrial Microbiology**

Day and Date : Tuesday, 27-11-2018
Time : 10.30 a.m. to 1.00 p.m.

Total Marks : 70

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

1. Choose the **correct** alternative and rewrite the sentences again. **14**
- i) _____ can be used for strain improvement.
 - a) Mutagenesis
 - b) Site directed mutagenesis
 - c) Gene manipulations
 - d) All of these
 - ii) Ethyl Methane Sulfonate (EMS) and Ethidium Bromide (EB) are _____ mutagenic agents.
 - a) Physical
 - b) Chemical
 - c) Biological
 - d) rDNA
 - iii) UV is _____ mutagenic agent.
 - a) Physical
 - b) Chemical
 - c) Biological
 - d) rDNA
 - iv) rDNA technology is also known as _____
 - a) Mutation
 - b) Gene manipulation
 - c) Fermentation
 - d) Sterilization
 - v) Gradual process of enhancing lab fermentations to industrial level is known as _____
 - a) Up stream
 - b) Down stream
 - c) Scale up
 - d) Scale down



- vi) Scale up of fermentation considers _____
- a) Fermentation economics b) Upstream processing
c) Downstream processing d) All of these
- vii) Microbial preparation for addition in fermentation medium is known as _____
- a) Media optimization b) Inoculums preparation
c) Mutation d) Scale down
- viii) End point assay is practiced for determination of _____
- a) Vitamin b) Antibiotic
c) Growth factor d) Citric acid
- ix) Auxotrophic mutants are used for _____ assay.
- a) Vitamin b) Antibiotic
c) Citric acid d) Ethanol
- x) Determination of optical density of broth is practiced in _____ assay.
- a) Enzymatic b) Diffusion
c) Turbidometric d) metabolic response
- xi) Speed of agitation is measured using _____ unit.
- a) RPM b) RSM c) RTM d) RAM
- xii) The recovery and purification of fermentation products refers _____
- a) Upstream processing b) Downstream processing
c) Incubation d) Inoculation
- xiii) On the basis of boiling point volatile compounds are purified using _____
- a) Fractional distillation b) Centrifugation
c) Filtration d) Precipitation
- xiv) In computer based control, manually or automatic _____ of the fermenter are controlled.
- a) Valves of auxiliary equipments b) Media composition
c) Product formation d) Downstream processing



2. Define and explain in short **any seven** of the following : **14**
- i) Mutation.
 - ii) rDNA technology.
 - iii) What is filtration ?
 - iv) Assay.
 - v) Metabolites.
 - vi) Distillation.
 - vii) Centrifugation.
 - viii) Turbidity.
 - ix) Sparger.
3. A) Answer **any two** of the following. **10**
- i) Write in detail on inoculum preparation.
 - ii) Explain in brief metabolic response assay.
 - iii) Discuss in brief downstream processing using filtration and centrifugation.
- B) Give brief account on strain improvement using mutagenesis. **4**
4. Answer **any two** of the following : **14**
- i) Write an essay on computer applications in fermentation technology.
 - ii) Write an essay on downstream processing using solvent extraction and distillation.
 - iii) Write an essay on downstream processing using precipitation and crystallization.
5. Answer **any two** of the following : **14**
- i) Write an essay on scale up of fermentation.
 - ii) Write an essay on enzymatic assay.
 - iii) Write an essay on strain improvement using gene manipulation.
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B.Sc. – I (Semester – II) (Entrepreneurship) Examination, 2018
(CBCS) Pattern
INDUSTRIAL BIOTECHNOLOGY
Basics of Biomolecules (Paper – I)

Day and Date : Wednesday, 28-11-2018
Time : 10.30 a.m. to 1.00 p.m.

Max. Marks : 70

- N.B. :**
- 1) **All questions are compulsory and carry equal marks.**
 - 2) **Draw a neat labelled diagram wherever necessary.**
 - 3) **Figure to the right indicate full marks.**

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

14

- i) Maltose is disaccharide consisting _____ glycosidic linkage.
A) β 1 – 4 B) α 1 – 4 C) α 1 – 6 D) β 1 – 6
- ii) The oligosaccharide linked to proteins is called as _____.
A) Glycosides B) Glycolipid C) Glycoprotein D) Ganglioside
- iii) The hydrolysis of fats into fatty acid and glycerol by alkali treatment is known as
A) Saponification B) Colloidal
C) Methylation D) Softening
- iv) The α helix has _____ amino acids residues per turn.
A) 3.4 B) 3.6 C) 3.8 D) 3.0
- v) The tertiary structure of proteins is maintained by _____ bond.
A) Peptide B) Hydrogen
C) Disulphide D) All of the above
- vi) The enzyme which is secreted in the presence of substrate is called as
A) Inducible B) Constitutive
C) Exoenzyme D) Endoenzyme

P.T.O.



- vii) The different form of enzyme which catalyze similar reaction is known as
A) Coenzyme B) Apezyme C) Ribozyme D) Isoenzyme
- viii) _____ is water soluble vitamin.
A) Vitamin A B) Vitamin K C) Vitamin B D) Vitamin D
- ix) _____ is a fibrous protein.
A) Haemoglobin B) Silk fibroin C) Albumin D) Myoglobin
- x) Right handed α helix is present in _____ of Ramchandran plot.
A) Quadrant I B) Quadrant II C) Quadrant III D) Quadrant IV
- xi) Rickets is caused due to deficiency of
A) Vitamin A B) Vitamin K C) Vitamin B D) Vitamin D
- xii) The substrate binds to active site of enzyme by _____ bonds.
A) Peptide B) Hydrogen C) Disulphide D) Vander wall
- xiii) _____ hormone responsible for smooth muscle contraction.
A) Oxytocin B) Insulin C) TSH D) Glucagon
- xiv) _____ is a storage homopolysacchride.
A) Glucose B) Sucrose C) Starch D) Peptidoglycan

2. Answer **any seven** of the following :

14

- i) Define oligosacchride. Give one example.
- ii) Enlist fat soluble vitamin.
- iii) Define glycosaminoglycan.
- iv) Defination of Monosaccharide.
- v) Define coenzyme.
- vi) Define cerebrosides.
- vii) Define active site.
- viii) Enlist aromatic amino acids.
- ix) Liposomes.



3. A) Answer **any two** of the following : **10**
- i) Describe in brief factors affecting on enzyme activity.
 - ii) Discuss in detail structure and function of glycoprotein.
 - iii) Describe in detail structure of cholesterol.
- B) Give a detailed account on mechanism of enzyme action. **4**
4. Answer **any two** of the following : **14**
- i) Describe in detail structural level of classification of proteins.
 - ii) Discuss in detail classification of lipids.
 - iii) Define hormone. Describe in detail role of insulin and pituitary hormones.
5. Answer **any two** of the following : **14**
- i) Give a detailed account on polysacchrides.
 - ii) Discuss in detail sources and dietary recommendations of water soluble vitamins.
 - iii) Describe in detail methods of enzyme immobilization.
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B.Sc. – I (Entrepreneurship) (Semester – II) (CBCS)
Examination, 2018
INDUSTRIAL BIOTECHNOLOGY
Basics of Metabolism (Paper – II)

Day and Date : Thursday, 29-11-2018
Time : 10.30 a.m. to 1.00 p.m.

Total Marks : 70

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

1. Rewrite the sentence by choosing the **correct** alternatives from the following. **14**

- 1) Light is necessary in the process of photosynthesis to _____
- a) Split CO_2
 - b) Releasing energy
 - c) Produce ATP and a reducing substance
 - d) Combine CO_2 and water
- 2) The end product of fermentation is _____
- a) O_2 and $\text{C}_2\text{H}_5\text{OH}$
 - b) CO_2 and $\text{C}_2\text{H}_5\text{OH}$
 - c) CO_2 and O_2
 - d) CO_2 and acetaldehyde
- 3) _____ of the following is least effective in photosynthesis.
- a) Blue light
 - b) Red light
 - c) Green light
 - d) Sunlight
- 4) The first Phase in the breakdown of glucose in animal cell is _____
- a) Glycolysis
 - b) Kreb's cycle
 - c) ETS
 - d) Glycogenolysis
- 5) End product of Citric acid/Kreb's cycle is _____
- a) Citric acid
 - b) Pyruvic acid
 - c) Lactic acid
 - d) Carbon dioxide and water



2. Answer **any seven** of the following : 14
- 1) Define Photosynthesis.
 - 2) ADP phosphorylation.
 - 3) Chemotrophs.
 - 4) LD50 toxicity.
 - 5) Enlist the enzymes in biotransformation.
 - 6) Enlist the inhibitors of Electron transport Chain.
 - 7) Primary energy source of living organism on earth.
 - 8) Draw a neat and labeled diagram of mitochondria.
 - 9) Catabolism.
3. A) Answer **any two** of the following : 10
- 1) Write a note on ligand gated ion channel.
 - 2) Give the factor affecting on the rate of photosynthesis.
 - 3) Explain Cytochrome P-450 system.
- B) Explain in detail Autotrophy and heterotrophy with proper example. 4
4. Answer **any two** of the following : 14
- 1) Explain process of Glycolysis in detail.
 - 2) Describe the process of passive transportation.
 - 3) Write a brief note on model used in environmental monitoring.
5. Answer **any two** of the following : 14
- 1) Write a detail note on Acute and Chronic toxicity.
 - 2) Differentiate between cyclic and non cyclic electron transport system.
 - 3) Explain in detail Voltage gated Channel with example.
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**B.Sc. – II (Semester – III) Entrepreneurship (CBCS) Examination, 2018
ENTREPRENEURSHIP (Paper – V)
Principles of Business Management and Business Organization**

Day and Date : Friday, 30-11-2018
Time : 2.30 p.m. to 5.00 p.m.

Total Marks : 70

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

1. Choose the **correct** alternative and rewrite the sentences again : **14**

- 1) _____ is the planning, organizing, leading and controlling of human and other resources to achieve organizational goals efficiently and effectively.
a) Management b) Controlling
c) Planning d) Training
- 2) The process of monitoring performance, comparing it with goals and correcting any significant deviations is known as _____
a) Training b) Planning
c) Appraisal d) Controlling
- 3) The management function that specifies goals to be achieved and deciding in advance the appropriate actions to achieve those goals is called as _____
a) Leading b) Controlling
c) Planning d) All of the above
- 4) _____ individual is most closely associated with scientific management.
a) Mary Parker Follett b) Frederick Taylor
c) Harold Koontz d) Max Weber



- 5) _____ levels of management is between the supervisory level and the top level of the organization.
- Middle
 - Supervisors
 - Top
 - Foremen
- 6) Each subordinate should report to one and only one superior is called as _____
- Unity of direction
 - Order
 - Authority
 - Unity of command
- 7) _____ Management thinker is related with the development of "Theory X".
- Abraham Maslow
 - Douglas McGregor
 - Frederick Herzberg
 - Chester Bernard
- 8) A plan developed to carry out a course of action that is not likely to be repeated in the future is called as _____
- Specific plan
 - Single-use plan
 - Reaction plan
 - Directional plan
- 9) Management is both _____
- Science and art
 - Science
 - Art
 - None of these
- 10) Organizing is the process of _____ work into convenient tasks or duties.
- not dividing
 - dividing
 - gathering
 - All of the above
- 11) Management is _____ in nature.
- Scientific
 - Mathematical
 - Universal
 - All of the above
- 12) _____ is example of control technique.
- Leading
 - Planning
 - Controlling
 - Break even point
- 13) _____ is the function by which management build an organization through the recruitments, selection and development of individual as capable employee.
- Staffing
 - Planning
 - Controlling
 - Training
- 14) In autocratic leadership decision making is _____
- Centralized
 - Decentralized
 - Participative
 - All of the above



2. A) Define and explain **any four** of the following : 8
- 1) Define Management.
 - 2) What is Leadership ?
 - 3) What is Motivation ?
 - 4) What is Decision Making ?
 - 5) Define Controlling.
- B) Write short note on **any two** of the following : 6
- 1) Explain types of Organization.
 - 2) Explain Benefits of planning.
 - 3) Explain Non financial incentives in motivation.
3. A) Answer **any two** of the following : 8
- 1) Explain types of control.
 - 2) Explain decision making process.
 - 3) Explain types of planning.
- B) Answer **any one** of the following : 6
- 1) Explain theory X.
 - 2) Explain Qualities of leader.
4. A) Answer **any two** of the following : 10
- 1) Explain process of planning.
 - 2) Explain contribution of Henry Fayol to modern management.
 - 3) Explain types of decisions.
- B) Answer **any one** of the following : 4
- 1) Explain concept of business organization with its importance.
 - 2) Explain theory Z.
5. Answer **any two** of the following : 14
- 1) Explain need hierarchy theory of motivation.
 - 2) Explain types of leadership style.
 - 3) Explain functions and role of managers in organization.



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B.Sc. – II (Semester – III) (CBCS) Examination, 2018
ENTREPRENEURSHIP (Paper – VI)
Advanced Accountancy and Auditing

Day and Date : Saturday, 1-12-2018
Time : 2.30 p.m. to 5.00 p.m.

Max. Marks : 70

Instructions : 1) **All questions are compulsory.**
2) **All questions carry equal marks.**

1. Choose the correct answer from given alternative : 14
- 1) In Journal, The business transaction is recorded
 - a) Same day
 - b) Next day
 - c) Once of week
 - d) Once of month
 - 2) Balance sheet is a statement of
 - a) Assets
 - b) Liability
 - c) Capital
 - d) All of the above
 - 3) VAT stands for
 - a) Value Added Tax
 - b) Very Action Tax
 - c) Voucher Actual Tax
 - d) Value Act Tax
 - 4) A person who owes money to the business is _____ of the business.
 - a) Debtor
 - b) Creditor
 - c) Purchase
 - d) Seller
 - 5) _____ is a period of Financial Accounting year.
 - a) 1 April to 31 March
 - b) 1 June to 30 May
 - c) 1 Jan. to 31 December
 - d) 1 Sept. to 31 August
 - 6) The following is not a type of liability.
 - a) Short term
 - b) Current
 - c) Fixed
 - d) Contingent



- 7) The accounts that records expenses, gains and losses are
- a) Personal Account b) Real Accounts
c) Nominal Accounts d) None of these
- 8) The sales income (Credit and Cash) of a business during a given period is called
- a) Transactions b) Sales Return
c) Turnover d) Purchase Return
- 9) A Master Budget consists of
- a) Sales Budget b) Production Budget
c) Material Budget d) All of the above
- 10) Any written evidence in support of a business transaction is called
- a) Journal b) Ledger
c) Ledger posting d) Voucher
- 11) In Tally, F4 functional key is used to recognize _____ option.
- a) Backup b) Period
c) Date d) Restore
- 12) To activate Gateway of tally _____ shortcut key is used.
- a) Ctrl + m b) Ctrl + p
c) Ctrl + o d) Ctrl + g
- 13) In Tally, for Receipt Voucher _____ key is used.
- a) F6 b) F7
c) F8 d) F9
- 14) In Tally _____ key is used to change the date
- a) F3 b) F2
c) F7 d) F10
2. A) Answer the following (**any 4**) :
- 1) Define Ledger.
2) Long form of Ff and CS.
3) What is meant by Trust ?
4) What is Audit Report ?
5) Long form of C.A. and CS.



