



Seat No.	
-------------	--

B.Sc. (Part – I) (Semester – I) (Entrepreneurship) Examination, 2016
(CBCS Pattern) (New)
ENGLISH (Compulsory)
On Track-English Skills for Success

Time : 2½ Hours

Max. Marks : 70

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

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

- 1) The poem 'Bangle Sellers' is written by _____
 - a) Sarojini Naidu
 - b) W. B. Yeats
 - c) Robert Hayden
 - d) O. Henry
- 2) Which one of the following is a simile ?
 - a) Like the flame of her marriage
 - b) Unfair brow
 - c) Gold-flecked grey
 - d) Rainbow tinted circles of light
- 3) The Irish airman is fighting in the war because of _____
 - a) A lonely impulse of delight
 - b) A sense of duty
 - c) Cheering crowds
 - d) Law
- 4) _____ began to turn into the main criterion to reckon intelligence in our society.
 - a) EQ test
 - b) IQ test
 - c) Fitness test
 - d) None of the above
- 5) The word 'intelligence' is derived from a _____ word.
 - a) French
 - b) English
 - c) Russian
 - d) Latin
- 6) Miss Krishna talked endlessly of her _____
 - a) Sister
 - b) Brother
 - c) Mother
 - d) Father



- 7) The writer took _____ from Miss Krishna's trunk with the permission of her sister.
a) A spoon b) A glass c) Fountain pen d) Little clock
- 8) Jimmy Wells is a _____.
a) Teacher b) Postman c) Sailor d) Policeman
- 9) Jimmy and Bob decided that they will meet at Big Joe Brady's restaurant after _____ years.
a) 30 b) 20 c) 25 d) 35
- 10) Last week, I met _____ European in Solapur.
a) a b) an c) the d) zero article
- 11) Amit is _____ tallest boy in the class.
a) the b) a c) an d) zero article
- 12) We will meet _____ Monday.
a) off b) of c) at d) on
- 13) Who is your Chemistry teacher ? The underlined noun is a _____ noun.
a) collective b) proper c) common d) abstract
- 14) The shop is _____ my flat.
a) at b) under c) for d) below

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

14

- 1) Why did the narrator consider Miss Krishna an annoying guest ?
- 2) What is found in Miss Krishna's trunk ?
- 3) Why did Miss Krishna come to stay at narrator's house ?
- 4) What is the meaning of the term 'artificial intelligence' ?
- 5) In which areas does computer work faster than human beings ?
- 6) What are the myths regarding the intelligence of computers ?
- 7) How does writer describe Bob ?
- 8) What was the nickname for Bob that the plain-clothes policeman used ?
What does it mean ?



3. A) Write short paragraphs on **any two** of the following : 8
- 1) Meaningful education.
 - 2) The importance of physical exercise
 - 3) Deforestation.
- B) Answer **any two** of the following questions briefly : 6
- 1) Examine the role of women in the poem ‘Bangle Sellers’ ?
 - 2) How does the poet describe the life of middle-aged faithful wife ?
 - 3) What is the Irish man’s attitude towards the war he is fighting in ?
4. Write an essay on **any one** of the following : 14
- 1) Benefits of meditation.
 - 2) Farmer’s suicides : Causes and solutions.
5. Read the following passage and make notes of it. Give an appropriate title for your notes : 14
- Money has various uses in the modern world : It is a measure of the value of goods and services, a means of exchanging such goods and services and in a way to store up buying power so that one can use it later.
- As a measure of value, it is of the very great use. If I work in the office, how can my employer know what to pay me for my services, if there is no generally recognised measure of value ? He may decide to pay me a certain number of loaves and bread each week. But then, I shall have to exchange some of those loaves for other things I need. Money gives us a very useful means of measuring such relative values. Money is also of great use as a means exchanging goods and services. I can consider it as a means of storing up buying power, and I find it, it has good and bad points. It can more easily be kept a long time than such things as food, which rots or buildings, which slowly fall to pieces or machines which rust. It takes up very little space and if you put it in a bank, it is safe as anything in this world can be.
-



Seat No.	
----------	--

**B.Sc. (Entrepreneurship) – I (Semester – I) (New) (CBCS Pattern)
Examination, 2016
Paper – I : ENTREPRENEURSHIP AND THE WORLD OF BUSINESS**

Time : 2½ Hours

Max. Marks : 70

1. Multiple choice questions : **14**

- 1) _____ and insurance are basic aids to trade and commerce.
 - a) Manufacturing
 - b) Banking
 - c) Service
 - d) Trading

- 2) Minimum two and maximum _____ members, partners are essential to start a private company.
 - a) 5
 - b) 7
 - c) 9
 - d) 8

- 3) _____ is the primary barriers for women entrepreneur.
 - a) Lack of family support
 - b) Lack of social support
 - c) Lack of technical skill
 - d) Lack of market knowledge

- 4) Role of entrepreneurs are _____
 - a) Idea generation
 - b) Systematic innovation
 - c) Implementation of mechanical skill
 - d) All of the above

- 5) Entrepreneur is characterized by great caution and skepticism in practising any change _____.
 - a) Innovating
 - b) Fabian
 - c) Imitative
 - d) None of these

- 6) The term entrepreneurship was first used in _____.
 - a) French
 - b) Greek
 - c) American
 - d) Latin



- 7) Entrepreneurs are high in _____
- a) Need achievement
 - b) Leadership
 - c) Quality
 - d) Motivation
- 8) _____ gives attention only within the organization.
- a) Manager
 - b) Owner
 - c) Leaders
 - d) None of these
- 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) Entrepreneur helps to reduce _____
- a) Conflict
 - b) Unemployment
 - c) Wealth distribution
 - d) All of the above
- 11) HUF means _____
- a) Hindu Undivided Family
 - b) Hindusthan Uni-lever Factory
 - c) Hindusthan Undivided Family
 - d) None of these
- 12) Which of following shows the process of creating something new ?
- a) Business model
 - b) Modeling
 - c) Innovation
 - d) All the above
- 13) Which one of the following gives suggestion for new product and also help to market new products ?
- a) Existing products and services
 - b) Distribution channels
 - c) Federal government
 - d) Consumers
- 14) A person who managed large projects was termed as the entrepreneurship in the _____
- a) Earliest period
 - b) 17th century
 - c) Middle ages
 - d) 19th and 20th century



2. Answer **any seven** of the following : **14**
- 1) Write note on partnership.
 - 2) Write note on women entrepreneurship.
 - 3) Meaning and definition of entrepreneurship.
 - 4) Explain motivation concept.
 - 5) Introduction to commerce.
 - 6) Introduction of business ethics.
 - 7) Management of business growth.
 - 8) Meaning and definition of business.
 - 9) Classification of business activity.
3. a) Answer **any two** of the following : **10**
- 1) Entrepreneur V/s Manager.
 - 2) Explain nature and scope of business ethics.
 - 3) Write note on sole traders.
- b) Explain in detail difference between entrepreneurship and entrepreneur. **4**
4. Answer **any two** of the following : **14**
- 1) Importance of business ethics in India.
 - 2) Factor responsible for emergence of entrepreneurship.
 - 3) Explain in detail qualities required to become a successful entrepreneur.
5. Attempt **any two** of the following : **14**
- 1) Problems faced by women entrepreneur.
 - 2) Characteristic of entrepreneurship.
 - 3) Role of entrepreneurship in Indian economy.
-



Seat No.	
----------	--

**B.Sc. – I (Semester – I) (Entrepreneurship) Examination, 2016
(New – CBCS)
(Paper – II)
ECONOMICS FOR MANAGER AND MANAGERIAL ACCOUNTING**

Time : 2½ Hours

Max. Marks : 70

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

1. Choose the correct answers from the given alternatives : 14
- 1) The law of demand states that, other things being equal, the demand for commodity tends to _____ as its price falls.
a) Fall b) Increase
c) Rise d) Multiply
 - 2) Giffen goods are the _____ goods.
a) Superior b) Quality
c) Prestigious d) Inferior
 - 3) Under _____ demand, the demand curve will be a straight horizontal line.
a) Perfectly inelastic b) Perfectly elastic
c) Relatively elastic d) Relatively inelastic
 - 4) Monopoly is exactly opposite to
a) Pure competition b) Perfect competition
c) Oligopoly d) Both a) and b)
 - 5) _____ refers to a market structure in which a large number of firms produce identical goods and sell them at a uniform price.
a) Monopoly b) Perfect competition
c) Monopolistic competition d) Oligopoly



2. Attempt **any 7** questions out of 9 questions : **14**
- 1) What is meant by Macro Economics ?
 - 2) What is meant by Business Economics ?
 - 3) What is meant by Monopoly ?
 - 4) What is meant by Managerial A/cing ?
 - 5) What is meant by Business Finance ?
 - 6) What are the different types of A/c ?
 - 7) What is meant by Demand ?
 - 8) What is internal Source of Finance ?
 - 9) Give the rules of Nominal A/c.
3. A) Attempt **any 2** of the questions : **10**
- 1) What are the features of Managerial Economics ?
 - 2) What are the types of Elasticity of Demand ?
 - 3) Define Production Function.
- B) Solve questions : **4**
- What is the scope of Business Finance ?
4. Attempt **any 2** of the questions : **14**
- 1) Define basic A/cing concepts in detail.
 - 2) What is meant by Perfect Competition ? Give its features.
 - 3) What are the internal and external source of finance ?
5. Attempt **any 2** of the following : **14**
- 1) Define returns of scale with the help of diagram.
 - 2) What is meant by Oligopoly ? Its features.
 - 3) What are the function of Business Finance ?
-



Seat No.	
----------	--

B.Sc. – I (Semester – I) (Entrepreneurship) (New – CBCS Pattern)
Examination, 2016
INDUSTRIAL CHEMISTRY
Fundamentals of Inorganic Chemistry (Paper – I)

Time : 2½ Hours

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 for each of the following and rewrite the sentences :

14

- i) In formation of covalent bond, each combining atom _____ one or more electron between them.
a) Donates b) Shares c) Removes d) Accepts
- ii) Structure of sodium chloride is _____
a) BCC b) FCC c) Tetrahedral d) Square planer
- iii) Bond order in nitrogen molecule is _____
a) Two b) Three c) Four d) Five
- iv) _____ is the universal solvent.
a) Alcohol b) Water c) Benzene d) Ether
- v) _____ is the example of physical pollutant.
a) Odour b) Micro-organism
c) Pesticides d) Detergent
- vi) H-O-H bond angle in water molecule is _____
a) $104^{\circ}28'$ b) 109° c) 120° d) 90°
- vii) Highest electron affinity is shown by _____ element.
a) Fluorine b) Chlorine c) Bromine d) Oxygen
- viii) Typhoid is the cause of _____ pollution.
a) Water b) Air c) Noise d) Automobile
- ix) Sound intensity beyond _____ dB is hazardous to human life.
a) 10 b) 50 c) 75 d) 90 – 120
- x) The geometry of BeCl_2 molecule is _____
a) Square planer b) Triangular c) Linear d) Pyramidal

P.T.O.