- B) Write short on **(any 2)** : 6
- 1) VAT Master
 - 2) Bank
 - 3) Insurance Claims.
3. A) Answer the following **(any 2)** : 8
- 1) What is account ? Types and rules of account.
 - 2) Describe Bank Reconciliation statement.
 - 3) Write down objective of advance accounting.
- B) Answer the following **(any 1)** : 6
- 1) Explain the short cut keys in Tally.
 - 2) Explain the function key in tally with example.
4. A) Answer the following **(any 2)** : 10
- 1) Explain the position on cash basis on Working Capital Basis.
 - 2) What is Audit ? Explain the types of Audit ?
 - 3) Explain the scope and objective of vouching.
- B) Answer the following **(any 1)** : 4
- 1) Describe the statutory Audit Report.
 - 2) Write down statement of advance accounting.
5. Answer the following **(any two)** : 14
- 1) Draw a Company Creation and Gate way of tally menu.
 - 2) Explain the groups that are given tally.
 - 3) State groups of ledgers and create ledgers.
 - 1) Mr. Sandy starts business with Rs. 1,00,000
 - 2) Paid for office building Rs. 50,000/-
 - 3) Purchase raw material of Rs. 10,000/- on credit from Mr. Avinash
 - 4) Paid wages Rs. 2,000/-
 - 5) Paid Salary Rs. 10,000/-
 - 6) Sole Old Newspaper Rs. 450/-
 - 7) Sold goods to Mr. Shaker Rs. 5,000/-



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B.Sc. – II (Semester – III) (Entrepreneurship) Examination, 2018
INDUSTRIAL CHEMISTRY (Paper – V) (CBCS)
Analytical and Industrial Aspects of Inorganic Chemistry

Day and Date : Monday, 3-12-2018

Max. Marks : 70

Time : 2.30 p.m. to 5.00 p.m.

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

1. Choose the correct alternative and rewrite the sentences again. 14

- 1) In manufacture of sulphuric acid by contact process temperature is _____ °C.
- a) 400-450
b) 500-600
c) 200-250
d) None of these
- 2) _____ precipitate have particle size 10^{-6} to 10^{-5} .
- a) Gelatinous
b) Amorphous
c) Crystalline
d) Curdy
- 3) _____ is called as king of chemicals.
- a) H_2SO_4
b) $(NH_4)_2SO_4$
c) Caustic potash
d) Perchloric acid
- 4) The enzyme which can catalyze the conversion of glucose to ethanol is
- a) Maltose
b) Zymase
c) Invertase
d) Diastase
- 5) Passivity producing reagent are
- a) Reducing agent
b) Oxidizing agent
c) Lewis bases
d) Buffering agent
- 6) The point at which the pH of the reaction mixture becomes exactly equal to 7 is known as _____ point.
- a) titration
b) end
c) neutral
d) equivalence



- 7) pH range of methyl red indicator is
a) 3.1-4.2 b) 5.2-6.3 c) 6.3-7.1 d) 4.2-6.3
- 8) _____ is essential for corrosion.
a) Water b) Gases c) Liquid d) Solid
- 9) The co-precipitated impurities are removed by
a) Washing b) Boiling
c) Concentrating the precipitant d) Digestion
- 10) _____ increases the efficiency of catalyst.
a) Retarder b) Promoter
c) Initiator d) Temperature
- 11) Universal theory of corrosion was introduced by
a) Whitney b) Evan c) Keir d) Faraday
- 12) The catalytic reactions caused by _____ are called acid catalysis.
a) water b) acid c) base d) alcohol
- 13) For the best yield of ammonia, the concentration of $N_2 : H_2$ is
a) 3 : 1 b) 1 : 1 c) 3 : 2 d) 1 : 3
- 14) Gravimetric analysis is a quantitative estimation of species by
a) volume measurement b) weighing
c) elemental analysis d) oxidation
2. A) Define and explain **any four** of the following : 8
- 1) Draw the structure of Erichrome Black – T indicator.
 - 2) What is meant by heavy chemicals ? Write example.
 - 3) What is meant by catalytic poison ?
 - 4) Define precipitant with example.
 - 5) Which product is obtained in inversion of cane sugar.
- B) Write short note on **any two** of the following : 6
- 1) Methyl orange as an indicator.
 - 2) Characteristics of precipitate.
 - 3) Merits of Haber process.



3. A) Answer **any two** of the following : 8
- 1) Explain oxide film theory.
 - 2) Explain the role of oxine in gravimetric analysis.
 - 3) Write any two example of heterogeneous catalysis.
- B) Answer **any one** of the following : 6
- 1) With help of neutralization curve, explain the choice of indicator for the titration of strong acid with strong base.
 - 2) Discuss the mechanism of precipitate formation.
4. A) Answer **any two** of the following : 10
- 1) Define the term passivity. Explain the types of passivity.
 - 2) Draw neat labeled diagram of solvay process.
 - 3) Explain post precipitation with suitable example.
- B) Answer **any one** of the following : 4
- 1) Discuss in detail differential aeration principle.
 - 2) Discuss any two types of EDTA titration.
5. Answer **any two** of the following : 14
- 1) Discuss manufacturing of sulphuric acid by contact process with neat labeled diagram.
 - 2) Discuss various types of catalysis on the basis of their behavior and mode of action.
 - 3) Give the methods for protection of metal from corrosion.
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B.Sc. (Semester – III) (Entrepreneurship) (CBCS) Examination, 2018
INDUSTRIAL CHEMISTRY (Paper – VI)
(Analytical and Industrial Aspects of Organic Chemistry)

Day and Date : Tuesday, 4-12-2018
Time : 2.30 p.m. to 5.00 p.m.

Max. Marks : 70

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

1. Choose the correct alternative and rewrite the sentences again : 14

- 1) _____ salts of higher fatty acid are known as soft soaps.
a) Sodium b) Potassium c) Calcium d) Magnesium
- 2) Sodium hyposulphite is used as _____ in soap.
a) Oxidant b) Antioxidant
c) Reductant d) Saponifying alkali
- 3) Soap is _____ molecule.
a) Hydrophilic b) Basic hydrophobic
c) Amphipathic d) All of these
- 4) Proguanil is an
a) antimalarial b) antibacterial c) CNS d) antidiabetic
- 5) Guanidino group is present in
a) isoniazide b) phenobarbital c) ethambutol d) paludrin
- 6) The process of removal of starch material is called as _____ in textile industry.
a) Desizing b) Sizing c) Scouring d) Bleaching
- 7) Typhoid, typhus is cured by
a) Ibuprofen b) D(-) chloromycetin
c) D(+) chloromycetin d) Isoniazide
- 8) _____ of the following is a synthetic fiber.
a) Jute b) Wool c) Nylon d) Silk



- 9) _____ imparts flexibility and smoothness to the warp threads.
a) Lubricants b) Brightners c) Starch d) Adhesives
- 10) In India sucrose is manufactured from
a) Molasses b) Sugar cane c) Beet d) All of these
- 11) Defecation is a process used in _____ of cane juice.
a) Extraction b) Concentration c) Purification d) None of these
- 12) Rectified spirit is a mixture of
a) 95% ethyl alcohol + 5% H₂O b) 80% ethyl alcohol + 20 % H₂O
c) 94% ethyl alcohol + 6% H₂O d) 95.6% ethyl alcohol + 4.4% H₂O
- 13) The chemicals used to control weeds are called as
a) Insecticide b) Micronutrients
c) Herbicide d) Hormones
- 14) Condensation of indole with chloroacetonitrile followed by hydrolysis yields
a) Indole-3-acetic acid b) Monocrotophos
c) Endosulphan d) Ethophon
2. A) Define and explain **any four** of the following : 8
- 1) Draw the diagram of three roll mill.
 - 2) Name the different types of detergent.
 - 3) What do you mean by power alcohol ?
 - 4) Give the classification of fiber.
 - 5) What is meant by agrochemicals ? Give its examples.
- B) Write short note on **any two** of the following : 6
- 1) General idea and property of starch.
 - 2) Clarification of juice.
 - 3) Types of soap.
3. A) Answer **any two** of the following : 8
- 1) Write the synthesis and uses of (i) Isoniazide (ii) Ethambutol.
 - 2) Which by-products are formed during the manufacture of alcohol ?
 - 3) Discuss different raw materials used in soap manufacturing.



- B) Answer **any one** of the following : 6
- 1) Distinguish between soap and detergent.
 - 2) Explain bleaching action in textile industry.
4. A) Answer **any two** of the following : 10
- 1) Give the synthesis and uses of monocrotophos.
 - 2) Explain in brief different steps involved in refining of raw sugar.
 - 3) Discuss in brief by-products of sugar industry.
- B) Answer **any one** of the following : 4
- 1) Give the synthesis and uses of Paludrin.
 - 2) Explain in brief about extraction of juice.
5. Answer **any two** of the following : 14
- 1) What are the soaps ? Discuss the manufacture of soap by hot process.
 - 2) What is sizing process and discuss different ingredients used for sizing ?
 - 3) Write the synthesis and applications of following agrochemicals.
(i) Carbaryl (ii) IAA.
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**B.Sc. II (Entrepreneurship) (Semester – III) (CBCS) Examination, 2018
MICROBIAL BIOTECHNOLOGY
Paper – V : Genetics**

Day and Date : Wednesday, 5-12-2018
Time : 2.30 p.m. to 5.00 p.m.

Max. Marks : 70

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

1. Rewrite the following sentences by choosing the correct alternative : **14**
- 1) _____ is the most potent mutagen.
a) UV – B
b) X – rays
c) UV – A
d) UV – C
 - 2) In dominant Epistasis ratio 9 : 3 : 3 : 1 is modified to _____
a) 9 : 7
b) 12 : 3 : 1
c) 12 : 4
d) 13 : 3
 - 3) Pea plants can _____
a) Only cross-fertilize
b) Reproduce with pollination
c) Self-fertilize
d) Self mutate
 - 4) _____ is known as the father of genetics.
a) Morgen
b) Mendel
c) Crick
d) Darwin
 - 5) Linkage genes are located on _____
a) Same chromosome
b) Inherited genes
c) Different chromosome of the same size and shape
d) Heterologous Chromosome



2. A) Define and explain **any four** of the following : 8
- 1) Define Dihybrid with its ratio.
 - 2) Define mutation.
 - 3) Define Mode.
 - 4) Define and explain Dominant.
 - 5) Define and explain Character.
- B) Write short note on **any two** of the following : 6
- 1) What is Gene interaction ?
 - 2) Spontaneous Mutation.
 - 3) Write a note on Law of Segregation with suitable example.
3. A) Answer **any two** of the following : 8
- 1) Define Chromosome and explain its types based on centromere.
 - 2) Write a detailed note on Mendel's experiment.
 - 3) What are Transposable Elements ? Explain its type.
- B) Answer **any one** of the following : 6
- 1) Explain Supplementary Epistasis.
 - 2) Write a detailed note on Recombination.
4. A) Answer **any two** of the following : 10
- 1) Explain in detail Mutagenic agents.
 - 2) Briefly explain Transformation.
 - 3) Explain Law of Co-dominance.
- B) Answer **any one** of the following : 4
- 1) What is Chromosomal aberration ? Explain its types.
 - 2) Describe in brief Transduction.
5. Answer **any two** of the following : 14
- 1) Define crossing over. Explain different theories of crossing over.
 - 2) Describe process of conjugation with suitable example.
 - 3) Write a note on linkage and explain its types.



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B.Sc. – II (Semester – III) (Entrepreneurship) (CBCS) Examination, 2018
MICROBIAL BIOTECHNOLOGY
Fermentation Technology (Paper – VI)

Day and Date : Thursday, 6-12-2018

Total Marks : 70

Time : 2.30 p.m. to 5.00 p.m.

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

1. Choose the **correct** alternative and rewrite the sentences. **14**
- 1) To produce penicillin, main fermentable source in culture is _____
a) Sulphate b) Sodium c) Lactose d) Maltose
 - 2) Alpha amylase randomly splits _____ linkage.
a) α -1, 4 glycosidic bond b) β -1, 4 glycosidic bond
c) α -1, 6 glycosidic bond d) β -1, 6 glycosidic bond
 - 3) Substrate used by microorganisms to produce single-cell proteins includes _____
a) Methane gas b) Industrial wastes
c) Agricultural wastes d) All of above
 - 4) _____ material is used as a bioplastic.
a) PHB b) PVC
c) Polystyrene d) Alkonate
 - 5) The juice that is extracted from the grapes is called as _____
a) Malt b) Clear juice c) Must d) Hops



- 6) Vitamin B12 is _____ containing vitamin.
- a) Sulphur
 - b) Cobalt
 - c) Sodium
 - d) Phosphorus
- 7) _____ is an example of beta lactum antibiotic.
- a) Chloramphenicol
 - b) Penicillin
 - c) Gentamycin
 - d) Grisofulvin
- 8) Starchy substrate mainly used in the production of _____
- a) Penicillin
 - b) Amylase
 - c) Wine
 - d) Biofertilizer
- 9) In biogas production _____ gas is mainly generated.
- a) Ethane
 - b) Propane
 - c) Methane
 - d) Citrate
- 10) Industrial microbiology, mainly depends on the phenomenon _____
- a) Vaccination
 - b) Fermentation
 - c) Purification
 - d) Pasteurization
- 11) _____ organism mainly used in the production of bioinsecticide.
- a) *Bacillus subtilis*
 - b) *Bacillus thuringensis*
 - c) *Pseudomonas aurogenosa*
 - d) *Staphylococcus species*
- 12) In penicillin G production _____ is the precursor used.
- a) Acetate
 - b) Acetic acid
 - c) Phenyl acetic acid
 - d) Methoxy acetic acid
- 13) Penicillin is commercially produced by _____
- a) B.subtilis
 - b) E.coli
 - c) A.niger
 - d) P. chrysogenum
- 14) _____ is mainly used as a raw material during ethanol fermentation.
- a) Meat Extract
 - b) Molasses
 - c) Peptone
 - d) Beef extract



2. A) Define and explain **any four** of the following : 8
- 1) Give types of beer.
 - 2) Biogas composition.
 - 3) Enlist types of wine.
 - 4) Define Antibiotic.
 - 5) PHA.
- B) Write short note on **any two** of the following : 6
- 1) Applications of vitamin B12.
 - 2) Biochemistry of ethanol fermentation.
 - 3) Distillation.
3. A) Answer **any two** of the following : 8
- 1) Uses of SCP.
 - 2) Write in detail L-Lysine production.
 - 3) Flowchart for wine production.
- B) Answer **any one** of the following : 6
- 1) Give a detailed account on ethanol production.
 - 2) Describe in detail Biofertilizer production.
4. A) Answer **any two** of the following : 10
- 1) Describe in brief Bio insecticide production.
 - 2) Describe in detail industrial production of Penicillin.
 - 3) Write in detail SCP production.
- B) Answer **any one** of the following. 4
- 1) Describe in detail Amylase fermentation.
 - 2) Define fermentation and explain in detail citric acid production.
5. Answer **any two** of the following : 14
- 1) Explain in detail Micro-organisms involved, media and product recovery of Vit. B12.
 - 2) Give a detailed account on Beer production.
 - 3) Discuss in detail Biogas production.



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**B.Sc. – II (Entrepreneurship) (Semester – IV) (New CBCS)
Examination, 2018
Entrepreneurship (Paper – VII)
CORPORATE ACCOUNTING AND PROFESSIONAL ETHICS**

Day and Date : Friday, 7-12-2018
Time : 10.30 a.m. to 1.00 p.m.

Total Marks : 70

1. Choose the **correct** answer from given alternative. **14**
- 1) The excess price received over the par value of shares, should be credited to _____
 - a) Share Capital Account
 - b) Bank Account
 - c) Reserve Capital Account
 - d) Share Premium Account
 - 2) The amount of capital that a company can issue at par value is called _____
 - a) Authorized capital
 - b) Share premium
 - c) Issued capital
 - d) Fixed capital
 - 3) The share of profit a shareholder will receive is called _____
 - a) Dividend
 - b) Surplus
 - c) Net Profit
 - d) Retained profit
 - 4) Declared dividend should be classified in the Balance Sheet as a _____
 - a) Provision
 - b) Current liability
 - c) Reserve
 - d) Current asset
 - 5) Debenture holders will get _____
 - a) Dividend
 - b) Interest
 - c) Profit
 - d) All of these
 - 6) _____ is a part of authorized capital which is offered to the public for subscription.
 - a) Issued capital
 - b) Reserve capital
 - c) Nominal capital
 - d) Subscribed capital
 - 7) According to schedule VI Companies Act which item is not shown on Asset side of Balance Sheet ?
 - a) Investment
 - b) Current Loan and Advances
 - c) Provision
 - d) Lease Hold



- 8) The amount set apart from profit for future is known as _____
- a) Reserve
 - b) Capital a/c
 - c) Prepaid expenses a/c
 - d) Cash in hand
- 9) _____ is an example of fixed asset.
- a) Bills Receivables
 - b) Stock
 - c) Land and Building
 - d) Debtors
- 10) Which mode of the winding up the companies will be called compulsory winding up ?
- a) Winding up by the order of court
 - b) Voluntary winding up
 - c) Winding up subject to the supervision of the tribunal
 - d) None of the above
- 11) A _____ is a formal statement of an organization primary value and the ethical rules it expects its employees to follow.
- a) Mission statement
 - b) Statement of purpose
 - c) Code of ethics
 - d) Vision statement
- 12) Which among the following are advantages of managing business ethics in the workplace ?
- a) Cultivate strong team work and productivity
 - b) Avoid criminal acts
 - c) Lower fines
 - d) All of these
- 13) The word 'moral' is derived from the Latin word
- a) Moralis
 - b) Morilitic
 - c) Monatic
 - d) None of these
- 14) _____ deals with the right actions of individuals.
- a) Sincerity
 - b) Rules
 - c) Ethics
 - d) All of these

2. Solve **any seven** from the following :

14

- 1) What is Liquidation ?
- 2) Define forfeiture of shares.
- 3) What statement of affairs ?
- 4) Modes of liquidation.

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- 5) What is Business ethics ?
- 6) What is corporate governance ?
- 7) What is amalgamation ?
- 8) Define Liquidator.
- 9) What is calls in arrears ?

3. A) Solve **any two** from the following : **10**

- 1) Explain theories of ethics.
- 2) Explain types of preference shares.
- 3) The following is the Balance Sheet of Regency India Ltd. as on 31.12.2017.

Liabilities	Rs.	Assets	Rs.
Share Capital		Land and building	55,000
10,000 shares of		Plant	65,000
Rs. 10 each	1,00,000		
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 and loss A/C	16,000	Cash at bank	26,000
Sundry Creditors	49,000	Preliminary Expenses	6,000
	2,30,000		2,30,000

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.

B) Write order of payment in liquidation process. **4**

4. Solve **any two** from the following : **14**

- 1) Define advantages of ethics ?
- 2) Explain in detail corporate social responsibility.



- 3) Sourabh Networks 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.

All the amounts were duly received except from Miss. Akshata to whom 100 equity shares were allotted. She failed to pay the amounts due on first and final calls. These shares were subsequently forfeited.

Pass the necessary journal entries.

5. Solve **any two** from the following.

14

- 1) Explain functional areas of ethics.
- 2) Explain methods of valuation of share.
- 3) Gourav Oil company Ltd. went into liquidation on 31st March, 2017. The following Balance sheet was prepared :

Liabilities	Rs.	Assets	Rs.
Subscribed Share Capital 39000 shares of Rs. 100 each	3,90,000	Goodwill	1,00,000
Sundry Creditors		Plant and Machinery	1,31,000
Preferential	48,400	Leasehold property	96,000
Partly secured	1,10,620	Stock	1,13,600
Unsecured	1,99,580	Sundry Debtors	1,29,640
Bank overdraft (unsecured)	24,000	Cash	5,000
	7,72,600	Profit and loss account	1,97,360
			7,72,600

The liquidator realized the assets as follows :

Plant and machinery	Rs. 1,02,000
Stock	Rs. 78,000
Sundry Debtors	Rs. 1,17,000
Cash	Rs. 5,000

Leasehold property which was used firstly to partly secured creditors prorate Rs. 70,000. The expenses of liquidation amounted Rs. 2,000 and liquidators remuneration was agreed at 2.5% on the amount realized including cash and 2% on amount paid to the unsecured creditors. Prepare Liquidators final statement of Account.



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B.Sc. – II (Semester – IV) Entrepreneurship Examination, 2018
(New CBCS Pattern)
ENTREPRENEURSHIP (Paper – VIII)
International Marketing and Marketing Decision

Day and Date : Saturday, 8-12-2018
Time : 10.30 a.m. to 1.00 p.m.

Total Marks : 70

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

1. Multiple Choice Questions.

14

- 1) The commission agent is an agent who sell goods on behalf of the
 - a) Seller
 - b) Buyers
 - c) Government
 - d) Consumers
- 2) Market planning includes _____
 - a) Product positioning
 - b) Market segmentation
 - c) Distribution network
 - d) All of these
- 3) The promotion mix involves regards to
 - a) Advertising
 - b) Personal selling
 - c) Sales promotion
 - d) All of these
- 4) Consumer behavior consists of all human _____ that go in making purchase decisions.
 - a) Behavior
 - b) Code of conduct
 - c) Character
 - d) Tradition
- 5) _____ is the process whereby individual decide with questions to purchase goods and services.
 - a) Consumer decision
 - b) Consumer behaviour
 - c) Consumer Choice
 - d) All above



- 6) _____ is directly marketing a commercial message way group of people using e-mail.
- a) Tele-calling marketing b) Direct marketing
c) E-mail marketing d) None of these
- 7) _____ is one of the global marketing environments.
- a) Economic b) Social
c) Technological d) All above
- 8) A _____ as anything that can be offered to a market for attention, use or consumption that might satisfied a want or need.
- a) Product b) Goods
c) Commodity d) None of the above
- 9) Consumer make may _____ every day and there are reasons behind their buying action.
- a) Purchasing power b) Buying behaviour
c) Buying decision d) None of the above
- 10) _____ is the identification of particular product or services.
- a) Branding b) Packaging
c) Distribution d) All above
- 11) Consumer Commitment of purchase decision in repeated manner towards specific product is known as _____
- a) Branding Loyalty b) Brand Image
c) Buying behaviour d) All above
- 12) PLC referred as _____
- a) Private Limited Company b) Product Life Cycle
c) Both a and b d) None of these
- 13) _____ consists of the entire individual product available through the organization.
- a) Product Mix b) Product Line
c) Product plan d) None of these
- 14) _____ is often described as silent salesman.
- a) Branding b) Labeling
c) Packaging d) Grading



2. Answer the following questions (**any 7**) : **14**
- 1) Warehouse.
 - 2) Direct Marketing.
 - 3) Product mix.
 - 4) Promotion
 - 5) E-marketing.
 - 6) Product Design.
 - 7) Brand Image.
 - 8) E-Commerce.
 - 9) Retailing
3. A) Describe of following (**any 2** out of 3) **10**
- 1) Determinants of consumer behaviour.
 - 2) Which are the types of channels of distribution ?
 - 3) Give Sales Promotion Tools and Techniques.
- B) Internet Marketing. **4**
4. Answer **any two** of the following : **14**
- 1) Explain factors influence of Price Decision.
 - 2) Discuss the Global Marketing Environment.
 - 3) Product Life Cycle.
5. Answer **any two** of the following : **14**
- 1) Define Retailer. Give its forms of super market and hyper market.
 - 2) Explain the types of distribution channels.
 - 3) Explain the factors affecting on consumer behaviour.
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**B.Sc. – II Entrepreneurship (Semester – IV) (New-CBCS)
Examination, 2018
INDUSTRIAL CHEMISTRY (Paper – VII)
Analytical and Industrial Aspects of Physical Chemistry**

Day and Date : Monday, 10-12-2018

Total Marks : 70

Time : 10.30 a.m. to 1.00 p.m.

1. Choose the **correct** alternative for the following and rewrite the sentence. **14**
- The e.m.f. of a concentration cell is determined by _____
 - Voltmeter
 - Galvanometer
 - Potentiometer
 - Ammeter
 - The rapid analysis, using flame photometry can be carried out for the _____
 - Alkali and alkaline earth metals
 - Inert gases
 - Halides
 - Rare earths
 - Opacity is defined as reciprocal of _____
 - Absorbance
 - Transmittance
 - Reflection
 - None of these
 - The relation $E_G = E^{OG} + 0.0591 \text{ pH}$ gives the potential of _____ electrode.
 - Hydrogen
 - Calomel
 - Quinhydrone
 - Glass
 - The equation $I_t = I_0 10^{-\alpha t}$ represents _____
 - Lambert's law
 - Beer's law
 - Avogadro's law
 - None of these
 - If transport number of cation is 0.5, then that of anion is _____
 - 1.5
 - 0.5
 - 0.05
 - 0.00



- 7) To determine the cell constant, _____ electrolyte is used.
- a) HCl b) NaCl
 c) H_2SO_4 d) KCl
- 8) Which of the following method gives exact end point ?
- a) Classical b) First derivative
 c) Second derivative d) All of these
- 9) In premix burner _____
- a) All sample is used
 b) 50% of the sample is used
 c) Nearly 95% of the sample is used
 d) Only 5% of the sample is used
- 10) The unit of cell constant is _____
- a) S b) $S\text{ Cm}^{-1}$ c) Cm d) Cm^{-1}
- 11) Optical density D is given by the expression _____
- a) $D = \log I_t/I_o$ b) $D = \log I_o/I_t$
 c) $D = \log I_o/I_o$ d) $D = \log I_t/I_t$
- 12) When the end points of potentiometric titration are obtained by plotting $\Delta E/\Delta V$ against volume V of the solution then it is called _____
- a) First derivative method b) Second derivative method
 c) Third derivative method d) None of these
- 13) When the temperature of flame is increased, the intensity of emitted radiations _____
- a) Decreases b) Increases
 c) First decreases d) Remains constant
- 14) One Faraday is equal to _____
- a) 9650 C b) 96.500 C c) 9.5000 C d) 96500 C



2. Write **any seven** from the following : 14
- i) Give the block diagram of flame photometry.
 - ii) Explain electronic and electrolytic conductor.
 - iii) Write use of filter in colorimetry.
 - iv) Give the advantages of conductometric titration.
 - v) Define p^H and p^{OH} .
 - vi) Sketch dip type conductivity cell.
 - vii) Give different characteristics of burner.
 - viii) Define molar extinction coefficient and specific extinction coefficient.
 - ix) Write a note on advantages of quinhydrone electrode.
3. A) Write **any two** from the following : 10
- i) State and explain Lambert's law.
 - ii) With neat labeled diagram explain calomel electrode.
 - iii) What are the limitation of flame photometry ?
- B) Describe any two factors influencing transport number. 4
4. Write **any two** from the following. 14
- 1) Explain diagrammatically basic circuit of Wheatstone bridge.
 - 2) Describe single cell photoelectric colorimeter.
 - 3) Give different characteristics of flame. Describe premix burner.
5. Write **any two** from the following. 14
- 1) Mention different type of potentiometric titrations. Explain acid-base titration.
 - 2) Define specific conductance and equivalent conductance. The specific conductance of N/5 solution of $ZnSO_4$ at 298 k is $0.02107 \text{ ohm}^{-1} \text{ cm}^{-1}$. Calculate equivalent and molecular conductance of $ZnSO_4$ solution.
 - 3) Mention different types of conductometric titration. Explain conductometric titration between strong acid and weak base.



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**B.Sc. (Part – II) (Semester – IV) Entrepreneurship (CBCS)
Examination, 2018
INDUSTRIAL CHEMISTRY (Paper – VIII) (New)
Industrial Aspect of Applied Chemistry**

Day and Date : Tuesday, 11-12-2018

Total Marks : 70

Time : 10.30 a.m. to 1.00 p.m.

- Instructions :** 1) *All questions are compulsory.*
2) Draw **neat** labeled diagram and give equations **wherever** necessary.
3) *All questions carry equal marks.*
4) *Figures to the right indicate full marks.*

1. Select the **correct** alternative from among those given below and rewrite the sentences. 14

- i) In roasting, metal in the ore is converted into _____
a) Halides b) Oxides c) Sulphides d) Atomic state
- ii) _____ is the process which gives the coating of oxide film on the surface of aluminum and its alloys.
a) Electrolysis b) Electro-osmosis
c) Electrophoresis d) Anodising
- iii) Another mineral other than ammonia essential for plants is _____
a) Potassium b) Sodium
c) Phosphorus d) Uranium
- iv) For green colour of glass _____ is used.
a) Chromium oxide b) Tin oxide
c) Nickel oxide d) Ferric oxide



- v) The word ceramic meant for _____ material.
a) Soft b) Hard c) Burnt d) Dry
- vi) For the reduction of iron _____ is used as reducing agent.
a) Sodium b) Potassium
c) Carbon d) Calcium
- vii) _____ metal is preferred for anodic oxidation.
a) Iron b) Nickel c) Aluminum d) Silver
- viii) _____ is coated with a coating agent in order to reduce the absorption of moisture.
a) Nitro phosphate b) Potassium phosphate
c) Potassium sulphate d) Ammonium sulphate
- ix) _____ are used in making lenses of microscope.
a) Fiber glass b) Optical glass
c) Colored glass d) Soda lime glass
- x) _____ is added to slow down the rate of setting of cement.
a) $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ b) CaO
c) Al_2O_3 d) SiO_2
- xi) The upper part of blast furnace is called as _____.
a) Hearth b) Body c) Well d) Throat
- xii) In electroplating, the electro-deposition takes place at _____.
a) Cathode b) Anode
c) Both a) and b) d) None of these
- xiii) Superphosphate and triple superphosphate are _____ fertilizers.
a) Organic b) Inorganic
c) Physical d) None of these
- xiv) Culletts are used to _____ of reacting mixture known as Batch.
a) Increase M.P. b) Decrease M.P.
c) Increase B.P. d) Increase B.P.



2. Answer **any seven** of the following : 14
- i) Define the term a) Glass and b) Cement.
 - ii) State Faraday's first law of electrolysis.
 - iii) What is ceramic ? Give it's two application.
 - iv) Write the formula of cathode efficiency and anode efficiency.
 - v) Give any two physical properties of glass.
 - vi) Define the calcinations and roasting process.
 - vii) Write the raw materials used in manufacture of urea.
 - viii) What do you mean by direct and indirect fertilizers ?
 - ix) Enlist the steps involved in metallurgical process.
3. A) Attempt **any two** of the following : 10
- i) Explain the various raw materials used in the manufacture of glass.
 - ii) Write short note on Anodizing.
 - iii) Explain in detail froth floatation method.
- B) Write the qualities of an ideal fertilizer. 4
4. Answer **any two** of the following. 14
- i) Explain in brief electroplating of Nickel.
 - ii) Describe superphosphate as fertilizer.
 - iii) Explain the classification of ceramic.
5. Write note on **any two** of the following. 14
- i) Manufacture of Portland cement by wet process with suitable diagram.
 - ii) Manufacture of glass by pot furnance method.
 - iii) Manufacture of steel by L.D. Process.
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**B.Sc. – II Entrepreneurship (Semester – IV) (New CBCS)
Examination, 2018
MICROBIAL BIOTECHNOLOGY (Paper – VII)
Molecular Biology**

Day and Date : Wednesday, 12-12-2018

Total Marks : 70

Time : 10.30 a.m. to 1.00 p.m.