- xi) Bonding Molecular Orbitals are at _____ energy level.
a) Higher b) Lower c) Same d) None of these
- xii) Ionic solids are generally soluble in _____ solvents.
a) Polar b) Non-polar c) Organic d) All of these
- xiii) About _____ % of total water present in the form ocean water.
a) 80 b) 99 c) 97 d) 3
- xiv) _____ gas is responsible for green house effect.
a) Carbon b) Sulphur dioxide
c) Carbon dioxide d) Carbon monoxide

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

14

- i) Define soil pollution with example.
- ii) What is meant by COD ? Give example.
- iii) Define Electron affinity.
- iv) Explain in brief LCAO principle.
- v) Define ionic bond with suitable example.
- vi) Explain bonding molecular orbital.
- vii) What do you mean by hard water ?
- viii) What is the effect of CO on human health ?
- ix) Define bond order.

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

10

- i) What are the postulates of VSEPR theory ?
- ii) Differentiate between atomic and molecular orbitals.
- iii) Write a note on ionization potential.

B) Discuss the types of air pollutants.

4

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

14

- i) Explain the formation of methane molecule on the basis of hybridization concept.
- ii) Draw the MO diagram oxygen molecule. Comment on stability and magnetic property of oxygen molecule.
- iii) Explain the Born-Haber cycle for NaCl.

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

14

- i) Distinguish between bonding and anti-bonding molecular orbitals.
 - ii) Explain in brief properties of ionic solids.
 - iii) Explain the terms in detail :
a) COD b) Alkalinity of water.
-



Seat No.	
----------	--

B.Sc. – I (Semester – I) (Entrepreneurship) (New – CBCS) Examination, 2016
INDUSTRIAL CHEMISTRY (Paper – II)
Fundamentals of Organic Chemistry

Time : 2 Hours 30 Minutes

Max. Marks : 70

- N.B. :** i) **All questions are compulsory.**
 ii) **Marks to the right indicates full marks.**
 iii) **Use of log table or calculator is allowed.**

1. Select most correct alternative for **each** of the following and rewrite the sentences. **14**
- i) _____ is the general formula of cycloalkane.
 a) C_nH_{2n} b) C_nH_{2n+2} c) C_nH_{2n-2} d) C_nH_{2n+1}
- ii) The hybridisation of carbon involved in benzene is
 a) sp^3 b) sp c) sp^2 d) d^2sp^3
- iii) Carius method is used for estimation of
 a) N b) S c) P d) C
- iv) Antipyretic drug is used to
 a) Control sleep b) Induce sleep
 c) Elivate body temperature d) Lower temperature of body
- v) A chromogen carrying auxochrome is called
 a) dye stuff b) chromophore
 c) auxochrome d) colour
- vi) _____ reaction is used for preparation of higher alkanes.
 a) Wurtz b) Internal Wurtz
 c) Halogenation d) Nitration
- vii) Benzene contain _____ π bonds and _____ σ bonds.
 a) 3, 3 b) 6, 6 c) 4, 6 d) 4, 2
- viii) _____ is estimated by Kjeldahl's method.
 a) C b) N c) Halogen d) Phosphorous



P.T.O.



- ix) The drug which is used to get relief from pain without loss of consciousness are known as
 a) anaesthetics b) hypnotics c) analgesics d) sedative
- x) _____ is the example of chromophore.
 a) N = N b) NH₂ c) –OH d) –COOH
- xi) Which of the following is the example of conjugated diene ?
 a) H₂C = C = CH₂ b) CH₂ = CH – CH = CH₂
 c) CH₃ – CH₂ – CH₃ d) CH₂ = CH – CH₂ – CH₂ = CH₂
- xii) Compound containing benzene ring is called as _____ compounds.
 a) arenes b) non benzenoid
 c) benzenoid d) aliphatic
- xiii) In Lassagne's test nitrogen is converted into
 a) KCN b) HCN c) N = N d) NaCN
- xiv) Ideal drug must not induce _____ in the body.
 a) resistance b) hunger
 c) curative action d) all of these

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

14

- i) Name the following :
 a)  b)  C₁
- ii) Define aromatic and non-aromatic compounds.
- iii) Write principle used in combustion method.
- iv) Define analgesics drug with example.
- v) Define auxochrome with example.
- vi) State and explain Huckel's rule.
- vii) How will you prepare cyclopropane by internal Wurtz reaction ?
- viii) Write principle used in Carius method for detection of halogen.
- ix) Define CNS drug with example.



3. A) Write short notes on **any two** : **10**
- i) Distillation of Ca or Ba salt of dicarboxylic acid.
 - ii) Mechanism of nitration of benzene.
 - iii) Base platinum chloride method.
- B) Write qualities of good drug. **4**
4. Answer **any two** of following : **14**
- i) What are alkynes ? Explain its acidity.
 - ii) Explain estimation of sulphur by Carius method.
 - iii) What are dyes ? Explain Witt's theory.
5. Answer **any two** of following : **14**
- i) What are cycloalkane ? What is action of following on cyclopropane ?
 - a) HBr
 - b) Conc. H_2SO_4
 - c) Redⁿ using H_2/Ni .
 - ii) What is meant by qualitative and quantitative analysis ? Explain titration method for determination of molecular weight.
 - iii) Write classification of drug based on therapeutical action.
-



Seat No.	
-------------	--

B.Sc. – I (Entrepreneurship) (Semester – I) (New – CBCS)

Examination, 2016

INDUSTRIAL MICROBIOLOGY – I

Fundamentals of Microbiology

Time : 2½ Hours

Max. Marks : 70

- Instructions :** 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 from given below. **14**
- i) The organism which use organic compound as a source of carbon and energy are
 - a) Chemoautotrophs
 - b) Chemoheterotrophs
 - c) Photoautotrophs
 - d) Lithotrophs
 - ii) _____ types of ribosomes are present in eukaryotic cell.
 - a) 80s
 - b) 70s
 - c) 90s
 - d) 60s
 - iii) Mesosomes is the invasion of
 - a) Cell wall
 - b) Capsule
 - c) Cell membrane
 - d) Flagella
 - iv) Peptidoglycan is a component of _____ bacterial cell.
 - a) Flagella
 - b) Pili
 - c) Capsule
 - d) Cell wall
 - v) _____ is the process that eliminates or kills all forms of life and other biological agents.
 - a) Sterilization
 - b) Incubation
 - c) Tyndallization
 - d) Pasteurisation
 - vi) Antiseptic surgery was discovered by
 - a) Ernet Abbe
 - b) Pasteur
 - c) Joseph Lister
 - d) Beijerink
 - vii) The utilization of light energy to drive the synthesis of ATP is called as
 - a) Photolysis
 - b) Photosynthesis
 - c) Respiration
 - d) Photosmosis
 - viii) _____ is a powder extracted from seaweeds and is a complex carbohydrate.
 - a) Malt
 - b) Dye
 - c) Salt
 - d) Agar

P.T.O.



- ix) _____ gas is commonly used to sterilize objects that are sensitive to temperature.
- a) Ethylene oxide b) O₂
c) CO₂ d) Ethanol
- x) Techoic acid is present in the cell wall of
- a) Gram negative bacteria b) Gram positive bacteria
c) Algae d) Fungi
- xi) _____ is the strict intracellular parasite.
- a) Fungi b) Bacteria
c) Virus d) Algae
- xii) If the source of energy for bacteria is from sunlight they are said to be
- a) Phototrophs b) Autotrophs
c) Chemotrophs d) Chemolithotrophs
- xiii) _____ is the example of reserve food material.
- a) Cell wall b) PHB c) Ethanol d) Acetone
- xiv) _____ is the example of chemical agents of sterilization.
- a) Autoclave b) Hot air oven
c) Phenols d) Radiation

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

14

- i) Define Agricultural Microbiology.
- ii) Robert Koch.
- iii) Define Germicide with example.
- iv) Define Diauxic growth.
- v) Function of cell wall.
- vi) Turbidostat.
- vii) Define chemolithotroph.
- viii) Alexander Fleming.
- ix) Define food microbiology.



3. A) Answer **any two** of the following : **10**
- i) Explain in detail chemical agents of sterilization.
 - ii) Write in detail types of micro-organism.
 - iii) Describe in detail nutritional classification based on carbon and energy source.
- B) Explain in detail physical agents of sterilization. **4**
4. Answer **any two** of the following : **14**
- i) Write in detail structure and chemical composition of cell wall.
 - ii) Define growth and explain in detail growth phases.
 - iii) Explain in detail general principles of Nomenclature.
5. Answer **any two** of the following : **14**
- i) Write in detail structure and chemical composition of cell membrane.
 - ii) Explain in detail applied branches of microbiology.
 - iii) Describe in detail basic nutritional requirements of micro-organisms.
-



Seat No.	
-------------	--

**B.Sc. – I (Semester – I) (Entrepreneurship)
(New-CBCS) Examination, 2016
INDUSTRIAL MICROBIOLOGY – I
Basic Techniques in Microbiology**

Time : 2 Hours 30 Minutes

Max. 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 from given below.

14

- i) Ability of lens to distinguish two adjacent point is known as _____
A) Resolution B) Numerical aperture
C) Working distance D) Objective lens
- ii) Refractive index of immersion oil is _____
A) 0.5 B) 1.0 C) 1.5 D) 2.0
- iii) EMB agar is _____ media.
A) Selective B) Differential C) Enriched D) Living
- iv) The process of obtaining growth of microbial population in artificial environment called as _____
A) Cultivation B) Isolation C) Inoculation D) Enrichment
- v) Congo red is _____ stain.
A) Neutral B) Basic C) Acidic D) Di-azo
- vi) Acid Fast staining used for staining of _____ bacterial genus.
A) E.coli B) Pseudomonas
C) Rhizobium D) Mycobacterium
- vii) Total cell count for growth measurement carried out by _____
A) MBRT B) DMC C) TDT D) TVC

P.T.O.



- viii) Standard plate count are those plates with _____ to _____ colonies.
A) 1 to 100 B) 30 to 300 C) 50 to 500 D) 100 to 1000
- ix) Population of more than one type of species of microorganism is called as _____ culture.
A) Pure B) Axenic C) Mixed D) Syntrophic
- x) _____ is counter stain in Gram staining.
A) Crystal violet B) Safranin C) Alcohol D) Iodine
- xi) The media which consists unknown chemical ingredients with unknown composition is called as _____ media.
A) synthetic B) enriched C) complex D) living
- xii) _____ is solidifying agent of media.
A) Agar-Agar B) Glucose C) Lactose D) NaCl
- xiii) 3 – D image of microorganism is observed by _____ microscope.
A) Light B) Fluorescent C) SEM D) TEM
- xiv) _____ is used as decolourizing agent in acid fast staining.
A) Acid-alcohol B) Alcohol C) ZNCF D) Methylene blue

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

14

- i) Function of eye piece.
- ii) Define neutral stain.
- iii) Define enriched media.
- iv) DMC.
- v) Serial dilution.
- vi) Define pure culture.
- vii) Role of lactose in media.
- viii) Define culture media.
- ix) Explain role of mordant.



3. A) Answer **any two** of the following : 10
- i) Explain in detail Negative staining.
 - ii) Define SPC. Discuss in detail SPC technique.
 - iii) Explain in brief principle and application of Fluorescent Microscopy.
- B) Discuss in detail selective, differential and enrichment culture media. 4
4. Answer **any two** of the following : 14
- i) What is differential staining ? Explain Gram staining.
 - ii) Describe in detail principle and application of TEM.
 - iii) Describe in detail methods of pure culture preparation.
5. Answer **any two** of the following : 14
- i) Define living media. Discuss in detail types of living media.
 - ii) Discuss in detail membrane filter technique.
 - iii) Enlist the components of culture media and give the role of peptone, Agar, Glucose, Lactose and Bile salt.
-



Seat No.	
-------------	--

B.Sc. – I (Entrepreneurship) (Semester – I) (New – CBCS) Examination, 2016
INDUSTRIAL BIOTECHNOLOGY (Paper – I)
Cell Biology

Time : 2¹/₂ Hours

Max. Marks : 70

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

1. Choose the most correct alternative for the following and rewrite the sentences : **14**

- 1) _____ is known as the power house of the cell.
 - a) Mitochondria
 - b) Chloroplast
 - c) Ribosomes
 - d) Golgi complex
- 2) _____ is an example of prokaryotic organism.
 - a) *Escherichia coli*
 - b) Amoeba
 - c) *Gelidium spp.*
 - d) *Mangifera indica*
- 3) The endoplasmic reticulum functions to
 - a) Transport materials
 - b) Destroy old cell parts
 - c) Make ribosomes
 - d) Package proteins
- 4) Meiosis results in _____
 - a) 2 haploid daughter cells
 - b) 4 haploid daughter cells
 - c) 2 diploid daughter cells
 - d) 4 diploid daughter cells
- 5) _____ is NOT present in a bacterial cell.
 - a) DNA
 - b) Cell membrane
 - c) Golgi apparatus
 - d) Ribosomes
- 6) Spindle fiber is a specialized form of _____
 - a) Microtubule
 - b) Centriole
 - c) Centrosome
 - d) Chromosome



- 3) State any two functions of endoplasmic reticulum.
 - 4) What is phagocytosis ? Give an example of phagocytic cell.
 - 5) State any two principles of cell theory.
 - 6) What is heterochromatin ?
 - 7) Draw a labeled diagram of ultra-structure of chloroplast.
 - 8) Define chromosome.
 - 9) Define pinocytosis.
3. A) Attempt **any two** of the following : **10**
- 1) Give an account on mitosis.
 - 2) Write the definite characteristics of plant cell.
 - 3) Explain the structure and functions of the Golgi apparatus.
- B) Explain the Ultra-structure of Gram positive cell wall. **4**
4. Attempt **any two** of the following : **14**
- 1) What is a cell ? Explain structure of animal cell.
 - 2) Give a detailed account on chemical nature and structure of genetic material.
 - 3) Give a detailed account on meiosis.
5. Attempt **any two** of the following : **14**
- 1) Give a summary of membrane functions.
 - 2) Give an account on structure, functions and types of chromosomes.
 - 3) Give a detailed account on mitochondria.
-



Seat No.	
-------------	--

**B.Sc. (Entrepreneurship) (Part – I) (Semester – I) Examination, 2016
INDUSTRIAL BIOTECHNOLOGY (Paper – II) (New – CBCS)
Animal and Plant Physiology**

Time : 2½ Hours

Max. Marks : 70

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

1. Rewrite the sentence using correct alternative given below : **14**
- i) The enzyme trypsin is found in
 - A) pancreatic juice
 - B) saliva
 - C) bile juice
 - D) intestinal juice
 - ii) Kupffer cells are characteristics of
 - A) stomach
 - B) intestine
 - C) liver
 - D) pancreas
 - iii) Beta cells of pancreas secrete
 - A) Insulin
 - B) Glucagon
 - C) Bile
 - D) Pancreatic juice
 - iv) Collagen is a
 - A) Lipid
 - B) Fibrous protein
 - C) Carbohydrate
 - D) Bile salt
 - v) The gastric juice contains
 - A) HCl
 - B) H₂SO₄
 - C) Bile
 - D) Ptyalin
 - vi) _____ of the following is developed in nervous system.
 - A) rigidity
 - B) contractility
 - C) excitability
 - D) elasticity
 - vii) Glucose is stored in the form of glycogen in
 - A) skin
 - B) tooth
 - C) liver
 - D) kidney
 - viii) _____ is known as the father of tissue culture.
 - A) Bonner
 - B) Haberlandt
 - C) Laibach
 - D) Robert Koch



- ix) Callus is
- A) Embryo forming tissue
 - B) An insoluble carbohydrate
 - C) An unorganized actively dividing mass
 - D) A soluble carbohydrate
- x) _____ part of the brain is involved in loss of control when a person drinks alcohol.
- A) Cerebellum
 - B) Cerebrum
 - C) Hypothalamus
 - D) Medulla oblongata
- xi) Pepsin is secreted by
- A) Zymogen cells of stomach
 - B) Zymogen cells of duodenum
 - C) Paneth cells
 - D) Kupffer cells
- xii) Starch is converted into maltose by the action of _____ enzyme present in saliva.
- A) Protease
 - B) Amylase
 - C) Invertase
 - D) Lipase
- xiii) Medium between blood and cells is made by
- A) Bone marrow
 - B) Lymph
 - C) WBCs
 - D) Muscles
- xiv) The source of CO_2 during Calvin cycle in C_4 pathway is
- A) Malic acid
 - B) OAA
 - C) PEP
 - D) RuDP

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

14

- i) What are the basic elements of growth ?
- ii) Draw labeled diagram of epithelium.
- iii) State names of photosynthetic pigments.
- iv) Draw labeled diagram of V.S. of skin.
- v) What are the functions of connective tissue ?
- vi) What is tissue culture ?
- vii) Write overall reaction of photosynthesis.
- viii) What is origin and location of nervous tissue ?
- ix) What are media components for plant tissue culture medium ?



3. A) Answer **any two** of the following : **10**
- i) Explain in detail the Calvin cycle.
 - ii) Write in detail structure and function of muscular tissue.
 - iii) Describe in detail vitamins as basic element for growth.
- B) Write a note on 'photophosphorylation'. **4**
4. Answer **any two** of the following : **14**
- i) Describe in detail photosynthetic pigments.
 - ii) Write in detail about V.S. of tooth.
 - iii) Write an account on physiology of ovary.
5. Answer **any two** of the following : **14**
- i) Describe in detail Emerson enhancement effect.
 - ii) Describe in detail C_4 pathway.
 - iii) Illustrate animal tissue culture.
-



Seat No.	
-------------	--

B.Sc. – I (Semester – II) (CGPA) Examination, 2016
ENTREPRENEURSHIP (Paper – II)

Time : 2½ Hours

Max. Marks : 70

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

SECTION – I

Principles of Marketing and Management Accounting

35

1. Rewrite the following sentences by selecting correct answer from the given alternatives :

5

- 1) The best measure of competitiveness is classified as
 - a) Gross margin
 - b) Income margin
 - c) Sales margin
 - d) Cost margin
- 2) Segmentation on the basis of values and attitudes and behavioural patterns is an example of
 - a) Geographic location
 - b) Cultural factors
 - c) Economic factors
 - d) Political and legal factors
- 3) The second step in marketing research process is
 - a) Define research objective
 - b) Develop research plan
 - c) Implement research plan
 - d) None of above
- 4) In effective target market, marketers should focus on
 - a) Market segmentation
 - b) Market targeting
 - c) Market positioning
 - d) All of the above
- 5) Which of the following ratios indicates the short-term liquidity of a business ?
 - a) Inventory turnover ratio
 - b) Market targeting
 - c) Acid test ratio
 - d) Proprietary ratio



2. Answer in short (**any 5**) : **10**

- 1) Introduction to management account.
- 2) Importance of marketing research.
- 3) What is meant by environment ?
- 4) Write down working capital.
- 5) Write a note on gross profit ratio.
- 6) Concept of entrepreneurship.

3. A) Describe of the following (**any 2**) : **10**

- 1) Write down advantages and benefits of market segmentation.
- 2) Need and importance of environment analysis.
- 3) From the following information calculate the ratio.

Particulars	Rs.
Gross profit	40,000
Current liabilities	1,00,000
Net profit	25,000
Stock	20,000
Current assets	1,50,000
Sales	1,50,000

Calculate Ratio :

- a) Gross profit ratio
- b) Net profit ratio
- c) Current ratio
- d) Working capital ratio
- e) Liquid ratio

B) Answer in brief (**any 1**) : **10**

- 1) Importance of marketing research. Explain in scope and limitations of marketing research.
- 2) X company Limited provided you following information

Sr. No.	Particulars	Rs.
1	Share holders fund	2,00,000
2	Long term loan	1,00,000
3	Current liability	60,000
4	Fixed assets	1,10,000
5	Investment	1,00,000
6	Current assets	1,50,000



Calculate Ratio :

- a) Prepare balance sheet for ratio analysis.
- b) Find working capital.
- c) Find current ratio.
- d) Find debts equity ratio.
- e) Find fixed assets working capital ratio.
- f) Find current assets working capital ratio.

SECTION – II

Cost Accounting and Project Management

35

1. Choose the correct alternative from the given alternatives :

5

- 1) The role of management accounting does not normally include the function of
 - a) Decision-Making
 - b) Product Costing
 - c) Cash Management
 - d) Planning and Control
- 2) Delivery Van expenses Considered as
 - a) Prime Cost
 - b) Factory Cost
 - c) Production Cost
 - d) Selling and Distribution Cost
- 3) Effective Communication is one or the most important skills required by
 - a) The Project Team
 - b) The Management
 - c) The Project Manager
 - d) The Project contractor
- 4) The opening stock or a Company is Rs. 40,000 and the closing stock is Rs. 50,000. If the purchases during the year are Rs. 2,00,000 the cost of Goods sold will be
 - a) Rs. 2,10,000
 - b) Rs. 2,00,000
 - c) Rs. 1,90,000
 - d) Rs. 1,80,000
- 5) In accounting system the document consisting all assigned cost to specific job is classified as
 - a) Job Cost Record
 - b) Job Cost sheet
 - c) Source Document
 - d) Both a) and b)



2. Answer the following questions (**any 5**) : **10**
- 1) Define Project Management and Project Formulation.
 - 2) Write down Advantage of Job cost Sheet.
 - 3) Problem of SSI.
 - 4) Contents of Project Report.
 - 5) Role of Small Entrepreneurship in economic development.
 - 6) Object of Cost Accounting.