1. Rewrite the **correct** alternative from the following questions. 14

- 1) Topoisomerase is involved in _____
 - a) Producing RNA primer
 - b) Joining DNA segments
 - c) Producing nick in DNA
 - d) Separation of DNA strands
- 2) DNA strand is synthesized in the direction
 - a) 1'-3'
 - b) 5'-3'
 - c) 3'-5'
 - d) 6'-1'
- 3) The one which is capable of self replication is _____
 - a) DNA
 - b) RNA
 - c) Enzyme
 - d) Protein
- 4) DNA polymerase is _____
 - a) DNA dependent DNA polymerase
 - b) RNA dependent RNA polymerase
 - c) RNA dependent DNA polymerase
 - d) DNA dependent RNA polymerase
- 5) _____ is not associated with DNA polymerase I.
 - a) 5' to 3' exonuclease activity
 - b) 5' to 3' endonuclease activity
 - c) 3' to 5' exonuclease activity
 - d) 5' to 3' polymerase activity



- 6) Promoter is a _____
- a) A specific sequence of DNA to which a catabolic repressor binds
 - b) A specific sequence of DNA to which RNA polymerase binds
 - c) A specific DNA sequence to which a restriction endonuclease binds
 - d) None of the above
- 7) RNA polymerase in prokaryotes has a removable _____
- a) Alpha subunit
 - b) Beta subunit
 - c) Both (a) and (b)
 - d) Sigma subunit
- 8) In human, the inherited autosomal recessive disease Xeroderma pigmentosum is the result of a defect in the
- a) SOS repair
 - b) Mismatch repair
 - c) Repair in alkylated DNA
 - d) Repair of UV damaged DNA
- 9) In bacterial promoters, _____ describes the 'Pribnow box.'
- a) The 5' untranslated region
 - b) The -35 box
 - c) The -10 box
 - d) The termination sequence
- 10) _____ directly reverses DNA damage.
- a) AP endonuclease
 - b) Uvr-ABC
 - c) MutS and MutL
 - d) Methyltransferase
- 11) Rifampicin is a specific inhibitor of _____
- a) Bacterial RNA polymerase
 - b) RNA polymerase III
 - c) RNA polymerase I
 - d) RNA polymerase II
- 12) During DNA replication in E.coli, RNA primers are synthesized by
- a) dna B
 - b) dna G
 - c) dna C
 - d) dna A
- 13) The 20 different amino acids found in proteins are normally coded by _____
- a) 59 codons
 - b) 64 codons
 - c) 61 codons
 - d) 63 codons
- 14) _____ is not property of genetic code.
- a) Non-ambiguous
 - b) Non-overlapping
 - c) Degeneracy
 - d) Ambiguous



2. Answer **any seven** of the following : **14**
- 1) RNA Polymerases in Eukaryotes.
 - 2) Enhancers.
 - 3) Termination of replication in eukaryotes.
 - 4) Topoisomerase.
 - 5) The Central Dogma.
 - 6) Draw structure of DNA.
 - 7) Explain Operon concept.
 - 8) DNA polymerase in prokaryotes.
 - 9) What are ribosomes ?
3. A) Answer **any two** of the following : **10**
- 1) Discuss in brief salient features of DNA.
 - 2) Explain genetic code and its properties.
 - 3) Briefly explain Direct repair system
- B) Write an account on Enzyme involved in eukaryotic Replication. **4**
4. Answer **any two** of the following : **14**
- 1) Discuss in brief Translation.
 - 2) Write an assay Rolling Circle Model of DNA.
 - 3) Replication in Prokaryotes.
5. Answer **any two** of the following : **14**
- 1) Explain Lac Operon.
 - 2) Describe Post transcriptional modification.
 - 3) Discuss in brief Translation in Prokaryotic Cell.
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B.Sc. – II (Entrepreneurship) (Semester – IV) Examination, 2018
Microbial Biotechnology (Paper – VIII)
FOOD AND DAIRY TECHNOLOGY (New CBCS)

Day and Date : Thursday, 13-12-2018
Time : 10.30 a.m. to 1.00 p.m.

Total Marks : 70

- N.B. :***
- 1) **All questions are compulsory and carry equal marks.**
 - 2) **Draw a neat labeled diagram wherever necessary.**
 - 3) **Figures to the right indicate full marks.**

1. Rewrite the following sentences by choosing **correct** alternatives from given below. **14**
- i) Irradiation is also known as _____
A) Hot sterilization
B) Cold sterilization
C) Heat sterilization
D) Dry sterilization
 - ii) HTST pasteurization stands for _____
A) High Time Slow Treatment
B) High temperature Slow Treatment
C) High Temperature Short Time
D) High Thermal Slow Time
 - iii) _____ pigment responsible for yellow color of milk.
A) Casein
B) Lactose
C) Chlorophyll
D) Carotene
 - iv) _____ is main sugar present in milk.
A) Maltose
B) Lactose
C) Sucrose
D) Dextrose
 - v) Phosphatase test is used to determine efficiency of _____
A) Pasteurization
B) Sterilization
C) Disinfection
D) Asepsis
 - vi) MPN test is used for the analysis of _____
A) Meat
B) Water
C) Fish
D) Cereals

P.T.O.



- vii) All the following techniques are household preservation technique except _____
- A) Smoking B) Salting
C) Dehydration D) Lyophilization
- viii) _____ is the Father of Canning.
- A) *Mendel* B) *John Hall*
C) *Louis Pasteur* D) *Nicolas Appert*
- ix) The causative agent of Botulism is _____
- A) *A.flavus* B) *C.botulinum*
C) *A.vanelandii* D) *B.anthrax*
- x) Psychrophiles grow at a temperature of _____ °C.
- A) 75 B) 45 C) 37 D) 0
- xi) Food grains are mainly preserved by _____
- A) Centrifugation B) Drying
C) Filtration D) Solvent extraction
- xii) pH of fresh cow milk is _____
- A) 5.5 to 6.5 B) 6.5 to 6.7
C) 7.5 to 8.5 D) None of the above
- xiii) _____ is degradation of fatty foods.
- A) Fermentation B) Putrefaction
C) Rancidity D) Sacchacrification
- xiv) Rennin enzyme is used in manufacturing of _____
- A) Vitamin B) Biodiesel
C) Citric acid D) Cheese

2. Answer **any seven** of the following :

14

- i) Define Asepsis.
- ii) What is ultra pasteurization ?
- iii) Define Fermentation.
- iv) What is Butter ?
- v) Define food poisoning.

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- vi) Composition of Ice-cream.
 - vii) What is SNF ?
 - viii) Name any two bacteria and two molds involved in spoilage of meat.
 - ix) Write the approximate composition of milk.
3. A) Answer **any two** of the following : **10**
- i) Describe spoilage of egg.
 - ii) Explain in brief methods of pasteurization.
 - iii) Differentiate Endotoxin and Exotoxin.
- B) Discuss in brief composition, uses and defects of cheese. **4**
4. Answer **any two** of the following : **14**
- i) Describe in detail microbial spoilage of meat.
 - ii) Describe in detail microbial spoilage of cereals and vegetables.
 - iii) Explain in detail various methods of milk pasteurization.
5. Answer **any two** of the following : **14**
- i) Explain preservation by high temperature.
 - ii) Write in detail preservation of food by using chemical preservatives.
 - iii) Write in detail the important steps in production of ice cream.
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**B.Sc. – II (Semester – IV) (Entrepreneurship) Examination, 2018
(Old CGPA Pattern)
CORPORATE ACCOUNTING AND PROFESSIONAL ETHICS (Paper – V)**

Day and Date : Friday, 7-12-2018
Time : 10.30 a.m. to 1.00 p.m.

Total Marks : 70

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

1. Multiple Choice Questions. 14

1) Aim of MNC is to boost accounting profitability by shifting funds around the _____

- A) Country B) Region C) World D) Market

2) The environmental analysis includes _____

- A) Political conditions B) Social factors
C) Economic condition D) All of the above

3) We wish to be Good citizen of every community in which we operate this is _____

- A) Ethical code B) Political and Social code
C) Legal code D) Legal Act

4) Which is the approach to corporate planning _____ ?

- A) Customer and Workers Satisfaction
B) Planning skills
C) Optimizing
D) All of the above

5) Which one of the following is not principle of business ethics _____ ?

- A) Principle of universality B) Principle of humanity
C) Principle of autonomy D) Principle of dissatisfaction



13) For the investment weighed average time to maturity classified as _____

- A) Premium time
- B) Standard time
- C) Mean time
- D) Distribution

14) The legal term for tangible property is _____

- A) Trust
- B) Chattel
- C) Mortgage
- D) Private Property

2. Solve **any seven** of the following : **14**

- 1) Concept of CSR.
- 2) Global Corporation.
- 3) Code of Conduct.
- 4) Morality.
- 5) Corporate Culture.
- 6) Use of final account.
- 7) Define Holding Company.
- 8) Meaning and Definition of Corporate Governance.
- 9) Steps of Final Accounts of Companies.

3. A) Attempt **any two** of the following : **10**

- 1) Role of MNC.
- 2) Describe schedules of final A/C of Company in detail.
- 3) Rearrange the following items of a manufacturing company under the three heads.

- 1) Live Stock
- 2) Goodwill
- 3) Patents
- 4) Book Debts
- 5) Advances paid
- 6) Loose tools
- 7) Bills Receivable
- 8) Vehicles
- 9) Work in Progress
- 10) Cash in Hand

- 1) Fixed Assets.
- 2) Current Assets.
- 3) Loan and Advances.

B) Short note on Corporate culture.



4. Attempt **any two** of the following :

14

- 1) M Ltd. purchased 8000 equity shares of N Ltd. on 1/4/2005 for Rs. 3,00,000. N Ltd. provides you following information as on 31/03/2006.
 - a) Equity Shares capital 12,000 Equity Shares of Rs. 10 each.
 - b) General Reserve Rs. 40,000 (on 1/4/2005 Rs. 10,000)
 - c) Profit and Loss A/C Rs. 50,000 on 1/4/2005 Rs. 30,000).

Prepare a statement showing Capital Profit, Revenue Profit and Minority Interest and Goodwill.

- 2) Following information pertains to Clinton Corporation Ltd.

Particulars	Rs.
20,000, 12% Preference shares of Rs. 10 each	2,00,000
50,000 Equity shares of Rs. 10 each	5,00,000
Average Annual profits before tax	2,00,000
Income tax	30%
Transfer to Reserve	20%
Normal return in similar industry	25%

Mr. Rahul holds 400 equity shares of the company. He has requested you value his shareholding on the basis of above information. Please do the needful.

- 3) Features of Holding Company.

5. Attempt **any two** of the following :

14

- 1) Raj Products Ltd. prepare Balance Sheet in Vertical form with proper schedule as on 31-3-2005.

Liabilities	Rs.	Assets	Rs.
Share Capital	6,50,000	Land and Building	3,15,000
General Reserve	65,000	Freehold Property	3,00,000
Reserve Fund	55,000	Plant and Machinery	1,40,000
Share Premium	40,000	Sinking Fund Investment	1,00,000
Debentures	1,60,000	Closing Stock	1,25,000
Bank Overdraft	80,000	Sundry Debtors	95,000
Sundry Creditors	70,000	Cash/Bank	65,000
Bills Payable	40,000	Bills Receivable	40,000
Unclaimed Dividend	20,000	Prepaid Expenses	20,000
Provision Tax	45,000	Preliminary Expenses	25,000
Total	12,25,000	Total	12,25,000

- 2) Ethics in HRM.
- 3) Etiquette and Professional Codes.



2. Solve **any 7** questions out of 10 questions. **14**
- 1) Define Marketing Management.
 - 2) Meaning of Consumer Behaviour.
 - 3) E-marketing concept.
 - 4) Features of Marketing.
 - 5) Global Marketing Environment.
 - 6) Four P's of Marketing.
 - 7) What are the types of product ?
 - 8) E-commerce concept.
 - 9) Technology environment.
 - 10) Sales Promotion.
3. A) Write notes on **any 2** out of 3 questions : **10**
- 1) Which factors influence on price-decision ?
 - 2) What is significance of E-marketing ?
 - 3) Define super-market.
- B) Solve **4**
- What is mean by buying-process ?
4. Attempt **any 2** out of the following 3 questions. **14**
- 1) What are the steps involved in foreign trade ?
 - 2) What are the types of channels of distribution ?
 - 3) Define Modern Marketing concept in detail.
5. Attempt **any 2** questions out of the following 3 questions. **14**
- 1) Give Sales Promotion Tools and Techniques.
 - 2) Discuss the marketing environment and its effect on marketing activity.
 - 3) What is mean by Retailer ? And give its forms of super and hyper market.



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B.Sc. – II (Semester – IV) (Entrepreneurship) (Old – CGPA)
Examination, 2018
INDUSTRIAL CHEMISTRY (Paper – V)
Analytical and Industrial Aspects of Physical Chemistry

Day and Date : Monday, 10-12-2018
Time : 10.30 a.m. to 1.00 p.m.

Total Marks : 70

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

1. Choose the most **correct** alternative for the following and rewrite the sentence. **14**
- On dilution, specific conductivity _____
 - Increases
 - Decreases
 - Remains constant
 - None of these
 - One Faraday is equal to _____
 - 96500 C
 - 96.500 C
 - 9.6500 C
 - 9650 C
 - The ratio of intensity of transmitted light to that of incident light is known as _____
 - Transmittance
 - Absorbance
 - Opacity
 - None of these
 - Optical density D is given by expression _____
 - $D = \log I_t/I_o$
 - $D = \log I_o/I_t$
 - $D = \log I_o/I_t$
 - $D = \log I_t/I_t$
 - _____ analysis is based on the variation of the colour of a system with change in concentration of the component.
 - Conductometric
 - Potentiometric
 - Colorimetric
 - None of these
 - The range of pH is _____
 - 0 to 7
 - 7 to 14
 - 0 to 14
 - 1 to 14



- 7) The e.m.f. of a concentration cell is determined by using
- Voltmeter
 - Galvanometer
 - Potentiometer
 - Ammeter
- 8) _____ electrode is indicator electrode.
- Glass
 - Calomel
 - Hydrogen
 - Silver-silver chloride
- 9) In premix burner only _____ % of the sample is used.
- 50
 - 5
 - 95
 - 100
- 10) _____ electrode is the reference electrode.
- Glass
 - Hydrogen
 - Platinum
 - Quinhydrone
- 11) The temperature of the flame is controlled by _____ factors.
- Type of fuel-oxidant
 - Type of burner
 - Type of solvent
 - All of these
- 12) In conductivity cell, the electrodes used are made up of _____
- Gold
 - Silver
 - Platinum
 - Lead
- 13) To determine the cell constant _____ electrolyte is used.
- HCl
 - H_2SO_4
 - NaCl
 - KCl
- 14) The ionic product of water is
- 1×10^{-14}
 - 1×10^{-10}
 - 1×10^{-7}
 - 1×10^{14}

2. Answer **any seven** of the following :

14

- What do you mean by buffer solution ? Mention different type of it.
- Give the advantages of potentiometric titrations.
- Name the different types of conductors.
- What is specific conductance ? Mention its unit.
- Mention limitations of flame photometry.
- Give the schematic diagram of flame spectrophotometer.
- Define Molar extinction coefficient.
- What is conductivity water ?
- Give the advantages of conductometric titration.