3. A) Answer the following (**any 2**) : **10**
- 1) Explain the characteristics of Cost Accounting.
 - 2) Explain the Job Costing, Batch Costing and Contract Costing with example and where to use only.
 - 3) Define Project Management. Write note on Types of Project.

- B) Discuss in Brief (**any 1**) : **10**
- 1) Define Job Cost Sheet. Describe in features and Advantage of Job Cost Sheet.
 - 2) From the following information you are required to Prepare Cost Sheet from Jan. 1 to June 30, 2004.

Sr. No.	Particulars	Jan. 1	June 30
01	Cost of raw material	30,000	25,000
02	Cost work in progress	12,000	15,000
03	Cost of stock of finished goods	60,000	55,000
04	Purchase of raw material	4,50,000	—
05	Wages paid	2,30,000	—
06	Factory overhead	92,000	—
07	Administration overheads	30,000	—
08	Selling and distribution overhead	20,000	—
09	Sales	9,00,000	—



SLR-K – 17

Seat No.	
-------------	--

B.Sc. (Part – I) (Semester – II) (CGPA) Examination, 2016
ENTREPRENEURSHIP
Industrial Chemistry (Paper – II)

Time : 2½ Hours

Max. Marks : 70

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

SECTION – I

(Fundamentals of Physical Chemistry)

35

1. Choose the most correct alternative for **each** of the following :

5

- 1) Liquefaction is the reverse process of
 - a) Sublimation
 - b) Evaporation
 - c) Solidification
 - d) All of these
- 2) The photochemical reaction between H_2 and Cl_2 is an example of _____ order.
 - a) First
 - b) Second
 - c) Third
 - d) Zero
- 3) The unit of viscosity is
 - a) Poise
 - b) Newton
 - c) Dyne
 - d) Pascal
- 4) a and b are known as _____ constants.
 - a) Critical
 - b) Gas
 - c) Van der Waal's
 - d) Velocity
- 5) The number of moles of solute in 1000 gms of solvent is called as
 - a) Molality
 - b) Molarity
 - c) Mole fraction
 - d) Normality

P.T.O.



2. Answer **any five** of the following : 10
- i) Define rate of a chemical reaction.
 - ii) Mention Macleod's formula for parachor.
 - iii) Write Van der Waal's gas equation.
 - iv) Define molecular weight and equivalent weight.
 - v) Define isotherm.
 - vi) What do you mean by continuity of a state ?
 - vii) Define pseudo unimolecular reaction.
3. A) Write short notes on **any two** : 10
- i) Andrew's isotherm for CO_2 gas.
 - ii) Ostwald's isolation method for determination of order of a reaction.
 - iii) Order and molecularity of a chemical reaction.
- B) Answer **any one** of the following : 10
- i) Derive the expression for rate constant for first order reaction. Give characteristics of first order reaction.
 - ii) Define surface tension. Describe drop-weight method for determination of surface tension.

SECTION – II

(Fundamentals of Analytical Chemistry) 35

4. Choose the correct alternative from **each** of the following. 5
- i) Natural process is
 - a) Non-spontaneous
 - b) Spontaneous
 - c) Reversible
 - d) None of these
 - ii) The molecular weight of _____ polymer is the sum of molecular weights of monomers.
 - a) Addition
 - b) Condensation
 - c) Semisynthetic
 - d) All of these
 - iii) Natural gas contains highest percentage of
 - a) Ethane
 - b) Cyclopropane
 - c) Methane
 - d) All of these
 - iv) The proteins of milk consist of mainly
 - a) Casein
 - b) Fat
 - c) Glucose
 - d) Vitamin
 - v) Efficiency of a heat engine is
 - a) Zero
 - b) One
 - c) Less than one
 - d) Greater than one



5. Answer **any five** of the following : **10**
- i) Define the terms-monomer and elastomer.
 - ii) Give the importance of cis-platin.
 - iii) Define the terms flash point and fire point.
 - iv) Give Kirchhoff's equation.
 - v) Define milk. Give the chemical composition of milk.
 - vi) Draw the structures of linear, branched and cross linked polymer.
 - vii) What is enthalpy ?
6. A) Write a note on **any two** of the following. **10**
- i) Types of polymer.
 - ii) Distinguish between spontaneous and non-spontaneous process.
 - iii) Essential nutrients for plants.
- B) Answer **any one** of the following : **10**
- i) Write a note on Carnot's cycle and its efficiency.
 - ii) What are the different types of fuel ? Discuss the term octane number.
-



SLR-K – 19

Seat No.	
----------	--

B.Sc. – I (Semester – II) (Entrepreneurship) (CGPA) Examination, 2016
INDUSTRIAL BIOTECHNOLOGY (Paper – II)
Basic Biomolecules and Basics of Metabolism

Time : 2½ Hours

Max. Marks : 70

- N.B. :** 1) **Both** Sections are **compulsory** and carry **equal** marks.
2) **Both** the Sections should be attempted in **same** answer book.
3) Figures to the **right** indicate **full** marks.
4) Draw a neat, well labelled, complete diagram **wherever** necessary.

SECTION – I

(Basic Biomolecules)

1. Rewrite the following sentences by choosing correct alternative : 5
- 1) _____ is an example of monosaccharide.
a) D-ribose
b) Sucrose
c) Starch
d) D-glutamine
 - 2) _____ disease is called by deficiency of vitamin B1.
a) Rickets
b) Pellagra
c) Scurvy
d) Anaemia
 - 3) _____ is a basic amino acid.
a) Aspartate
b) Glutamate
c) Lysine
d) Valine
 - 4) Cerebrosides is the common name for a group of _____
a) Glycosphingo lipids
b) Monoglycosyl ceramides
c) Sphingomyelins
d) All of these
 - 5) _____ is a protein hormone secreted by beta-cells of islets of Langerhans.
a) GH
b) Thyroxin
c) Insulin
d) TSH

P.T.O.



2. Attempt **any five** of the following : 10
- i) What are optical isomers ? Give an example.
 - ii) Define acid number of fatty acid.
 - iii) Define enzyme.
 - iv) Enlist fat soluble vitamins.
 - v) Enlist acidic amino acids.
 - vi) Define carbohydrates. Give an example.
 - vii) Give any four examples of polysaccharides.

3. A) Answer **any two** of the following : 10
- i) Discuss in brief isoenzymes.
 - ii) Discuss the structure and biological importance of saturated and unsaturated fatty acids.
 - iii) Write a short note on sphingo lipids.

- B) Answer **any one** of the following : 10
- i) Give an account on structural configuration of monosaccharide with special reference to glucose.
 - ii) Give a detailed account on structural levels of classification of proteins.

SECTION – II

(Basics of Metabolism)

1. Rewrite the following sentences by choosing correct alternative : 5
- i) _____ is the movement of molecules from lower concentration to higher concentration.
 - a) Passive transport
 - b) Active transport
 - c) Diffusion
 - d) Osmosis
 - ii) Glycolysis is also referred as _____ pathway.
 - a) HMP
 - b) TCA
 - c) EMP
 - d) Glyoxilate



- iii) _____ is a power house of the cell.
a) Chloroplast b) ATP
c) Mitochondria d) Nucleus
- iv) _____ can utilize light as energy source.
a) Chemotrophs b) Organotrops
c) Autotrophs d) Phototrophs
- v) _____ number of ATP molecules are generated after complete hydrolysis of a glucose molecule.
a) 8 b) 10 c) 18 d) 38

2. Attempt **any five** of the following : 10

- i) Differentiate between active transport and passive transport.
- ii) Draw a well labelled, neat, complete diagram of mitochondria.
- iii) Define biotransformation.
- iv) Define anabolism and catabolism.
- v) What is photorespiration ?
- vi) Differentiate between autotrophs and heterotrophs.
- vii) Define oxidation and reduction.

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

- i) Write a short note on glycolysis.
- ii) Write a short note on photosynthesis with reference to cyclic electron transport in photophosphorylation.
- iii) Write a short note on toxicity.

B) Attempt **any one** of the following : 10

- i) Give a detailed account on TCA cycle.
 - ii) Give a detailed account on oxidative phosphorylation.
-



Seat No.	
-------------	--

B.Sc. (Part – II) (Sem. – III) (CGPA) Examination, 2016
ENTREPRENEURSHIP (Paper – III)
Principles of Business Management and Business Organisation

Time : 2½ Hours

Max. Marks : 70

Instruction : All questions are compulsory.

1. Choose and write a correct answer from the given four alternatives : **14**
- 1) _____ gives important principles of management in his famous book 'General and Industrial Management'.
 - a) Peter Drucker
 - b) Henry Fayol
 - c) Koontz
 - d) Bernard
 - 2) Planning is a process which begins with
 - a) Objectives
 - b) Goals
 - c) Strategies
 - d) Policies
 - 3) _____ decisions are routine and repetitive and are made within the framework of organisational policies and rules.
 - a) Non-programmed
 - b) Tactical
 - c) Strategic
 - d) Programme
 - 4) Motivation is a _____ concept.
 - a) Social
 - b) Dynamic
 - c) Integrated
 - d) Psychological
 - 5) The Theory 'X' and Theory 'Y' of motivation are devised by
 - a) U. Vroom
 - b) D. Mc. Gregor
 - c) F. Herzberg
 - d) A. Maslow
 - 6) _____ is the father of modern management.
 - a) Henry Fayol
 - b) Peter Drucker
 - c) Tayler
 - d) Gilberth



- 7) _____ is not technique of control.
- Budget
 - Disciplinary action
 - Policy
 - Praise
- 8) The basic function of management is
- Planning
 - Co-ordination
 - Controlling
 - Staffing
- 9) _____ management functions are closely related.
- Planning and Organisation
 - Staffing and Control
 - Planning and Control
 - Planning and Staffing
- 10) _____ is the oldest form of organisation.
- Functional organisation
 - Line organisation
 - Line and staff organisation
 - Committee organisation
- 11) The main objective of training is to
- Develop knowledge and skill
 - Provide information
 - Change the attitude
 - All the above
- 12) The two factor theory of motivation was propounded by
- Peter Drucker
 - Herzberg
 - Mc Gregor
 - Maslow
- 13) Direction includes
- Guidance and punishment
 - Exclusive dealing with jobs
 - Motivation, leadership as well as superintendence
 - Assignment duties
- 14) _____ is the principle of organisation.
- Principle of objective
 - Principle of responsibility
 - Principle of definition
 - Principle of entity

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

14

- 1) What is management ?
- 2) What do you mean by levels of management ?
- 3) Give the types of planning.
- 4) Define the term organisation.
- 5) What do you mean by power ?