3. A) Attempt **any two** of the following : 10
- i) Write a note on calomel electrode.
 - ii) Explain diagrammatically basic circuit of Wheatstone bridge.
 - iii) State and explain Lambert's law.
- B) At 291 k the velocity of Migration of silver ion is 0.000577 cm/sec and that of nitrate ion is 0.000633 cm/sec. Calculate the transport number of silver and nitrate ions. 4
4. Answer **any two** of the following : 14
- i) What are the application of flame photometry in the qualitative and quantitative analysis.
 - ii) Give the different characteristics of flame. Describe total consumption burner.
 - iii) Explain the use of glass electrode for determination of pH of solution.
5. Answer **any two** of the following : 14
- i) Mention the various methods of colour comparison and describe the photoelectric colorimeter.
 - ii) Mention different types of conductometric titration. Explain conductometric titration between strong acid and strong base.
 - iii) Define transport number of an ion. Describe the moving boundary method.
-



2. Answer **any seven** of the following : **14**
- i) Define the terms : a) Current density b) Electroplating.
 - ii) Write down any two properties of ceramics.
 - iii) Give the Faradays First law of electrolysis.
 - iv) Define the terms : a) Ore b) Gangue.
 - v) What are the conditions to obtain a good yield ?
 - vi) Define the term cathode efficiency and anode efficiency.
 - vii) Magnetic separation method.
 - viii) Give only applications of anodizing.
 - ix) What are direct and indirect fertilizers ?
3. A) Write the short notes on **any two** of the following. **10**
- i) Anodizing.
 - ii) Froth flotation process.
 - iii) Manufacturing process of urea.
- B) Write the physical properties of glass. **4**
4. Attempt **any two** of the following : **14**
- i) Write in detail, synthesis of super phosphate and triple super phosphate.
 - ii) Describe the Heat treatment on steel.
 - iii) Write a note on cleaning of articles.
5. Attempt **any two** of the following : **14**
- i) Explain the Manufacture of steel by LD process.
 - ii) Explain in detail electroplating of Nickel.
 - iii) Write the raw material used for manufacture of glass.
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**B.Sc. – II (Entrepreneurship) (CGPA) (Semester – IV)
Examination, 2018
MICROBIAL BIOTECHNOLOGY (Paper – V)
Molecular Biology (Old)**

Day and Date : Wednesday, 12-12-2018
Time : 10.30 a.m. to 1.00 p.m.

Total Marks : 70

- N.B. :** 1) *All questions are compulsory and carry equal marks.*
2) *Draw a neat labelled diagram wherever necessary.*
3) *Figures to the right indicate full marks.*

1. Rewrite the following sentences by choosing **correct** alternatives. **14**

- 1) Topoisomerase is involved in _____
 - a) Producing RNA primer
 - b) Joining DNA segments
 - c) Producing nick in DNA
 - d) Separation of DNA strands
- 2) DNA strand is synthesized in _____ direction.
 - a) 5' – 3'
 - b) 3' – 5'
 - c) 1' – 3'
 - d) 6' – 1'
- 3) _____ is capable of self replication.
 - a) DNA
 - b) Enzyme
 - c) RNA
 - d) Protein
- 4) DNA polymerase is _____
 - a) DNA dependent DNA polymerase
 - b) RNA dependent RNA polymerase
 - c) RNA dependent DNA polymerase
 - d) DNA dependent RNA polymerase
- 5) _____ is not associated with DNA polymerase I.
 - a) 5' to 3' exonuclease activity
 - b) 3' to 5' exonuclease activity
 - c) 5' to 3' endonuclease activity
 - d) 5' to 3' polymerase activity



- 6) _____ is a promoter.
- A specific sequence of DNA to which a catabolic repressor binds
 - A specific sequence of DNA to which RNA polymerase binds
 - A specific DNA sequence to which a restriction endonuclease binds
 - None of the above
- 7) RNA polymerase in prokaryotes has a removable _____
- Alpha subunit
 - Beta subunit
 - Delta subunit
 - Sigma subunit
- 8) In human, the inherited autosomal recessive diseases Xeroderma pigmentosum is the result of a defect in the _____
- SOS repair
 - Mismatch repair
 - Repair in alkylated DNA
 - Repair of UV damaged DNA
- 9) In bacterial promoters _____ describe the 'Pribnow box'.
- The 5' untranslated region
 - The -10 box
 - The -35 box
 - The termination sequence
- 10) _____ is directly reverses DNA damage.
- AP endonuclease
 - UVr-ABC
 - MutS and MutL
 - Methyltransferase
- 11) Rifampicin is a specific inhibitor of _____
- Bacterial RNA polymerase
 - RNA polymerase III
 - RNA polymerase I
 - RNA polymerase II
- 12) During DNA replication in *E.coli*, RNA primers are synthesized by _____
- dna B
 - dna C
 - dna G
 - dna A
- 13) The 20 different amino acids found in proteins are coded by _____
- 64 codons
 - 61 codons
 - 60 codons
 - 63 codons
- 14) _____ enzymes are not used in pyrosequencing.
- DNA polymerase
 - Pyrophosphatase
 - Luciferase
 - ATP sulfurylase



2. Answer **any seven** of the following : **14**
- 1) RNA polymerases in Eukaryotes.
 - 2) Enhancers.
 - 3) Termination of replication in eukaryotes.
 - 4) RNA polymerases in prokaryotes.
 - 5) Topoisomerase.
 - 6) The Central Dogma.
 - 7) Pyrosequencing.
 - 8) RFLP.
 - 9) RAPD.
3. A) Answer **any two** of the following : **10**
- 1) Explain in detail properties of genetic code.
 - 2) Explain in detail direct repair system.
 - 3) Describe in brief Sangers Dideoxy method of DNA sequencing.
- B) Write a detail note on enzyme involved in eukaryotic Replication. **4**
4. Answer **any two** of the following : **14**
- 1) Write in detail Isolation of Nucleic acid.
 - 2) Explain in detail Translation in prokaryotes.
 - 3) Describe in detail Rolling Circle Model.
5. Answer **any two** of the following : **14**
- 1) Write in detail Lac Operon.
 - 2) Describe in detail Post Transcriptional modification.
 - 3) Explain in detail Mismatch repair.
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**B.Sc. – II Entrepreneurship (CGPA) (Semester – IV) Examination, 2018
MICROBIAL BIOTECHNOLOGY
Food and Dairy Technology (Old) (Paper – VI)**

Day and Date : Thursday, 13-12-2018

Total Marks : 70

Time : 10.30 a.m. to 1.00 p.m.

- N.B. :*** 1) ***All questions are compulsory and carry equal marks.***
2) ***Draw a neat labelled diagrams wherever necessary.***
3) ***Figures to the right indicate full marks.***

1. Rewrite the following sentences by choosing **correct** alternatives from given below. **14**

- i) The preservation techniques using radiation is also known as _____
A) Hot sterilization B) Cold sterilization
C) Heat sterilization D) Dry sterilization
- ii) Fermentation process _____ the nutritive value of food.
A) Increases B) Decreases
C) Modifies D) Preserve
- iii) Microbial quality of milk is determine by _____ test.
A) Caseinase B) Amylase
C) Crowded plate D) MBRT
- iv) _____ is main sugar present in milk.
A) Maltose B) Lactose
C) Sucrose D) Dextrose
- v) Phosphatase test is used in the analysis of _____
A) Milk B) Water C) Tea D) All of these



- vi) In cow's milk generally _____% protein is present.
A) 10 B) 7 C) 4.9 D) 3.3
- vii) Fishiness in butter is caused by _____
A) *E.coli* B) *Pseudomonas*
C) *Aeromonas hydrophila* D) *Bacillus subtilis*
- viii) _____ species involved in curdling of milk.
A) *Rhizobium* B) *Lactobacillus*
C) *Azotobacter* D) *Bacillus thuriengensis*
- ix) Afla toxin in food is produced by _____
A) *Aspergillus* B) *Azolla*
C) *Azotobacter* D) *Bacillus*
- x) Souring of milk is due to production of _____ acid.
A) Acetic B) Lactic
C) Malic D) Butyric
- xi) Food grains are mainly preserved by _____
A) Centrifugation B) Drying
C) Filtration D) Solvent extraction
- xii) _____ is example of perishable food.
A) Milk B) Egg
C) Onion D) Potato
- xiii) _____ is degradation of fatty foods.
A) Fermentation B) Putrefaction
C) Rancidity D) Sacchacrification
- xiv) Rennin enzyme is used in manufacturing of
A) Vitamin B) Biodiesel
C) Citric acid D) Cheese



2. Answer **any seven** of the following : 14
- i) Define Cream.
 - ii) What is ultra pasteurization ?
 - iii) Define Fermentation.
 - iv) What is water activity ?
 - v) Define food poisoning.
 - vi) Define Psychrophilic microorganisms.
 - vii) Homogenized Milk.
 - viii) Grading of Milk.
 - ix) Define Canning.
3. A) Answer **any two** of the following : 10
- i) Describe in brief manufacture of flavored milk.
 - ii) Explain in brief composition and uses of cheese.
 - iii) Write in detail microbial food poisoning.
- B) Discuss composition, uses and defects of butter. 4
4. Answer **any two** of the following. 14
- i) Describe in detail microbial spoilage of meat and poultry products.
 - ii) Write in detail preservation of food by using chemical preservatives.
 - iii) Write in detail preservation of food by heat.
5. Answer **any two** of the following. 14
- i) Explain in detail various methods of milk pasteurization.
 - ii) Describe in detail microbial spoilage of cereals and vegetables.
 - iii) Describe in detail ice-cream production.
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B.Sc. III (Semester – V) (Entrepreneurship) (New CBCS) Examination, 2018
ENGLISH (Compulsory)
Literary Quest

Day and Date : Saturday, 17-11-2018
Time : 2.30 p.m. to 5.00 p.m.

Max. Marks : 70

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

1. Choose the correct alternative.

14

- 1) What is referred to as 'mother of religions' by Swami Vivekananda ?
 - a) Hinduism
 - b) Christianity
 - c) Judaism
 - d) None of the above
- 2) What has destroyed civilization and sent whole nations to despair, according to Vivekananda ?
 - a) sectarianism
 - b) bigotry
 - c) fanaticism
 - d) all the above
- 3) What did Mother Teresa want to be as a child ?
 - a) teacher
 - b) nun
 - c) missionary
 - d) nurse
- 4) When did Mother Teresa receive Nobel Peace Prize award ?
 - a) 1979
 - b) 1980
 - c) 1981
 - d) 1978
- 5) When you are defrauded it is easy to be
 - a) angry
 - b) jealous
 - c) peaceful
 - d) selfish
- 6) According to Lawrence, money is our vast _____ madness.
 - a) individual
 - b) personal
 - c) collective
 - d) none of the above
- 7) Science is addressed as
 - a) daughter of Old Time
 - b) enemy of Old Time
 - c) wife of Old Time
 - d) herald of New Time
- 8) Father Gilligan was tired because
 - a) people were working hard
 - b) people were tired
 - c) people were sick
 - d) people were celebrating
- 9) The young children in this school _____ (have: Simple Present) yoga classes twice a week.
 - a) has
 - b) are
 - c) have
 - d) is



- 10) Karan _____ (work: past progressive) in Solapur.
a) is working
b) was working
c) worked
d) were working
- 11) Either Murali or Tara _____ (use: Present Perfect) these pens.
a) have used
b) had used
c) has used
d) has been used
- 12) What is the superlative form of 'young' ?
a) younger
b) more young
c) most young
d) youngest
- 13) What is the comparative form of 'fine' ?
a) more fine
b) finer
c) most fine
d) finest
- 14) What is the positive form of 'further' ?
a) furthest
b) more further
c) far
d) none of the above

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

- 1) What does one gain from being calm ?
- 2) What are the solutions offered by Lawrence to the problems caused by money mindedness ?
- 3) What is the theme of the sonnet 'To Science' ?
- 4) What did God do when Father Gilligan fell asleep ?
- 5) What is the central idea of the poem 'Money Madness' ?
- 6) Why doesn't Father Gilligan have rest, joy and peace ?

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

- 1) How has India displayed religious tolerance to the world ?
- 2) What Mother Teresa initially did after completing nursing course ?
- 3) Write the dialogues for the following situation :
Mahesh goes to his friend Sachin's house. They talk about which book they will gift to their friend Namdeo on his birthday.
- 4) Write the dialogues for the following situation :
You call a restaurant to ask how long it is open and to make a reservation.



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

1) Write an argumentative speech on ‘Smoking at Public Places’.

OR

2) Write a script of a debate on the topic- ‘Should Plastic Bags be Banned ?’
Use following points below to develop a debate. You can work in a group of four with two people choosing to argue for affirmative and two people arguing for the negative.

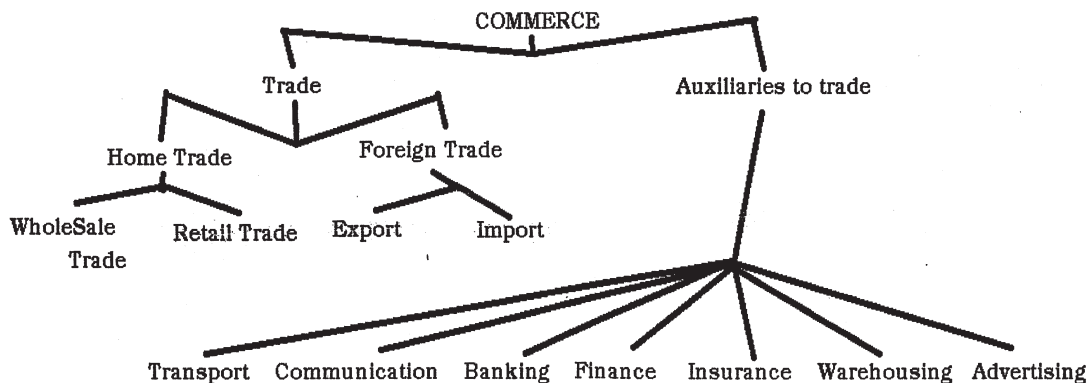
Affirmative :

- 1) Environmental damage
- 2) The Great Waste
- 3) Non-biodegradable
- 4) They litter our streets
- 5) Plastic bags suffocate and kill
- 6) Wildlife concerns
- 7) Spread Awareness.

Negative :

- 1) No need to ban, add a tax
- 2) Freedom of choice
- 3) People forget their re-useable bags
- 4) Causes loss of jobs
- 5) The environmental war needs to be won elsewhere
- 6) Loss of Technology
- 7) So what do we carry our shopping in ?
- 8) No need to ban just reduce the use of plastic.

5. Write a detailed paragraph on the following tree diagram.





Seat No.	
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Set	P
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B.Sc. – III (Semester – V) (CBCS New) Examination, 2018
ENTREPRENEURSHIP
Business Finance

Day and Date : Monday, 19-11-2018

Total Marks : 70

Time : 2.30 p.m. to 5.00 p.m.

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

1. Choose the **correct** alternative and rewrite the sentences again. **14**
- 1) SEBI established on _____
a) 1992 b) 1994 c) 1892 d) 1886
 - 2) Business finance deals with _____
a) Managerial Problems b) Financial Problems
c) Administrative Problems d) All the above
 - 3) IMF established on _____
a) 1945 b) 1946 c) 1955 d) 1965
 - 4) Finance can be raised by _____ through issue of shares.
a) Co-operative Societies b) Sole Proprietor
c) Partnership firm d) Companies
 - 5) World bank also known as _____
a) IMF b) WTO c) IBRD d) None of these
 - 6) Trade credit is source of _____
a) Long Term Finance b) Medium Term Finance
c) Short Term Finance d) All the above



- 7) A company can accept Public Deposits for a maximum period of
- a) One year b) Two years c) Three years d) Four years
- 8) NSE refers to
- a) National Stock Exchange b) National Super Exchange
c) National Share Exchange d) None of these
- 9) The members of the stock exchange are called as _____
- a) Investors b) Agents c) Brokers d) Members
- 10) Working of stock exchanges in India is controlled by _____
- a) RBI b) Govt. of India
c) SEBI d) IRDA
- 11) The exchange rate is
- a) The price of one currency relative to gold
b) The value of a currency relative to inflation
c) The change in the value of money over time
d) The price of one currency relative to another
- 12) Capital lease also known as _____
- a) Financial lease b) Operating lease
c) Sale and lease back lease d) Leveraged lease
- 13) MIGA refers to _____
- a) Multinational Investment Guarantee Association
b) Multi-level Investment Guarantee Agency
c) Multinational Investment Guarantee Agency
d) Multiple Investment Guarantee Association
- 14) The span of time within which the investment made for the project will be recovered by the net returns to the project is known as
- a) Period of return b) Payback period
c) Accounting rate of return d) Span of return



2. A) Define and explain **any four** of the following : 8
- 1) What is Business finance ?
 - 2) What is lease finance ?
 - 3) What is capital budgeting ?
 - 4) Meaning of stock exchange.
 - 5) What is Venture Capital ?
- B) Write short note on **any two** of the following : 6
- 1) Explain objective of Business finance.
 - 2) Explain FERA.
 - 3) Explain E-banking.
3. A) Answer **any two** of the following : 8
- 1) Explain functions of stock exchange.
 - 2) Explain steps in financial planning.
 - 3) Explain problems of Leasing in India.
- B) Answer **any one** of the following. 6
- 1) Explain working of BSE and NSE.
 - 2) Explain methods of capital budgeting.
4. A) Answer **any two** of the following. 10
- 1) Explain external sources of business finance.
 - 2) Explain types of lease financing.
 - 3) Explain types of foreign exchange rate.
- B) Answer **any one** the following. 4
- 1) Explain internal sources of business finance.
 - 2) Explain importance of lease financing.
5. Answer **any two** of the following. 14
- 1) Explain methods of marketing of securities.
 - 2) Explain role of SEBI in Capital Market.
 - 3) Explain in brief international financial institutions.