- 6) What is line organisation ?
 - 7) Define Negative Motivation.
 - 8) Define Autocratic style of leadership.
 - 9) Give the steps in control process.
3. A) Attempt **any two** questions out of three : **10**
- 1) Discuss the management role in a business organisation ?
 - 2) Give the main characteristics of good or effective planning ?
 - 3) What is line organisation ? State its merits and demerits.
- B) Enumerate the non-financial incentives for employee motivation. **4**
4. Attempt **any two** questions out of three : **14**
- 1) Discuss in detail the various leadership style.
 - 2) Discuss the importance of control.
 - 3) Describe briefly the functions of management.
5. Attempt **any two** questions out of three : **14**
- 1) Discuss the rationality in decision-making.
 - 2) Discuss 'Planning is the intellectual Process' ?
 - 3) What is meant by staffing ? And give its importance.
-



Seat No.	
-------------	--

B.Sc. II (Semester – III) (CGPA) Examination, 2016
Entrepreneurship (Paper – IV)
ADVANCED ACCOUNTANCY AND AUDITING

Time : 2 Hours 30 Minutes

Total. Marks : 70

1. Choice and write a correct answer from given **four** alternatives. **14**
- 1) _____ means an allowance give by the seller to the purchaser.
a) Discount b) Cash c) Goods d) Service
 - 2) Which of the following jobs check accounting in ledger and financial statement ?
a) Financial b) Audit c) Management d) Budget Analysis
 - 3) Total amount invested by the proprietor into the business is called as
a) Capital b) Assets c) Cost d) Investment
 - 4) In Tally, F7 key is used to select _____ voucher type.
a) Purchase b) Receipt c) Journal d) Payment
 - 5) To change Current Date from Gateway of Tally Press the _____ key.
a) F1 b) F2 c) F5 d) F12
 - 6) Which of the following is not asset ?
a) Factory b) Building c) Cash at Bank d) Loan from Jim
 - 7) _____ is a shortcut key used for configuring company.
a) F11 b) F12 c) F10 d) F9
 - 8) BRS stands for
a) Bank Record Statement b) Bank Reconciliation Statement
c) Bank Recurring Statement d) Bank Recovery Status



- 9) VAT stands for
- a) Value Added Tax
 - b) Value Auction Tax
 - c) Value Audit Tax
 - d) Value Advance Tax
- 10) One of the detailed rules used to record business transaction is
- a) Objectivity
 - b) Accruals
 - c) Double Entry Book Keeping
 - d) Going concern
- 11) A person who owes money to the business is _____ of the business.
- a) Debtor
 - b) Creditor
 - c) Drawing
 - d) Nominal
- 12) Tally provides a set of _____ numbers of predefined groups mainly based on the traditional methods of accounting system.
- a) 15
 - b) 28
 - c) 32
 - d) 30
- 13) _____ is a type of Audit.
- a) Local
 - b) Global
 - c) Internal
 - d) Trust
- 14) _____ are used for recording day today transactions.
- a) Capital
 - b) Vouchers
 - c) Sale
 - d) Create Company

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

14

- 1) What is meant by Accountancy ?
- 2) What is voucher ?
- 3) What do you mean by Cost Center ?
- 4) What is the use of following function keys in Tally ?
 - a) F9
 - b) F11
- 5) What is meant by Trust ?
- 6) What is meant by transaction ?
- 7) Long form of MRP and ERP.
- 8) Define Audit Report.
- 9) Write down types of Audit.



3. A) Attempt **any two** of the following. 10
- 1) Explain the scope and objectives of the Auditing.
 - 2) Explain the Fund Flow and Cash Flow statement.
 - 3) How to create a new company ? Write down steps.
- B) Write down list of short cut key in Tally. 4
4. Attempt **any two** of the following. 14
- 1) State groups for ledger and create the ledger only.
 - i) Ashok starts business with Rs. 1,00,000/-.
 - ii) Purchase machinery for Rs. 50,000/- and furniture for Rs. 10,000/.
 - iii) Paid amount for rent Rs. 1,000/-.
 - iv) Deposit Rs. 10,000/- in Bank.
 - v) Purchase Goods for Rs. 20,000/- from Mr. Ram on Credit.
 - vi) Sold goods to Mr. Rakesh for Rs. 10,000/-.
 - vii) Purchase stationery Rs. 260/- for office.
 - 2) Explain the different types of Voucher.
 - 3) Explain the types of Account and Rules of Account. With example.
5. Attempt **any two** of the following. 14
- 1) Write advantages and disadvantages of Tally.
 - 2) What is group in Tally ? Enlist the groups.
 - 3) Explain the special features of Co-operative Audit Societies.
-



Seat No.	
----------	--

**B.Sc. (Part – II) (Semester – III) (Entrepreneurship) Examination, 2016
INDUSTRIAL CHEMISTRY (Paper – III) (CGPA Pattern)
Analytical and Industrial Aspects of Inorganic Chemistry**

Time : 2½ Hours

Total Marks : 70

- Instructions :** 1) **All questions are compulsory.**
2) **All questions carry equal marks.**
3) **Figures to the right indicate full marks.**
4) **Neat and labelled diagrams should be drawn wherever possible.**

1. Select the most correct alternative for each of the following and rewrite the sentence :

14

- 1) The reagent of known concentration is called as _____
a) titrand b) titre c) titrant d) indicator
- 2) Phenolphthalein is colourless in acidic medium, hence it is _____ colour indicator.
a) one b) two c) three d) four
- 3) Calcium is estimated by using EDTA by _____ titration method.
a) back b) acid-base
c) indirect d) direct
- 4) Nucleation is the _____ step of precipitation.
a) final b) initial c) second d) third
- 5) $\text{Al}(\text{OH})_3$ is a _____ precipitate.
a) gelatinous b) amorphous
c) crystalline d) curdy
- 6) Heating of the precipitate with solvent is termed as _____
a) ignition b) coagulation
c) ageing d) peptization



- 6) In contact process, SO_3 is dissolve in concentrated H_2SO_4 and not in water, why ?
 - 7) Give the merits of Haber's process.
 - 8) Write the application of passivity.
 - 9) Show diagrammatically, the mechanism of corrosion by an electrochemical approach.
3. A) Answer **any two** from the following : **10**
- 1) Define the term passivity. Explain the types of passivity.
 - 2) Give the various conditions to get highest yield of ammonia in Haber's process. Explain any two of them.
 - 3) Explain quinoid theory for acid-base indicators.
- B) Explain adsorption theory of catalysis. **4**
4. Write note on **(any two)** : **14**
- 1) Methods for protection of metals from corrosion.
 - 2) Characteristics of catalysts.
 - 3) Conditions for good precipitation.
5. Answer **any two** from the following : **14**
- 1) With the help of neutralization curve, explain the choice of indicator for the titration of weak acid against strong base.
 - 2) Discuss the mechanism of precipitate formation.
 - 3) Explain the manufacturing process of sulphuric acid by contact process.
-



Seat No.	
----------	--

**B.Sc. (Part – II) (Entrepreneurship) (Semester – III) (CGPA)
Examination, 2016
Paper – IV : INDUSTRIAL CHEMISTRY
(Analytical and Industrial Aspects of Organic Chemistry)**

Time : 2½ Hours

Max. Marks : 70

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

1. Rewrite the following sentences by using correct alternative. 14

- I) Soaps are _____ metal salts of higher fatty acids.
a) Alkali earth b) Alkali
c) Transition d) Radioactive
- II) _____ is an example of non-saponifying alkali.
a) NaOH b) KOH
c) NH₄OH d) EDTA
- III) _____ is obtained as a commercially important by product from soap industry.
a) Ethyl alcohol b) Glycerine
c) Bagasse d) Molasses
- IV) _____ is an antimalarial drug.
a) Tolbutamide b) Ibuprofen
c) Paludrin d) Chloromycetin
- V) Phenobarbitone acts as _____ drug.
a) C.N.S. b) Antidiabetics
c) Antiinflammatory d) Antimalarial
- VI) Cotton and jute are examples of _____ fiber.
a) Natural b) Synthetic
c) Semi-synthetic d) Inorganic

P.T.O.



- VII) Deriphat is a _____ detergent.
- a) Ampholytic
 - b) Cationic
 - c) Anionic
 - d) Insoluble
- VIII) In steam heater cane juice is heated to _____ K.
- a) 400
 - b) 333
 - c) 350
 - d) 373
- IX) In concentration process water content from cane juice is reduced to _____ %.
- a) 35
 - b) 85
 - c) 15
 - d) 65
- X) The density scale used for measurement of sugar concentration is
- a) ppm
 - b) brix
 - c) trix
 - d) K
- XI) _____ gas is used in defecation process in sugar industry.
- a) CO₂
 - b) SO₂
 - c) NH₃
 - d) H₂S
- XII) _____ is used as a mordant dye.
- a) Alizarin red
 - b) Indigo
 - c) Red G
 - d) Para red
- XIII) In bleaching process _____ is used.
- a) Calcium hypochlorite
 - b) Sodium chloride
 - c) Calcium hydroxide
 - d) Sodium sulphate
- XIV) Indole-3 acetic acid acts as
- a) Growth promoter
 - b) Herbicide
 - c) Pesticide
 - d) Fungicide

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

14

- I) Explain the structure of micelle.
- II) What are cationic detergents ? Give one example.
- III) What is composition of rectified spirit and denatured spirit ?
- IV) Write list of important raw materials needed for alcohol industry.
- V) What are reactive dyes ? Give two examples.
- VI) Give classification of fibers based on composition.
- VII) What are agrochemicals ? Give any two examples.
- VIII) Write steps involved in synthesis of Isoniazide.
- IX) Write steps involved in synthesis of deriphat.



3. A) Answer **any two** of the following : **10**
- I) Write a note on by-products of alcohol industry.
 - II) Give general idea of process of sizing and desizing.
 - III) Write a note on cleansing action of soaps.
- B) Answer the following : **4**
- Draw the block diagram for manufacture process of alcohol in industry.
4. Answer **any two** of the following : **14**
- I) Explain manufacture of soap by hot process.
 - II) Write in brief different steps involved in refining of raw sugar.
 - III) What are objects of sizing, comment on sizing ingredients and their functions.
5. Answer **any two** of the following : **14**
- I) What are detergents ? Give their classification.
 - II) Write synthesis and uses of Methoxychlor and Ethophan.
 - III) Write synthesis and uses of Ibuprofen and Ethambutol
-



Seat No.	
-------------	--

B.Sc. II (Semester – III) (CGPA) Examination, 2016
ENTREPRENEURSHIP (Paper – III)
Microbial Biotechnology
Genetics

Time : 2 Hours 30 Minutes

Max. Marks : 70

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

1. Choose and write a correct answers from given alternatives :

14

- 1) The normal human karyotype contains _____ chromosomes.
A) 47 B) 46 C) 45 D) 48
- 2) _____ phage mediate specialised transduction.
A) P₂₂ B) T₄ C) X D) P₁
- 3) The mutation in which purines are replaced by another purine is called as _____ mutation.
A) transition B) transversion
C) missense D) nonsense
- 4) Klinefelter's syndrome is characterised by
A) atleast one extra chromosome B) one X chromosome less
C) one extra Y chromosome D) one extra autosome
- 5) Crossing over occurs during
A) diplotene B) pachytene
C) diakinesis D) zygotene
- 6) The student test is _____ test.
A) parametric B) nonparametric
C) comparing variance D) none of the above



- 7) 5 Bromouracil is a base analogue of
A) Adenine B) Guanine C) Thymine D) Cytosine
- 8) _____ discover ABO blood group in humans.
A) E.M. East B) K. Landsteiner
C) Levine D) Walsh and Montgomery
- 9) In Down's syndrome, the trisomy of 21 is produced due to
A) deletion B) translocation
C) non-disjunction D) duplication
- 10) Irradiation of DNA to U.V. radiation forms _____ dimer.
A) T = T B) A = G C) T = A D) G = C
- 11) The test cross is used to determine _____ of plants.
A) Phenotype B) Genotype C) Both A and B D) None
- 12) _____ coined term linkage.
A) Correns B) Mendel C) de Vries D) Morgan
- 13) Monohybrid phenotypic cross ratio is
A) 3 : 1 B) 2 : 1 C) 1 : 1 D) 9 : 3 : 3 : 1
- 14) If a segment of DNA is removed and reinserted in a reverse direction is called as
A) Inversion B) Insertion C) Deletion D) Translocation

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

14

- 1) Define Mutation.
- 2) Define Median.
- 3) Translocation.
- 4) What is sickle cell anaemia ?
- 5) Define pleiotrophy.
- 6) What is epistasis ?
- 7) What is monohybrid ratio ?
- 8) What is cytokinesis ?
- 9) Define Karyotype.



3. A) Answer **any two** of the following : 10
- 1) Explain in detail types of chromosomes.
 - 2) Explain in detail transposable elements.
 - 3) What is induced mutation ? Discuss in brief mutagenesis by base analogs.
- B) Describe in detail conjugation process of gene transfer. 4
4. Answer **any two** of the following : 14
- 1) Define student test. Explain in detail student test.
 - 2) Describe in detail process of transformation.
 - 3) Describe in detail multiple alleles with example.
5. Answer **any two** of the following : 14
- 1) Explain in detail gene interaction.
 - 2) Describe in detail structural organisation of chromosome and add a note on chromosomal abbreviation.
 - 3) Describe in detail higher order structure of nucleosome.
-



- 5) Define 'Biofertilizers'.
 - 6) Which are the defects in wine ?
 - 7) Define 'Biopesticides'.
 - 8) Write the uses of amylases.
 - 9) What is the activity of streptomycin ?
3. A) Answer **any two** of the following : **10**
- 1) Write in detail the production of Vitamin B₁₂.
 - 2) How the streptomycin is produced ?
 - 3) Write the fermentation process in penicillin production.
- B) Write short note on Biogas production. **4**
4. Answer **any two** of the following : **14**
- 1) Explain in detail the production of beer.
 - 2) Write an essay on recycling of industrial waste.
 - 3) Explain in detail L. Lysine production.
5. Answer **any two** of the following : **14**
- 1) Write an essay on ethanol production.
 - 2) Explain in detail production of grape wine.
 - 3) Describe in detail production and applications of Biopesticides.
-



Seat No.	
-------------	--

**B.Sc. II (Semester – IV) (Entrepreneurship) (CGPA) Examination, 2016
(New)
CORPORATE ACCOUNTING AND PROFESSIONAL ETHICS (Paper – V)**

Time : 2 Hours 30 Minutes

Max. Marks : 70

- N.B. :** 1) **All questions are compulsory.**
2) Figures to the **right** indicate **full** marks.
3) Scientific calculator **not** allowed.
4) You can use normal calculator if **necessary**.

1. Multiple choice questions. **14**
- 1) CSR mean
 - a) Corporate Societal Reconstruction
 - b) Corporate Social Reconstruction
 - c) Corporate Social Responsibility
 - d) None of these
 - 2) The long-run objective of Financial Management is to
 - a) Maximize earnings per share
 - b) Maximize the value of the firms common stock
 - c) Maximize return on investment
 - d) Maximize market share
 - 3) The cost price of a machine is Rs. 1,20,000 and the depreciated value of the machine after 3 years will be Rs. 66,000. If the company charges depreciation under straight line method, the rate of depreciation will
 - a) 25%
 - b) 20%
 - c) 18%
 - d) 15%
 - 4) _____ ratio indicates the short-term liquidity of a business.
 - a) Inventory turnover ratio
 - b) Debt-equity ratio
 - c) Acid test ratio
 - d) Proprietary ratio
 - 5) Ethics is essential for
 - a) Business
 - b) Social
 - c) Political
 - d) All the above

P.T.O.



- 6) Under hire purchase system, the risk of loss is borne by
a) Buyer b) Hirer c) Hire vendor d) Debtor
- 7) Shares is a part of
a) Goodwill b) Profit
c) Ownership of organization d) All the above
- 8) On the admission of a new partner the decrease in value of asset is debited to
a) Capital account b) Balance sheet
c) Revaluation account d) P and L account
- 9) If A and B are sharing profits in the ratio of 3 : 2, admit C to $\frac{1}{5}$ th share in the future profit, the sacrificing ratio will be
a) 1 : 2 b) 2 : 3 c) 3 : 2 d) 2 : 1
- 10) The difference between average profit minus normal profit is
a) Super Profit b) Capital Profit c) Normal Profit d) Average Profit
- 11) Goodwill is
a) liability b) capital
c) nominal account d) an intangible account
- 12) Cash price plus interest is
a) installment price b) hire purchase price
c) maximum retail price d) retail price
- 13) MNC is refers to
a) Multi National Corporate b) Multiple National Corporate
c) Multi National Company d) None of these
- 14) Business ethics is liable to
a) Society b) Business organisation
c) All the above d) None of these

2. Answer **any seven** from the following.

14

- 1) What is shares ?
- 2) What is account ?



- 3) Meaning and definition of ethics.
 - 4) Morality.
 - 5) Meaning and definition of corporate governance.
 - 6) What is Globalization ?
 - 7) Marketing Ethics.
 - 8) Code of conduct.
 - 9) Etiquette codes.
3. A) Answer **any two** from the following. **10**
- 1) Creating ethical organization.
 - 2) Reissue of forfeited shares.
 - 3) Financial Management.
- B) External reconstruction of companies. **4**
4. Answer **any two** from the following. **14**
- 1) Indian companies Act, 1956.
 - 2) Market and Fair value method.
 - 3) Corporate culture and corporate social responsibility.
5. Answer **any two** from the following. **14**
- 1) Factors Facilitating Globalization.
 - 2) Issue and forfeiture of shares.
 - 3) Global corporation and ethics in HRM.
-



Seat No.	
----------	--

**B.Sc. II (Semester – IV) (Entrepreneurship) (CGPA) Examination, 2016
(New)
MARKETING DECISION & INTERNATIONAL MARKETING (Paper – VI)**

Time : 2 Hours 30 Minutes

Max. Marks : 70

- N.B.:** 1) *All questions are compulsory.*
2) *Figures to the right indicates full marks.*
3) *Draw the diagram if necessary.*

1. Multiple choice questions : 14

- 1) The biggest or greatest amount of involvement in a foreign market comes through
 - a) Exporting
 - b) Joint venturing
 - c) Licensing
 - d) Direct investment
- 2) A _____ is a good offered either free or at low cost as an incentive to buy a product.
 - a) Patronage reward
 - b) Spiff
 - c) Price pack
 - d) Premium
- 3) _____ is products bought by individuals and organizations for further processing or for use in conducting a business.
 - a) Consumer products
 - b) Services
 - c) Industrial products
 - d) Speciality products
- 4) _____ has contractual authority to sell a manufacturer's entire output.
 - a) Selling agents
 - b) Rack jobbers
 - c) Manufacturer's agents
 - d) Purchasing agents
- 5) _____ is one of the types of product.
 - a) Soap product
 - b) Cell-phone product
 - c) Commodity product
 - d) All of the above



- 6) The typical method of retail operation used by supermarkets and catalog showrooms is called
- a) self-service retailing
 - b) limited-service retailing
 - c) full-service retailing
 - d) service-merchandiser
- 7) The total number of items that the company carries within its product lines refers to the _____ of the product mix.
- a) width
 - b) depth
 - c) length
 - d) none of these
- 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) idea
 - b) demand
 - c) product
 - d) service
- 9) Yahoo, Info seek and Excite are all
- a) browsers
 - b) webcasters
 - c) search engines
 - d) software
- 10) _____ is the general term for a buying and selling process that is supported by electronic means.
- a) Internet commerce
 - b) Web commerce
 - c) Computer commerce
 - d) Electronic commerce
- 11) _____ consists of dividing a market into distinct groups of buyers on the basis of needs, characteristics or behavior who might require separate products or marketing mix.
- a) Product differentiation
 - b) Market segmentation
 - c) Market targeting
 - d) Market positioning
- 12) In terms of special product life cycles, a _____ is a basic and distinctive mode of expression.
- a) genre
 - b) style
 - c) fashion
 - d) fad
- 13) _____ is the process of evaluating each market segment's attractiveness and selecting one or more segments to enter.
- a) Mass Marketing
 - b) Market segmentation
 - c) Market targeting
 - d) Market positioning
- 14) A manufacturer has four sponsorship options. A _____ is a brand created and owned by a reseller of a product or service.
- a) licensed brand
 - b) manufacturer's brand
 - c) private brand
 - d) co-brand