SLR-SK – 43

Seat No.	
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Set **P**

B.Sc. – III (Semester – V) (CBCS New) Examination, 2018
ENTREPRENEURSHIP
Human Resource Management

Day and Date : Tuesday, 20-11-2018

Total Marks : 70

Time : 2.30 p.m. to 5.00 p.m.

Instructions : 1) *All questions are compulsory.*

2) *Figures to the right indicate full marks.*

3) *Draw neat labeled diagrams wherever necessary.*

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

14

1) _____ is first step in staffing procedure.

- a) Determining sources of personnel supply
- b) Preparing personnel specifications
- c) Selection of personnel
- d) Determining personnel characteristics

2) On the Job Training Methods is based on

- a) Demonstration Method
- b) Apprenticeship Training Method
- c) Informal Training
- d) All of the above

3) _____ type of recruitment process is said to be a costly affair.

- a) Internal recruitment
- b) External recruitment
- c) Cost remains same for both types
- d) None of these

4) The basic human resource managerial skill (s) is (are).

- a) To supervise
- b) To stimulate
- c) To motivate
- d) All of the above

P.T.O.



- 5) HRM concerned with _____
- a) Worker
 - b) Industrial relation
 - c) Field Staff
 - d) All employees
- 6) Objectives of training is _____
- a) Increased morale
 - b) Increased productivity
 - c) Favorable reaction to change
 - d) All of the above
- 7) Job analysis provides information used for writing
- a) Organisation chart
 - b) Policy
 - c) Job Description
 - d) Procedure
- 8) Off the Job Training Method consists
- a) Role Playing Method
 - b) Case Study Method
 - c) Programmed Training
 - d) All of the above
- 9) A _____ is a collection of duties, tasks and responsibilities which are assigned to an individual and which is different from the assignment.
- a) Job
 - b) Human Resource Planning
 - c) Industrial Relations
 - d) Responsibility
- 10) Performance appraisal means evaluating an employees performance relative to
- a) Establishing goods
 - b) Fellow employees
 - c) Job description requirements
 - d) Performance standards
- 11) _____ of following does not include under the functions of human resource manage.
- a) Planning
 - b) Profitability
 - c) Organising
 - d) Recruitment
- 12) _____ of the following includes under techniques of Training.
- a) On the Job Training Method
 - b) Informal Training
 - c) Role Playing Method
 - d) All of the above



13) Arrange the following in order :

- i) Promotion
- ii) Performance appraisal
- iii) Recruitment
- iv) Training and Development

- a) (iii), (iv), (ii), (i)
- b) (ii), (iii), (i), (iv)
- c) (i), (ii), (iii), (iv)
- d) (ii), (iv), (iii), (i)

14) Selection includes _____

- a) Formulating interviewing techniques
- b) Checking of references
- c) Framing and developing application blanks
- d) All of the above

2. A) Define and explain **any four** of the following :

8

- 1) Define Recruitment.
- 2) Define Selection.
- 3) What is HRM ?
- 4) Define training.
- 5) Job Specification.

B) Write short note on **any two** of the following :

6

- 1) Job Analysis.
- 2) Job Satisfaction.
- 3) Provident Fund.

3. A) Answer **any two** of the following :

8

- 1) Explain types of Promotion.
- 2) Explain job description.
- 3) Internal Mobility.



- B) Answer **any one** of the following : **6**
- 1) Explain training methods.
 - 2) Explain succession planning.
4. A) Answer **any two** of the following : **10**
- 1) Explain performance appraisal methods.
 - 2) Explain sources of recruitment.
 - 3) Explain types of external mobility.
- B) Answer **any one** of the following : **4**
- 1) Concept of promotion and demotion.
 - 2) Objective of training.
5. Answer **any two** of the following : **14**
- 1) Explain steps in career development.
 - 2) Explain process of selection.
 - 3) Explain elements of career developments program.
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Seat No.	
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B.Sc. – III (Semester – V) Entrepreneurship (New CBCS) Examination, 2018
INDUSTRIAL CHEMISTRY
Spectroscopic Methods

Day and Date : Thursday, 22-11-2018

Total Marks : 70

Time : 2.30 p.m. to 5.00 p.m.

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

1. Choose the **correct** alternative and rewrite the sentences again. **14**

- 1) Reciprocal of wavelength is _____
 - a) Wave number
 - b) Velocity
 - c) Frequency
 - d) Electronic radiation
- 2) For linear molecule the number of fundamental modes of vibration is given by _____
 - a) $3N$
 - b) $3N - 5$
 - c) $3N - 6$
 - d) $3N - 2$
- 3) Higher δ values shows _____
 - a) upfield
 - b) resonance
 - c) downfield
 - d) flipping
- 4) Methyl alcohol shows m/e peak at _____
 - a) 30
 - b) 32
 - c) 36
 - d) 40
- 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) The functional group region is in between _____
 - a) $4000 - 1350 \text{ cm}^{-1}$
 - b) $2000 - 950 \text{ cm}^{-1}$
 - c) $4000 - 650 \text{ cm}^{-1}$
 - d) $1350 - 650 \text{ cm}^{-1}$



3. A) Answer **any two** of the following : 8

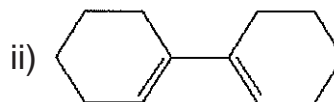
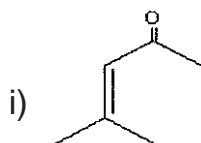
- 1) Explain types of vibration in IR spectroscopy.
- 2) Write the principles of PMR spectroscopy.
- 3) Discuss in detail the effect of conjugation on the position of UV bands in dienes.

B) Answer **any one** of the following. 6

- 1) Explain the principle and diagram of Mass spectroscopy.
- 2) Draw a neat labeled diagram of NMR spectrometer and explain its working.

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

- 1) Calculate λ_{\max} of the following compound.



- 2) State and explain the mathematical expression of Hooke's law.
- 3) Write the application of NMR spectroscopy.

B) Answer **any one** of the following : 4

- 1) How Mass spectroscopy can be used for determination of molecular weight ?
- 2) State and explain Lambert's-Beer law with its mathematical expression.

5. Answer **any two** of the following : 14

- 1) Explain various transitions in UV spectroscopy.
- 2) Explain the principle of IR spectroscopy with schematic diagram of typical double beam IR spectrophotometer.
- 3) Deduce the structure of following compound.

MF : C_7H_8O

IR : 3500 cm^{-1}

PMR : 3.7δ (s, 1H), 4.4δ (s, 2H), 7.2δ (s, 5H).



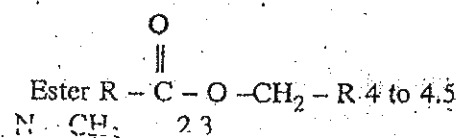
TABLE - 1
Characteristic Infrared Absorptions of Functional Groups

GROUP	FREQUENCY RANGE cm^{-1}	INTENSITY
A. Alkyl		
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. Alkenyl		
C-H (stretching)	3010 - 3095	(m)
C = C (stretching)	1620 - 1680	(v)
R - $\text{CH} = \text{CH}_2$	985 - 1000	(s)
and	905 - 920	(s)
$\text{R}_2\text{C} = \text{CH}_2$ (out of plane)	880 - 900	(s)
cis - $\text{RCH} = \text{CHR}$ C-H bendings)	675 - 730	(s)
trans - $\text{RCH} = \text{CHR}$	960 - 975	(s)
C. Alkynyl		
$\equiv \text{C} - \text{H}$ (stretching)	- 3300	(s)
$\text{C} \equiv \text{C}$ (stretching)	2100 - 2260	(v)
D. Aromatic		
Ar - H (stretching)	- 3030	(v)
Aromatic substitution type (C-H out-of-plane bendings)		
Mono-substituted	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)
E. Alcohols, Phenols, Carboxylic Acids		
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)
F. Aldehydes, Ketones, Esters and Carboxylic Acids		
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)
G. Amines		
N - H	3300 - 3500	(m)
H. Nitriles		
$\text{C} \equiv \text{N}$	2220 - 2260	(m)



TABLE - 2
Approximate Proton Chemical Shifts in NMR

TYPE OF PROTON	CHEMICAL SHIFT, DELTA, PPM (δ)
1° Alkyl, RCH ₃	0.8 - 1.0
2° Alkyl, RCH ₂ R	1.2 - 1.4
3° Alkyl, R ₃ CH	1.4 - 1.7
Allylic, R ₂ C = C - CH ₃ R	1.6 - 1.9
Benzylic, ArCH ₃	2.2 - 2.5
Alkyl chloride, RCH ₂ Cl	3.6 - 3.8
Alkyl bromide, RCH ₂ Br	3.4 - 3.6
Alkyl iodide, RCH ₂ I	3.1 - 3.3
Ether, ROCH ₂ R	3.3 - 3.9
Alcohol, HOCH ₂ R	3.3 - 4.0
Ketone, RC(=O)CH ₃	2.1 - 2.6
Aldehyde, RCH(=O)H	9.5 - 9.6
Vinylic, R ₂ C = CH ₂	4.6 - 5.0
Vinylic, R ₂ C = CH R	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 ^a
Carboxylic, RCO(=O)H	10 - 13 ^a
Phenolic, ArOH	4.5 - 7.7 ^a
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	λ_{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) - NR ₂ (N - alkyl)	60
	f) - SR (S - alkyl)	30
	g) - CH = 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 α, β - Unsaturated Enones (Ethanol Solution)

No.	Basic value	λ_{max} (nm)
1)	Ketones: $\begin{array}{c} \beta \\ \\ -\text{C}=\text{C}-\text{CO}- \\ \end{array}$	
	a) Acyclic or 6-membered ring	215
	b) 5-membered ring	202
2)	Aldehydes $\begin{array}{c} \\ -\text{C}=\text{C}-\text{CHO} \\ \end{array}$	207
3)	Extended Conjugation $\begin{array}{c} \delta \quad \gamma \quad \beta \quad \alpha \\ \quad \quad \quad \\ -\text{C}=\text{C}-\text{C}=\text{C}-\text{CO}-\text{etc.,} \\ \quad \end{array}$	30
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			
	α	β	γ	δ
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 ₂ , - NHR, - NR ₂	-	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



2. A) Define and explain **any four** of the following : 8
- 1) Define Vaccine.
 - 2) Define Trademark.
 - 3) Define Biosafety.
 - 4) Application of acetone-butanol.
 - 5) Write applications of PHB.
- B) Write short note on **any two** of the following : 6
- 1) Write a note on DNA vaccine.
 - 2) IPR.
 - 3) Types of Vaccine.
3. A) Answer **any two** of the following : 8
- 1) Describe in detail Bioethics.
 - 2) Describe in detail natural biopreservative.
 - 3) Write in detail insulin production.
- B) Answer **any one** of the following : 6
- 1) Describe in detail GMP.
 - 2) Write in detail GLP and its principles.
4. A) Answer **any two** of the following : 10
- 1) Write in detail interferon production.
 - 2) Describe in detail acetone-butanol production.
 - 3) Write an essay on biosafety guidelines.
- B) Answer **any one** of the following : 4
- 1) Define patent and give suitable example of patenting of biological material.
 - 2) Describe in detail Vinegar production.
5. Answer **any two** of the following : 14
- 1) Describe in detail production of Pullulan and its role.
 - 2) Write detail account on mushroom cultivation.
 - 3) Explain in detail microbial biosynthesis of Rubber.



SLR-SK – 47

Seat No.	
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Set

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B.Sc. – III (Semester – V) (Entrepreneurship) Examination, 2018
ENGLISH (Compulsory) (Old) (CGPA)
Breakthrough

Day and Date : Saturday, 17-11-2018

Max. Marks : 70

Time : 2.30 p.m. to 5.00 p.m.

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

1. A) Choose the correct alternative : 10
- 1) The opinions Shaw expresses in Church, School and Press prove that Shaw is a
 - a) Capitalist
 - b) Anarchist
 - c) Socialist
 - d) Populist
 - 2) According to G. B. Shaw, our society must be judged, not by its few _____, but by its millions of obedient subjects.
 - a) Patriots
 - b) Peasants
 - c) Journalists
 - d) Rebels
 - 3) The Gettysburg Address was delivered by Abraham Lincoln in
 - a) 1863
 - b) 1862
 - c) 1865
 - d) 1864
 - 4) Abraham Lincoln appeals to the people assembled at Gettysburg to strengthen
 - a) Aristocracy
 - b) Autocracy
 - c) Democracy
 - d) Both democracy and aristocracy
 - 5) In the poem “*Abou Ben Adhem*” an angel was writing in his golden book the names of
 - a) Those who loved God
 - b) Those who hated God
 - c) Those who were rich
 - d) Those who worked hard

P.T.O.



- 6) The poem “O Captain ! My Captain!” is written to mourn the death of
- a) Poet’s father
 - b) Abraham Lincoln
 - c) The captain of the ship
 - d) Poet’s brother
- 7) Which of the following statements about women is not true ?
- a) In the 19th Century women were encouraged to be an artist
 - b) Anonymity runs in the blood of women
 - c) A woman must have money and a room of her own if she is to write fiction
 - d) Even in the 19th century, women were slapped, lectured and exhorted
- 8) According to Virginia Woolf, chastity had then a _____ importance in a woman’s life.
- a) Political
 - b) Social
 - c) Economical
 - d) Religious
- 9) The poem *Abou Ben Adhem* was written by
- a) Lord Hunt
 - b) Leigh Hunt
 - c) Walt Whitman
 - d) Robert Browning
- 10) The captain does not answer because
- a) He is busy in his work
 - b) He is fast asleep
 - c) His lips are pale and still
 - d) He could not hear properly
- B) Rewrite the following sentences choosing the correct modal auxiliary from the brackets. 2
- 1) I _____ swim hours and hours. (can, could, may, should)
 - 2) _____ you please give me a lift up to the police station ? (would, must, might, shall)
- C) Write the following sentences in indirect speech. 2
- 1) Reema said to Kavita, “What are you doing ?”
 - 2) He said to us, “Let’s go home”.