2. Answer **any seven** from the following : 14
- 1) Define what is product ?
 - 2) Commodity product.
 - 3) Product line.
 - 4) What is meant by channel's of distribution ?
 - 5) Sales promotion.
 - 6) Meaning of consumer behaviour.
 - 7) E-Commerce.
 - 8) E-Marketing.
 - 9) Market segmentation.
3. A) Answer **any two** from the following : 10
- 1) What are the functions of retailer ?
 - 2) Types of distribution channel.
 - 3) Determinants of consumer behaviour.
- B) Product life cycle, with diagrammatic representation. 4
4. Answer **any two** from the following : 14
- 1) Product idea and its process.
 - 2) Factors influence price decision.
 - 3) Steps involved in import and export.
5. Answer **any two** from the following : 14
- 1) Define advertising strategy in competitive market.
 - 2) Methods of pricing.
 - 3) Buying process and customer loyalty.
-



Seat No.	
-------------	--

B.Sc. – II (Semester – IV) (Entrepreneurship) (CGPA) Examination, 2016
INDUSTRIAL CHEMISTRY
Paper – V : Analytical and Industrial Aspects of Physical Chemistry (New)

Time : 2½ Hours

Total Marks : 70

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

1. Select the most correct alternative for each of the following : 14

- 1) In simple flame photometer, the monochromator is
 - a) Prism
 - b) Slit
 - c) Filter
 - d) None of these
- 2) Standard electrode potential of metal is denoted by
 - a) E_M
 - b) E_M^0
 - c) E_{cell}
 - d) E_{cell}^0
- 3) Emf of cell is given by
 - a) $E_{\text{cell}} = E_R - E_L$
 - b) $E_{\text{cell}} = E_R + E_L$
 - c) $E_{\text{cell}} = E_R/E_L$
 - d) None of these
- 4) HCl versus NaOH, titration is an example of _____ titration.
 - a) Weak acid versus strong base
 - b) Strong acid versus weak base
 - c) Weak acid versus weak base
 - d) Strong acid versus strong base
- 5) Reciprocal of resistance is
 - a) Potential
 - b) Conductance
 - c) Absorbance
 - d) None of these
- 6) Unit of cell constant is
 - a) $S\text{ cm}^{-1}$
 - b) ohm cm^{-1}
 - c) cm^2
 - d) cm^{-1}



- 7) On dilution equivalent conductance
- a) Increases b) Decreases
c) Remains Constant d) None of these
- 8) In equation $A = \epsilon Cx$, ϵ is
- a) Absorbance b) Transmittance
c) Molar extinction coefficient d) None of these
- 9) Reciprocal of transmittance is called as
- a) Opacity b) Absorbance
c) Reflectance d) None of these
- 10) _____ element is used as internal standard in flame photometry.
- a) Na b) Cu
c) Li d) Zn
- 11) On dilution specific conductance
- a) Increases b) Decreases
c) Remains constant d) None of these
- 12) The ratio of specific conductance to observed conductance is called as _____ constant.
- a) Gas b) Cell
c) Boltzmann d) None of these
- 13) A device measuring the response of photocell is called
- a) Galvanometer b) Voltmeter
c) Conductometer d) None of these
- 14) Wavelength of visible region ranges from _____ nm.
- a) 200 to 400 b) 400 to 760
c) 800 to 1200 d) None of these

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

14

- 1) Define : a) Metallic conductor b) Electrolytic conductor
- 2) Define buffer solution and give its types.
- 3) Define : a) Equivalent conductance b) Molar conductance.
- 4) Give the statement of Lambert's law.



- 5) Give the advantages of potentiometric titration.
 - 6) Statement of Hittorff's rule.
 - 7) Define pH and pOH.
 - 8) Give the advantages of conductometric titration.
 - 9) Give the limitations of flame photometry.
3. A) Attempt **any two** : **10**
- 1) Define absorbance and explain the theory of colorimetry.
 - 2) Sketch and explain glass electrode.
 - 3) Describe block diagram of flame photometer.
- B) Specific conductance of 0.4 N solution of ZnSO_4 is $0.02107 \text{ ohm}^{-1}\text{cm}^{-1}$.
Calculate the equivalent conductance of the solution. **4**
4. Attempt **any two** of the following : **14**
- 1) Explain Beer's law and give its limitations.
 - 2) Define potentiometric titration. Give its types and explain acid-base titration with suitable example.
 - 3) Define transport number of cation and anion. Explain the factors affecting transport number of ions.
5. Attempt **any two** of the following : **14**
- 1) Sketch and explain photoelectric colorimeter.
 - 2) Give an account of general principles of flame photometry.
 - 3) Define conductometric titration. Give the types of acid-base titrations with suitable example. Explain strong acid versus strong base conductometric titration.
-



Seat No.	
----------	--

B.Sc. (Part – II) (Semester – IV) (Entrepreneurship) (New) (CGPA)
Examination, 2016
INDUSTRIAL CHEMISTRY (Paper – VI)
Industrial Aspects of Applied Chemistry

Time : 2 Hours 30 Minutes

Total 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 most correct alternative from **each** of the following and rewrite the sentence :

14

- i) Bauxite is an ore of _____
a) Aluminium b) Ferrous c) Copper d) Silicon
- ii) For the reduction of iron _____ is used as a reducing agent.
a) Sodium b) Potassium c) Carbon d) Calcium
- iii) _____ is pure source of metal.
a) Slag b) Alloy c) Ore d) Mineral
- iv) In electroplating _____ plays an important role.
a) Electrolysis b) Electro-osmosis
c) Osmosis d) None of these
- v) The property by virtue of which uniform deposit of metal may be obtained on a cathode is known as _____
a) Throwing power b) Magic power c) All of these d) None of these
- vi) _____ is the process which gives the coating of oxide film on surface of Al and its alloys.
a) Electrolysis b) Electrophoresis
c) Anodising d) None of the above

P.T.O.



- vii) In manufacture of urea _____ is used as raw material.
- a) NH_3 & CO_2 b) $(\text{NH}_4)_2\text{CO}_3$ & H_2
c) HCl & HNO_3 d) H_2SO_4 & CO_2
- viii) Superphosphate and triple superphosphates are _____ types of fertilizers.
- a) organic b) inorganic c) ceramic d) none of these
- ix) _____ of the following is commonly marketed as a commercial fertilizer of potassium.
- a) Potassium chloride b) Calcium chloride
c) Ammonium chloride d) Sodium nitrate
- x) In manufacturing of glass by tank furnace at the refining end the melt becomes free from small bubbles of gas is called as _____
- a) Seeds b) Glass gall
c) Window glass d) Charging
- xi) Glass is _____
- a) crystalline solid b) amorphous solid
c) both a and b d) none of these
- xii) The word 'ceramic' meant for _____
- a) soft material b) hard material
c) burnt material d) dry material
- xiii) _____ not a characteristic property of ceramic material.
- a) High temperature stability b) High mechanical strength
c) Low elongation d) Low hardness
- xiv) Major ingredient of traditional ceramics is _____
- a) silica b) clay c) feldspar d) all of these

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

14

i) Define the terms :

- a) Calcinations b) Gangue

ii) Give the classification of ceramics.



- iii) What are the raw materials used in the glass ?
- iv) Give the Faradays second law of electrolysis.
- v) What are the conditions of using fertilizers to obtain a good yield ?
- vi) Write down any two physical properties of glass.
- vii) Write down any two properties of ceramics.
- viii) Give in short classification of fertilizers.
- ix) Define the terms :
 - a) Current density
 - b) Electroplating.

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

- i) Explain the construction of blast furnace.
- ii) Write a short note on application of nickel plating.
- iii) Give the preparation of urea.

B) Explain in brief classification and chemical properties of glass material. **4**

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

- i) What are the steps involved in the extraction of metals from ore ? Explain the method used for concentration of ore.
- ii) Describe the details involved in the electroplating of chromium.
- iii) Explain the preparation and properties of fertilizer : Super phosphate.

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

- i) Discuss in brief different types of ore.
- ii) Explain the wet process for the manufacture of Portland cement.
- iii) Explain the manufacturing process of glass by pot furnace and tank furnace.



Seat No.	
----------	--

**B.Sc. – II (Semester – IV) (Entrepreneurship) (CGPA) Examination, 2016
MICROBIAL BIOTECHNOLOGY (Paper – V) (New)
Molecular Biology**

Time : 2½ Hours

Max. Marks : 70

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

1. Rewrite the following sentences by choosing correct alternative : **14**
- i) RNA polymerase elongates an RNA strand in _____ direction.
a) 5' to 3' b) 3' to 5' c) 3' to 3' d) 5' to 5'
 - ii) An amino acid may be specified by more than one codon, so the genetic code is described as _____
a) wobble b) degenerate c) coding d) non coding
 - iii) Unvarying expression of a gene is called _____ gene expression.
a) Regulated b) Induced c) Successive d) Constitutive
 - iv) The gene cluster and promoter, plus additional sequences that function together in regulation, called _____
a) operon b) operator c) enhancer d) chromosome
 - v) DNA synthesis proceeds in _____ direction.
a) 3' → 5' b) 3' → 3' c) 5' → 5' d) 5' → 3'
 - vi) The 3' → 5' exonuclease activity of DNA polymerase removes the mispaired nucleotide and polymerization begins again, this activity is known as _____
a) Proof reading b) Confirmation c) Checking d) Re-reading
 - vii) A permanent change in the nucleotide sequence of DNA is called _____
a) Replication b) Transcription c) Mutation d) Translation
 - viii) Dark repair mechanism is also called as _____ repair.
a) Excision b) Tolerance c) Retrieval d) Direct



- ix) _____ is an initiation codon.
a) UGA b) UAA c) AUG d) UAG
- x) The biological function of restriction enzyme is to protect cell from _____
a) Foreign DNA b) Own DNA
c) RNA d) DNA repair
- xi) _____ is an example of restriction enzyme.
a) EcoRI b) pBR322 c) YAC d) BAC
- xii) _____ plays an important role in photoreactivation.
a) Photophosphorylase b) ATP synthase
c) Photosystem d) Photolyase
- xiii) The set of DNAs generated by using non-PCR based restriction digestion reaction is called _____
a) RAPD b) RFLP c) RIPD d) FISH
- xiv) _____ acts as a carrier of genetic information from one generation to the next generation.
a) DNA b) Carbohydrates
c) Proteins d) Fats

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

14

- i) Define DNA replication.
- ii) What are meant by Okazaki fragment ?
- iii) Enlist 4 types of DNA repair mechanism.
- iv) Draw the structure of Lac operon.
- v) Define RFLP.
- vi) What is replicon ?
- vii) What are the components of 70 s ribosome ?
- viii) Enlist the genes present in Trp Operon.
- ix) Draw the structure of RNA polymerase in prokaryotic cell.