2. Answer **any four** of the following questions : 16
- 1) What are Shaw's views on Press ?
 - 2) What does G. B. Shaw say about the corruption in the field of education ?
 - 3) Write a note on Abraham Lincoln's address to the people assembled at the Gettysburg.
 - 4) What are the principles on which the American democracy was founded ?
 - 5) How does society erode the talents of women writers ?
 - 6) What are the immaterial conditions of life that hinder women's talents as writers ?
3. Answer **any two** of the following : 12
- 1) Write a note on the appropriateness of the title of poem *O Captain ! My Captain !!*
 - 2) What did Abou Ben Adhem see in his dream ?
 - 3) Write a report on the send off ceremony of your class.
 - 4) Write a report on your visit to National Park.
4. Answer **any one** of the following : 14
- 1) Prepare a presentation consisting of five charts or slides to promote a "Dish Washer" in the market.
 - 2) Write a presentation on the topic "Child Sexual Abuse" using charts, transparencies or slides.
5. Write a transcript of group discussion on the topic "Lynching in India". 14
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SLR-SK – 48

Seat No.	
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B.Sc. – III (Semester – V) (Old CGPA) Examination, 2018
ENTREPRENEURSHIP
Business Finance

Day and Date : Monday, 19-11-2018

Total Marks : 70

Time : 2.30 p.m. to 5.00 p.m.

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

1. Choose the **correct** alternative and rewrite the sentences again. **14**
- 1) SEBI established on _____
a) 1992 b) 1994 c) 1892 d) 1886
 - 2) Business finance deals with _____
a) Managerial Problems b) Financial Problems
c) Administrative Problems d) All the above
 - 3) IMF established on _____
a) 1945 b) 1946 c) 1955 d) 1965
 - 4) Finance can be raised by _____ through issue of shares.
a) Co-operative Societies b) Sole Proprietor
c) Partnership firm d) Companies
 - 5) World bank also known as _____
a) IMF b) WTO c) IBRD d) None of these
 - 6) Trade credit is source of _____
a) Long Term Finance b) Medium Term Finance
c) Short Term Finance d) All the above

P.T.O.



- 7) A company can accept Public Deposits for a maximum period of
a) One year b) Two years c) Three years d) Four years
- 8) NSE refers to
a) National Stock Exchange b) National Super Exchange
c) National Share Exchange d) None of these
- 9) The members of the stock exchange are called as _____
a) Investors b) Agents c) Brokers d) Members
- 10) Working of stock exchanges in India is controlled by _____
a) RBI b) Govt. of India
c) SEBI d) IRDA
- 11) The exchange rate is
a) The price of one currency relative to gold
b) The value of a currency relative to inflation
c) The change in the value of money over time
d) The price of one currency relative to another
- 12) Capital lease also known as _____
a) Financial lease b) Operating lease
c) Sale and lease back lease d) Leveraged lease
- 13) MIGA refers to _____
a) Multinational Investment Guarantee Association
b) Multi-level Investment Guarantee Agency
c) Multinational Investment Guarantee Agency
d) Multiple Investment Guarantee Association
- 14) The span of time within which the investment made for the project will be recovered by the net returns to the project is known as
a) Period of return b) Payback period
c) Accounting rate of return d) Span of return



2. A) Define and explain **any four** of the following : 8
- 1) What is Business finance ?
 - 2) What is lease finance ?
 - 3) What is capital budgeting ?
 - 4) Meaning of stock exchange.
 - 5) What is Venture Capital ?
- B) Write short note on **any two** of the following : 6
- 1) Explain objective of Business finance.
 - 2) Explain FERA.
 - 3) Explain E-banking.
3. A) Answer **any two** of the following : 8
- 1) Explain functions of stock exchange.
 - 2) Explain steps in financial planning.
 - 3) Explain problems of Leasing in India.
- B) Answer **any one** of the following. 6
- 1) Explain working of BSE and NSE.
 - 2) Explain methods of capital budgeting.
4. A) Answer **any two** of the following. 10
- 1) Explain external sources of business finance.
 - 2) Explain types of lease financing.
 - 3) Explain types of foreign exchange rate.
- B) Answer **any one** the following. 4
- 1) Explain internal sources of business finance.
 - 2) Explain importance of lease financing.
5. Answer **any two** of the following. 14
- 1) Explain methods of marketing of securities.
 - 2) Explain role of SEBI in Capital Market.
 - 3) Explain in brief international financial institutions.



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B.Sc. – III (Semester – V) (Old CGPA) Examination, 2018
ENTREPRENEURSHIP
Human Resource Management

Day and Date : Tuesday, 20-11-2018

Total Marks : 70

Time : 2.30 p.m. to 5.00 p.m.

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

1. Choose the **correct** alternative and rewrite the sentences again. **14**
- 1) _____ is first step in staffing procedure.
- a) Determining sources of personnel supply
 - b) Preparing personnel specifications
 - c) Selection of personnel
 - d) Determining personnel characteristics
- 2) On the Job Training Methods is based on
- a) Demonstration Method
 - b) Apprenticeship Training Method
 - c) Informal Training
 - d) All of the above
- 3) _____ type of recruitment process is said to be a costly affair.
- a) Internal recruitment
 - b) External recruitment
 - c) Cost remains same for both types
 - d) None of these
- 4) The basic human resource managerial skill (s) is (are).
- a) To supervise
 - b) To stimulate
 - c) To motivate
 - d) All of the above

P.T.O.



13) Arrange the following in order :

- i) Promotion
- ii) Performance appraisal
- iii) Recruitment
- iv) Training and Development

- a) (iii), (iv), (ii), (i)
- b) (ii), (iii), (i), (iv)
- c) (i), (ii), (iii), (iv)
- d) (ii), (iv), (iii), (i)

14) Selection includes _____

- a) Formulating interviewing techniques
- b) Checking of references
- c) Framing and developing application blanks
- d) All of the above

2. A) Define and explain **any four** of the following :

8

- 1) Define Recruitment.
- 2) Define Selection.
- 3) What is HRM ?
- 4) Define training.
- 5) Job Specification.

B) Write short note on **any two** of the following :

6

- 1) Job Analysis.
- 2) Job Satisfaction.
- 3) Provident Fund.

3. A) Answer **any two** of the following :

8

- 1) Explain types of Promotion.
- 2) Explain job description.
- 3) Internal Mobility.



- B) Answer **any one** of the following : **6**
- 1) Explain training methods.
 - 2) Explain succession planning.
4. A) Answer **any two** of the following : **10**
- 1) Explain performance appraisal methods.
 - 2) Explain sources of recruitment.
 - 3) Explain types of external mobility.
- B) Answer **any one** of the following : **4**
- 1) Concept of promotion and demotion.
 - 2) Objective of training.
5. Answer **any two** of the following : **14**
- 1) Explain steps in career development.
 - 2) Explain process of selection.
 - 3) Explain elements of career developments program.
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B.Sc. – III (Semester – V) Entrepreneurship (Old CGPA) Examination, 2018
INDUSTRIAL CHEMISTRY
Spectroscopic Methods

Day and Date : Thursday, 22-11-2018

Total Marks : 70

Time : 2.30 p.m. to 5.00 p.m.

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

1. Choose the **correct** alternative and rewrite the sentences again. **14**

- 1) Reciprocal of wavelength is _____
 - a) Wave number
 - b) Velocity
 - c) Frequency
 - d) Electronic radiation
- 2) For linear molecule the number of fundamental modes of vibration is given by _____
 - a) $3N$
 - b) $3N - 5$
 - c) $3N - 6$
 - d) $3N - 2$
- 3) Higher δ values shows _____
 - a) upfield
 - b) resonance
 - c) downfield
 - d) flipping
- 4) Methyl alcohol shows m/e peak at _____
 - a) 30
 - b) 32
 - c) 36
 - d) 40
- 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) The functional group region is in between _____
 - a) $4000 - 1350 \text{ cm}^{-1}$
 - b) $2000 - 950 \text{ cm}^{-1}$
 - c) $4000 - 650 \text{ cm}^{-1}$
 - d) $1350 - 650 \text{ cm}^{-1}$



3. A) Answer **any two** of the following : 8

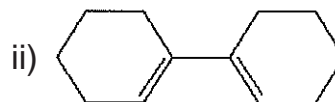
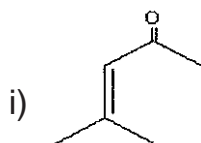
- 1) Explain types of vibration in IR spectroscopy.
- 2) Write the principles of PMR spectroscopy.
- 3) Discuss in detail the effect of conjugation on the position of UV bands in dienes.

B) Answer **any one** of the following. 6

- 1) Explain the principle and diagram of Mass spectroscopy.
- 2) Draw a neat labeled diagram of NMR spectrometer and explain its working.

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

- 1) Calculate λ_{\max} of the following compound.



- 2) State and explain the mathematical expression of Hooke's law.
- 3) Write the application of NMR spectroscopy.

B) Answer **any one** of the following : 4

- 1) How Mass spectroscopy can be used for determination of molecular weight ?
- 2) State and explain Lambert's-Beer law with its mathematical expression.

5. Answer **any two** of the following : 14

- 1) Explain various transitions in UV spectroscopy.
- 2) Explain the principle of IR spectroscopy with schematic diagram of typical double beam IR spectrophotometer.
- 3) Deduce the structure of following compound.

MF : C_7H_8O

IR : 3500 cm^{-1}

PMR : 3.7δ (s, 1H), 4.4δ (s, 2H), 7.2δ (s, 5H).



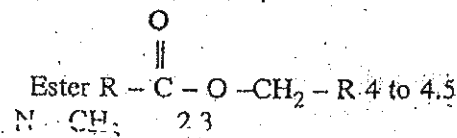
TABLE - 1
Characteristic Infrared Absorptions of Functional Groups

GROUP	FREQUENCY RANGE cm^{-1}	INTENSITY
A. Alkyl		
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. Alkenyl		
C-H (stretching)	3010 - 3095	(m)
C = C (stretching)	1620 - 1680	(v)
R - $\text{CH} = \text{CH}_2$	985 - 1000	(s)
and	905 - 920	(s)
$\text{R}_2\text{C} = \text{CH}_2$ (out of plane)	880 - 900	(s)
cis - $\text{RCH} = \text{CHR}$ C-H bendings)	675 - 730	(s)
trans - $\text{RCH} = \text{CHR}$	960 - 975	(s)
C. Alkynyl		
$\equiv\text{C} - \text{H}$ (stretching)	- 3300	(s)
$\text{C} \equiv \text{C}$ (stretching)	2100 - 2260	(v)
D. Aromatic		
Ar - H (stretching)	- 3030	(v)
Aromatic substitution type (C-H out-of-plane bendings)		
Mono-substituted	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)
E. Alcohols, Phenols, Carboxylic Acids		
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)
F. Aldehydes, Ketones, Esters and Carboxylic Acids		
$\text{C} = \text{O}$ 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)
G. Amines		
N - H	3300 - 3500	(m)
H. Nitriles		
$\text{C} \equiv \text{N}$	2220 - 2260	(m)



TABLE - 2
Approximate Proton Chemical Shifts in NMR

TYPE OF PROTON	CHEMICAL SHIFT, DELTA, PPM (δ)
1° Alkyl, RCH ₃	0.8 - 1.0
2° Alkyl, RCH ₂ R	1.2 - 1.4
3° Alkyl, R ₃ CH	1.4 - 1.7
Allylic, R ₂ C = C - CH ₃ R	1.6 - 1.9
Benzylic, ArCH ₃	2.2 - 2.5
Alkyl chloride, RCH ₂ Cl	3.6 - 3.8
Alkyl bromide, RCH ₂ Br	3.4 - 3.6
Alkyl iodide, RCH ₂ I	3.1 - 3.3
Ether, ROCH ₂ R	3.3 - 3.9
Alcohol, HOCH ₂ R	3.3 - 4.0
Ketone, RC(=O)CH ₃	2.1 - 2.6
Aldehyde, RCH(=O)H	9.5 - 9.6
Vinylic, R ₂ C = CH ₂	4.6 - 5.0
Vinylic, R ₂ C = CH R	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 ^a
Carboxylic, RCO(=O)H	10 - 13 ^a
Phenolic, ArOH	4.5 - 7.7 ^a
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	λ_{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) - NR ₂ (N - alkyl)	60
	f) - SR (S - alkyl)	30
	g) - CH = 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 α, β - Unsaturated Enones (Ethanol Solution)

No.	Basic value	λ_{max} (nm)
1)	Ketones: $\begin{array}{c} \beta \\ \\ -C=C- \\ \quad \\ \alpha \quad CO- \end{array}$	
	a) Acyclic or 6-membered ring	215
	b) 5-membered ring	202
2)	Aldehydes $\begin{array}{c} \quad \\ -C=C-CHO \end{array}$	207
3)	Extended Conjugation $\begin{array}{c} \delta \quad \gamma \quad \beta \quad \alpha \\ \quad \quad \quad \\ -C=C-C=C-CO- \text{ etc.,} \end{array}$	30
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			
	α	β	γ	δ
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 ₂ , - NHR, - NR ₂	-	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

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B.Sc. – III (Semester – V) (Old CGPA) Examination, 2018
ENTREPRENEURSHIP
Ind. Microbiology and Ind. Biotechnology
Advances in Fermentation Technology

Day and Date : Saturday, 24-11-2018

Total Marks : 70

Time : 2.30 p.m. to 5.00 p.m.

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

1. Choose the **correct** alternative and rewrite the sentences. **14**
- 1) _____ production is an example of dual step of fermentation process.
 - a) Xanthan
 - b) Vinegar
 - c) Interferon
 - d) Insulin
 - 2) The term 'Intellectual Property Rights' covers
 - a) Copyrights
 - b) Trade dress
 - c) Know-how
 - d) All of the above
 - 3) The First Transgenic plant is _____
 - a) Rice
 - b) Tobacco
 - c) Cotton
 - d) Maize
 - 4) Copyright protection is available for _____
 - a) Literary work
 - b) Artistic work
 - c) Musical work
 - d) All of the above
 - 5) _____ can be utilized as the sole form of decontamination in a biological safety cabinet.
 - a) UV Light
 - b) IR Light
 - c) MV Light
 - d) TS Light



2. A) Define and explain **any four** of the following : 8
- 1) Define Vaccine.
 - 2) Define Trademark.
 - 3) Define Biosafety.
 - 4) Application of acetone-butanol.
 - 5) Write applications of PHB.
- B) Write short note on **any two** of the following : 6
- 1) Write a note on DNA vaccine.
 - 2) IPR.
 - 3) Types of Vaccine.
3. A) Answer **any two** of the following : 8
- 1) Describe in detail Bioethics.
 - 2) Describe in detail natural biopreservative.
 - 3) Write in detail insulin production.
- B) Answer **any one** of the following : 6
- 1) Describe in detail GMP.
 - 2) Write in detail GLP and its principles.
4. A) Answer **any two** of the following : 10
- 1) Write in detail interferon production.
 - 2) Describe in detail acetone-butanol production.
 - 3) Write an essay on biosafety guidelines.
- B) Answer **any one** of the following : 4
- 1) Define patent and give suitable example of patenting of biological material.
 - 2) Describe in detail Vinegar production.
5. Answer **any two** of the following : 14
- 1) Describe in detail production of Pullulan and its role.
 - 2) Write detail account on mushroom cultivation.
 - 3) Explain in detail microbial biosynthesis of Rubber.



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B.Sc. III (Semester – VI) (Entrepreneurship) (CGPA) Examination, 2018
ENGLISH COMPULSORY
(Breakthrough)

Day and Date : Monday, 29-10-2018
Time : 10.30 a.m. to 1.00 p.m.

Max. Marks : 70

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

1. Choose the correct answer from the alternatives given. 14
- 1) What task was Jim set by Aunt Polly ?
 - a) to whitewash the fence
 - b) to check on Tom's work
 - c) to bring the water from the town pump
 - d) to tend to his own business
 - 2) Ben Rogers was pretending to be
 - a) Aunt Polly
 - b) Billy Fisher
 - c) Big Missouri
 - d) Johnny Miller
 - 3) Tom gave the 'privilege' of whitewashing the fence when Ben offered him
 - a) the core of his apple
 - b) a bully law
 - c) half of his apple
 - d) the whole apple
 - 4) What did Loisel suggest Mathilde wear for ornamentation ?
 - a) flowers
 - b) diamonds
 - c) a necklace
 - d) fur wraps
 - 5) What change took place in Mathilde by the time she had repaid the loan ?
 - a) She had aged ten years
 - b) She became pale and thin
 - c) She had the look of a robust woman from a poor household
 - d) She looked young, still beautiful, still seductive
 - 6) Monsieur is a young middle class _____ in the Ministry of Education.
 - a) clerk
 - b) teacher
 - c) professor
 - d) driver
 - 7) Pyramus and Thisbe reside (live) in
 - a) Tomb of Ninus
 - b) Greece
 - c) Baby Ionia
 - d) Semiramins



- 8) Pyramus and Thisbe communicated through
- secret midnight meetings at the Tomb of Ninus
 - common friends
 - a crack in a wall
 - letters
- 9) On seeing _____ Pyramus assumed that Thisbe was dead.
- a crack in a wall
 - a bloody, torn veil
 - the white mulberry tree turned red
 - the footsteps of a lion in the sand
- 10) _____ sells tunics, mirrors and daggers in the poem 'In the Bazaars of Hyderabad.'
- | | |
|------------------|-----------------------|
| a) The magicians | b) The gold smiths |
| c) The merchants | d) The flower sellers |
- 11) In the poem The 'bright jewel' being addressed here is
- | | |
|-----------------------|------------------|
| a) chastity | b) virtue |
| c) the speaker's soul | d) none of these |
- 12) The tag question of "That is a great idea" is
- | | | | |
|-----------------|--------------|---------------|-------------|
| a) isn't that ? | b) is that ? | c) isn't it ? | d) isn't it |
|-----------------|--------------|---------------|-------------|
- 13) The girl knitted mittens while listening to a music CD the underlined clause is
- | | |
|----------------------|-------------------------|
| a) noun clause | b) an adverbial clause |
| c) a relative clause | d) an adjectival clause |
- 14) It was raining, yet we went shopping. The sentence is
- | | |
|----------------------|---------------------|
| a) simple sentence | b) complex sentence |
| c) compound sentence | d) none of these |

2. Answer **any seven** of the following questions in short.

14

- How did Tom try to persuade Jim to help with his task and what was the result ?
- What task was Tom set by his aunt ?
- What did Tom acquire at the end of the day ?
- Why was Mathilde dissatisfied and unhappy ?
- How did Mathilde and Loisel replace the necklace ?
- Where did Pyramus and Thisbe decided to meet ?
- What happens to Thisbe before Pyramus arrives ?
- Where does Pyramus find Thisbe's Veil and what does he think ?

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3. A) Answer **any two** of the following questions. 8
- 1) Describe the scene of the bazaar in the poem of Sarojini Naidu. (In the Bazaars of Hyderabad).
 - 2) What is the theme of the poem 'On Virtue' ?
 - 3) What does the poet speak about life on earth in the poem 'on virtue' ?
- B) Answer **any two** of the following. 6
- 1) Write the important tips on time management.
 - 2) Imagine that you have recently been quarrelling a lot with a friend and want to make up your relationship with him/her better. Write six to eight sentences on how you would handle the problem.
 - 3) Describe briefly a difficult situation you found yourself in what did you do to adapt yourself to it.
4. A) Write a description of a person who sat opposite you on a train journey. Remember to use words to convey what the character, thoughts and mood of the person seemed to be. 14

OR

- B) Write a description of national hockey-player you watched at an interview programme on T.V. conducted by the TV anchor, by describing his personal qualities, attitude, speech etc.
5. Read the following passage and write **one-third** summary of it. 14
- Trees give shade for the benefits of others and while they themselves stand in the sun and endure scorching heat, they produce the fruit by which others profit. The character of good men is like that of trees. What is the use of this perishable body, if no use of it is made for the benefit of mankind ?
- Sandalwood – the more it is rubbed the more scent does it yield. Sugarcane – the more it is peeled and cut into pieces, the more juice does it produce. Gold – the more it is burnt, the more brightly does it shine. The men who are noble at heart do not lose these qualities even in losing their lives. What does it matter whether men praises them or not ? What difference does it make whether riches abide with them or not ? What does it signify whether they die at this moment or whether their lives prolonged ? Happen what may, those who tread in the right path will not set foot in any other. Life itself is unprofitable to a man who does not live for others. To live for the mere shake of living one's life is to live the life of dogs and cows. Those who lay down their lives for the shake of a friend or even for the sake of a stranger, will assuredly dwell forever in a world of bliss.



- 8) _____ is that rate at which one currency is exchanged for another.
- a) Fixed Exchange Rate b) Foreign Exchange Rate
c) Flexible Exchange Rate d) Domestic Rate
- 9) Most favoured nation treatment is the basic principle of
- a) GATT b) WTO c) IMF d) World Bank
- 10) FDI means
- a) Flexibility Direct Investment b) Foreign Direct Investment
c) Full Direct Investment d) None
- 11) _____ is merely a way of listing receipts and payments in international transactions for a country.
- a) Balance of Payment b) Balance of Trade
c) Deficit in Balance of Payment d) None
- 12) The highest authority of the WTO is
- a) Dispute settlement body b) General Council
c) Trade policy review body d) Ministerial conference
- 13) _____ co-ordinates and monitor the implementation of SAARC programme.
- a) Council of minister of SAARC
b) Standing committee of SAARC
c) SAARC Secretariat
d) Programme committee of SAARC
- 14) _____ means any type of business activity that crosses the national border.
- a) Export b) International Trade
c) International Business d) Import

2. Solve **any seven** questions out of nine :

14

- 1) What is meant by International Business ?
2) What is meant by MNC ?

Set P



- 3) What is meant by Balance of Payments ?
 - 4) Objectives of ADB.
 - 5) What are the forms of FDI ?
 - 6) What is meant by Joint-venture ?
 - 7) What is meant by E-commerce ?
 - 8) What is SAP retail model ?
 - 9) What is the concept of E-commerce model B to B.
3. A) Write short notes on **any 2** out of 3 questions. **10**
- 1) What are the features of International Business ?
 - 2) What are the advantages of the theory of comparative cost ?
 - 3) What are the components of Balance of payment ?
- B) What are the objectives of GATT ? **4**
4. Write **any 2** out of 3 questions. **14**
- 1) What are the functional SAP ERP modules ?
 - 2) What is meant by Globalisation and give its advantages ?
 - 3) Explain export documentation.
5. Write **any 2** out of 3 questions. **14**
- 1) Explain problems of International Trade.
 - 2) Define in detail merger and Acquisition.
 - 3) Define the SAARC function and Organisation.
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B.Sc. – III (Semester – VI) (CGPA) Examination, 2018
ENTREPRENEURSHIP
Organizational Behavior

Day and Date : Wednesday, 31-10-2018
Time : 10.30 a.m. to 1.00 p.m.

Max. Marks : 70

1. Choose the correct answer from given alternative. 14
- 1) The problem-solving process begins with
 - a) Clarification of the situation
 - b) Establishment of alternatives
 - c) Identification of the difficulty
 - d) Isolation of the cause
 - 2) Contributions of human relations movement are
 - a) Great Depression
 - b) Labor Movement
 - c) Hawthorne Studies
 - d) All of these
 - 3) Forces affecting organizational behavior are
 - a) People
 - b) Environment
 - c) Technology
 - d) All of these
 - 4) EDI stands for
 - a) Electronic Data Interchange
 - b) Easy Data Interchange
 - c) Effective Data Interchange
 - d) Era Data Interchange
 - 5) OB is the study of _____ in the organization.
 - a) Human
 - b) Human Behavior
 - c) Employer
 - d) Employees
 - 6) The Model(s) of Organizational Behavior is/are
 - a) Autocratic
 - b) Custodial
 - c) Supportive
 - d) All of these
 - 7) Work attitudes can be reflected in an organization through
 - a) Job satisfaction
 - b) Organizational commitment
 - c) Both a & b
 - d) None of these



3. A) Answer **any two** of the following. 10
- 1) Explain the nature and scope of Organization Behavior.
 - 2) What is group ? Write down types of group ?
 - 3) Describe importance of Motivation.
- B) Describe in short type of Personality. 4
4. Answer **any two** of the following. 14
- 1) What is e-Commerce ? Write down advantages of e-commerce.
 - 2) What is politics ? Explain types and ethics of politics.
 - 3) Describe :
 - i) Work Stress Models
 - ii) Maslews Theory of Motivation.
5. Answer **any two** of the following. 14
- 1) What is perceptions ? Write down perceptions process.
 - 2) Explain the job satisfaction and time management.
 - 3) Explain the Evolution of Organization Behavior.
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B.Sc. III (Semester – VI) (Entrepreneurship) (CGPA) Examination, 2018
INDUSTRIAL CHEMISTRY
Techniques in Industrial Chemistry

Day and Date : Thursday 1-11-2018
Time : 10:30 a.m. to 1.00 p.m.

Max. Marks : 70

- Instructions :** 1) **All questions are compulsory.**
2) Draw **neat** labelled diagram and give equations **wherever necessary.**
3) **All questions carry equal marks.**
4) Figures to the **right** indicate **full marks.**

1. Select the correct alternative from among those given below and rewrite the sentence. 14
- i) In paper chromatography, the stationary phase is
a) paper b) water c) organic liquid d) inorganic liquid
- ii) The Zeolite is regenerated by soaking it in _____ solution.
a) 10% NaCl b) 10% HCl c) 10% NaOH d) 10% H₂SO₄
- iii) If cathode efficiency > anode efficiency, the bath becomes _____ in metal content.
a) rich b) poor c) constant d) none of these
- iv) _____ is an example of type B fires.
a) Wood b) Cloth c) Paper d) Oil
- v) Gas chromatography is used for the separation of mixture of _____ components.
a) volatile b) non volatile c) solid-liquid d) solid-solid
- vi) Friedel Craft reactions are used to introduce _____ groups.
a) hydroxy b) chloro c) alkyl d) amino
- vii) According to first law of electrolysis, amount of substance deposited or dissolved at any electrode is directly proportional to the quantity of _____ passed through the electrolyte.
a) Current b) Faraday c) Electrons d) Electricity
- viii) _____ and _____ ions are responsible for hard water.
a) Al⁺⁺⁺ and Si⁺⁺ b) Mg⁺⁺ and Na⁺
c) Ca⁺⁺ and Mg⁺⁺ d) Mg⁺⁺ and Al⁺⁺⁺
- ix) The silica gel is used in column chromatography as
a) effluent b) adsorbent c) absorbent d) none of these
- x) _____ % of pure Nickel is used as anode for Nickel plating.
a) 100 b) 99 c) 50 d) 75



- xi) In any chromatographic technique the number of phases involved in separation is
a) 0 b) 1 c) 2 d) 4
- xii) The removal of oxide or dust on the article by the action of mineral acids like HCl, H₂SO₄ and HNO₃ is called
a) agitation b) anodizing c) circulation d) pickling
- xiii) Biocatalytical reactions are catalysed by
a) Proteins b) Enzymes c) Carbohydrates d) Alcohols
- xiv) In gas chromatography _____ is used as mobile phase.
a) Helium b) Hydrogen cyanide
c) Pet. ether d) Ethyl alcohol
2. Answer **any seven** of the following : **14**
- i) What is general principles of chromatography ?
 - ii) What is cathode and anode efficiency ?
 - iii) Define Zeolite and write structure of Zeolite.
 - iv) Give the advantages of Paper Chromatography.
 - v) Name the different types of fires.
 - vi) Write the Faraday's law of electrolysis.
 - vii) Explain the term Antifreeze extinguishers.
 - viii) How R_f value can be calculated ?
 - ix) What is green chemistry ?
3. A) Attempt **any two** of the following : **10**
- i) Write Short note on Cleaning of articles.
 - ii) Portable Fire extinguishers.
 - iii) Friedel Craft's alkylation.
- B) What is Column Chromatography ? Draw a neat labeled diagram of Column Chromatography. **4**
4. Attempt **any two** of the following : **14**
- i) Give the twelve principles of Green Chemistry.
 - ii) Explain the electroplating of Nickel.
 - iii) Describe the Soda acid extinguishers.
5. Attempt **any two** of the following : **14**
- i) What are the biocatalysts ? Write the advantages and disadvantages of biocatalyst.
 - ii) Discuss the basic principles of electroplating.
 - iii) Explain classification of Water and it's types.



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**B.Sc. III (Semester – VI) Entrepreneurship (CGPA) Examination, 2018
IND. MICROBIOLOGY AND IND. BIOTECHNOLOGY
(Genetic Engineering and Techniques in Plant Tissue Culture)**

Day and Date : Friday, 2-11-2018
Time : 10.30 a.m. to 1.00 p.m.

Max. Marks : 70

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

1. Choose the correct alternative and rewrite the sentences again. **14**
- i) The plant part used for tissue culture is known as
 - a) Callus
 - b) Explant
 - c) Tissue
 - d) All of above
 - ii) The unorganized dividing mass of tissue produced during tissue culture process is known as
 - a) Explant
 - b) Callus
 - c) Tissue
 - d) None of these
 - iii) The nutrient which are most essential and required in large amount for tissue culture process.
 - a) Micronutrient
 - b) Macronutrient
 - c) Salts
 - d) Mineral nutrients
 - iv) _____ is the genetic vector.
 - a) Pili
 - b) Cosmid
 - c) Flagella
 - d) All of above
 - v) Plasmid chiefly occurs in
 - a) Viruses
 - b) Bacteria
 - c) Chromosomes
 - d) Chloroplast
 - vi) _____ hormone is used in tissue culture process.
 - a) Auxin and Cytokinin
 - b) Gibberellins and Cytokinin
 - c) Auxin and Gibberellins
 - d) Ethylene and Abscisic acid



- vii) Genetic engineering is
- a) Plastic surgery
 - b) Addition and removal of genes
 - c) Study of extra-nuclear genes
 - d) All of above
- viii) Restriction endonuclease is
- a) enzyme
 - b) nucleic acid
 - c) fatty acid
 - d) polysaccharide
- ix) Small circular self replication and extra chromosomal and double standard DNA molecule present in bacterial cell is
- a) Chromosome
 - b) Plasmid
 - c) Bacteriophage
 - d) Virus
- x) For production of haploid plant _____ is used as explant.
- a) Anther
 - b) Leaf
 - c) Stem
 - d) Root
- xi) _____ is used for sterilization of glass wares.
- a) Autoclave
 - b) Laminar air flow
 - c) Hot air oven
 - d) Disinfectant
- xii) For tissue culture process _____ is mainly used media.
- a) M.S. media
 - b) White media
 - c) Chu media
 - d) None of these
- xiii) The computer based study and designing of genome is called
- a) lipidomics
 - b) proteiomics
 - c) polymics
 - d) genomics
- xiv) _____ is the “Molecular scissors” used to genetic engineering.
- a) DNA polymerase
 - b) DNA ligase
 - c) Restriction endonuclease
 - d) Helicase



2. Define and explain in short **any seven** of the following. **14**
- i) Agarose
 - ii) Insects resistance.
 - iii) PTC.
 - iv) Nucleases.
 - v) Anther culture.
 - vi) Cellular totipotancy.
 - vii) Ovule culture.
 - viii) Explants.
 - ix) Callus.
3. A) Answer **any two** of the following. **10**
- i) Write note on Organ culture with suitable diagram.
 - ii) Describe in detail Transgenic plants.
 - iii) Write note on Suspension culture with Synchronization.
- B) Write note on Cosmid with suitable example. **4**
4. Answer **any two** of the following. **14**
- i) Explain in detail Western blotting with diagram.
 - ii) Describe in detail factors affecting the micropropagation.
 - iii) Explain in detail bacteriophage and phagemid vector with diagram.
5. Answer **any two** of the following. **14**
- i) Describe in detail ovule and ovary culture with diagram.
 - ii) Explain in detail construction of chimeric DNA with preparation and labeling.
 - iii) Describe in detail plant growth hormones.
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