3. A) Answer **any two** of the following : **10**
- i) Explain semi conservative mode of DNA replication.
 - ii) Write a note on RFLP.
 - iii) Explain the structure and composition of DNA.
- B) Explain the process of transcription in prokaryotic cell. **4**
4. Answer **any two** of the following : **14**
- i) What is DNA sequencing ? Add a note on chemical method of DNA sequencing.
 - ii) Give a detailed account on – Central dogma of molecular biology.
 - iii) What is transcription ? Describe the structure of eukaryotic RNA polymerase and add a note on initiation of transcription in eukaryotic cell.
5. Answer **any two** of the following : **14**
- i) Give a detailed account on – Process of translation.
 - ii) Explain the rolling circle model of replication with a suitable example.
 - iii) Explain the methods of DNA isolation.
-



Seat No.	
----------	--

B.Sc. II (Semester – IV) (Entrepreneurship) (CGPA) Examination, 2016
MICROBIAL BIOTECHNOLOGY – (Paper – VI) (New)
Food and Dairy Technology

Time : 2 Hours 30 Minutes

Max. Marks : 70

- N.B.:* 1) **All the 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 alternative : 14

- 1) _____ protein present in the milk.
A) Albumin
B) Casein
C) Keratine
D) Trypsin
- 2) The microorganism which grows at temperature range 0 – 20°C called as _____
A) Thermophiles
B) Mesophiles
C) Psychrophiles
D) Neutrophiles
- 3) Esters like flavour in butter are resulted by the action of _____
A) *P.mephitica*
B) *P.Fragi*
C) *P.dimunata*
D) *P.Fluroscence*
- 4) Fishiness in butter is caused by _____
A) *Aeromones hydrophila*
B) *P.Fragi*
C) *Acetobacter*
D) *E.coli*
- 5) *Claustridium perfringes* poisoning associated with _____
A) meat product
B) milk
C) syrup
D) canned Foods
- 6) phosphatase test is used in the analysis of _____
A) water
B) tea
C) milk
D) food
- 7) Increasing shelf life of food by a process called _____
A) preservation
B) disinfection
C) infection
D) spoilage



4. Answer **any two** of the following : 14
- i) Give a detailed account on Ice-cream preparation.
 - ii) Describe in detail methods of food preservation.
 - iii) Describe in detail packaging and pasteurization of milk.
5. Answer **any two** of the following : 14
- i) Describe in detail microbial examination of food.
 - ii) Write a detailed account on butter preparation.
 - iii) Describe in detail control and preservation of meat products.
-

Seat
No.

B.Sc. III (Semester – V) (Entrepreneurship) Examination, 2016
ENGLISH (Compulsory) (New) (CGPA)
Breakthrough

Time : 2 Hours 30 Minutes

Max. Marks : 70

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

1. A) Choose the correct alternative : **10**
- 1) Which of the following statements, according to G.B. Shaw, is not true about the poor ?
 - a) The poor are kept poor by their ignorance
 - b) The squire is the ally of the poor
 - c) Political economy is an obstacle in raising the wages of the poor
 - d) The poor who receive a complete education are taught so many flat lies
 - 2) The average parson teaches _____ at the village school.
 - a) honesty and equality
 - b) loyalty and religion
 - c) deference to the rich
 - d) religion and law
 - 3) The great civil war that was fought between the Northern States and the Southern States of America came to an end in
 - a) July 1863
 - b) November 1863
 - c) August 1863
 - d) October 1863
 - 4) Abraham Lincoln was assassinated in
 - a) 1863
 - b) 1864
 - c) 1856
 - d) 1865
 - 5) At the end of his address, Abraham Lincoln says that _____ shall not perish from the earth.
 - a) Monarchy
 - b) Dictatorship
 - c) Democracy
 - d) Aristocracy
 - 6) According to Virginia Woolf, the woman who was born with a gift of poetry in the 16th century was an _____ woman.
 - a) unlucky
 - b) unhappy
 - c) unfortunate
 - d) honourable

P.T.O.



- 7) Which of the following statements about women is not true ?
- Women of genius have to bear hostility of men
 - Importance given to chastity prevented women living a free life like male writers
 - In the past a woman had to depend on goodwill of her father for pin money
 - In the 16th century, woman were encouraged to write poetry
- 8) _____ had made Abou Ben Adhembold.
- Courage
 - Knowledge
 - Exceeding peace
 - Worship of god
- 9) The ship in the poem “O Captain! My Captain!!” is a metaphor for
- The World
 - The United States of America
 - The Northern States of America
 - The Southern States of America
- 10) The flower mentioned in the poem “Abou Ben Adhem” is a
- lotus
 - rose
 - hyacinth
 - lily

B) Rewrite the following sentences choosing the correct modal auxiliary from the brackets : 2

- It's a hospital. You _____ not smoke. (would, might, may, must)
- _____ you stand on your head for more than a minute ? (May, Can, Must, Shall)

C) Write the following sentences in indirect speech : 2

- Sudha said to me, “I don't believe you”.
- The doctor said to the patient, “Quit smoking”.

2. Answer **any seven** of the following questions in brief : 14

- How, according to G.B. Shaw, do the respectful peasants behave in revolutions ?
- What does G.B. Shaw say about the Press ?
- What is the central idea of the prose “Church, School and Press” ?
- Why was the great American civil war fought ?
- What advice does Abraham Lincoln give to American people in his Gettysburg address ?
- On what occasion did Abraham Lincoln deliver the Gettysburg address ?
- Why were there so few women writers in the 16th Century ?
- What does the title “A Room of One's Own” suggest ?
- What did women writers do to hide their identity ?



3. A) Answer **any two** of the following questions in brief : **8**
- 1) What are the poetic devices that Hunt has used in the poem *Abou Ben Adhem*?
 - 2) What is the message of the poem *Abou Ben Adhem*?
 - 3) What is the theme of the poem *O Captain! My Captain!!*?
- B) Write short reports on **any two** of the following : **6**
- 1) India's performance in Rio Olympics.
 - 2) The Prize Distribution Ceremony of your college.
 - 3) Your visit to Sanjay Gandhi National Park.
4. Answer **any one** of the following : **14**
- 1) Prepare a presentation consisting of five charts or slides to promote an *Electronic Body Massager* in the market.
 - 2) Write a presentation on the topic "Mobile Mania in India" using charts, transparencies or slides.
5. Write a transcript of group discussion on the topic "Privatization of higher education". **14**
-



Seat No.	
-------------	--

**B.Sc. – III (Sem. – V) (Entrepreneurship) (New-CGPA) Examination, 2016
BUSINESS FINANCE**

Time : 2½ Hours

Max. Marks : 70

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

1. Choose the correct alternative from the given choice : 14
- 1) _____ was the first depository in India.
a) NSE b) SHCIL c) SEBI d) NSDL
 - 2) The term _____ refers to investment in new and untried enterprises that are lacking a stable growth record.
a) Forfeiting b) Leasing c) Factoring d) Venture capital
 - 3) _____ is also known as capital-lease.
a) Operating lease b) Cross border lease
c) Financial lease d) Sale and lease back
 - 4) A _____ is a market in which short-term bills are purchased and sold.
a) Call-market b) Treasury bill market
c) Acceptance market d) Bill-market
 - 5) _____ serves as a trading centre for stocks, shares and bonds.
a) OTCI b) Stock exchange
c) NSDL d) Mutual funds
 - 6) The Discount and Finance House of India (DFHI) started its operations in April
a) 1990 b) 1989 c) 1988 d) 1991
 - 7) _____ refers to the mix of sources from which the long term funds required by the business.
a) Capital management b) Finance management
c) Capital structure d) Finance structure



- 8) _____ capital is the least risky capital.
- a) Equity share
 - b) Preference share
 - c) Debt
 - d) Credit
- 9) The technical terminology used for raising funds for investing in the current asset is
- a) Working capital management
 - b) Business management
 - c) Fictitious asset management
 - d) None
- 10) Stock exchanges function under the control of
- a) Members
 - b) SEBI
 - c) Securities Registration Committee
 - d) BSE
- 11) A _____ is an enterprise which is jointly owned and managed by a local entrepreneur and foreign entrepreneur.
- a) Joint venture
 - b) Multinational corporation
 - c) Transnational company
 - d) Global company
- 12) There are _____ recognized stock exchanges in India.
- a) 8
 - b) 10
 - c) 5
 - d) None
- 13) The Stock Holding Corporation of India Ltd. was set up
- a) 1988
 - b) 1992
 - c) 1995
 - d) 1990
- 14) Venture capital fund was first started by
- a) IFCI
 - b) IDBI
 - c) ICICI
 - d) NIC

2. Solve **any 7** out of 9 questions :

14

- 1) What is meant by Business Finance ?
- 2) Meaning of public deposits.
- 3) What is meant by lease-finance ?
- 4) Meaning of venture-capital.
- 5) What is meant by On-line Trading ?
- 6) What is meant by debentures ?
- 7) Meaning of working-capital.
- 8) What is meant by SEBI ?
- 9) Meaning of preference shares.



3. A) Attempt **any 2** of the following : **10**
- 1) What are the steps in Public Issue ?
 - 2) Define functions of SEBI.
 - 3) What are the types of lease-financing ?
- B) Solve questions : **4**
- Define National Stock Exchange (NSE) working.
4. Attempt **any 2** of the following : **14**
- 1) What are the sources of working capital finance ?
 - 2) Importance of business finance.
 - 3) What is importance of lease-financing ?
5. Attempt **any 2** of the following : **14**
- 1) Loan from banks.
 - 2) What is the working of BSE and NSE ?
 - 3) Give the meaning and feature of equity shares.
-



Seat No.	
-------------	--

B.Sc. – III (Semester – V) (New CGPA) Examination, 2016
Entrepreneurship
HUMAN RESOURCE MANAGEMENT

Time : 2 Hours 30 Minutes

Max. Marks : 70

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

1. Select the most correct alternative and rewrite the following sentences : 14

- 1) Human Resource Planning is a _____ process.
a) Strategic b) Continuous c) Integrated d) Co-related
- 2) Job specification is a major tool in the _____ process.
a) Organizing b) Staffing c) Management d) Line
- 3) _____ means development and maintenance of adequate manpower resources.
a) Selection b) Training
c) Labour Turnover d) Recruitment
- 4) Training is a toll to improve _____
a) Efficiency b) Performance c) Effectiveness d) Productivity
- 5) _____ puts a psychological pressure on employees to improve the performance on the job.
a) Selection b) Performance Appraisal
c) Recruitment d) Training
- 6) Morale is always related to as _____
a) Productivity b) Motivation
c) Mentality d) Job-Satisfaction



7) Financial incentive are those which are offered to the workers in the form of _____

- a) Salary
- b) Monetary Rewards
- c) Money
- d) None of these

8) _____ is the organized and real prospectus of duties and responsibilities of any specific job.

- a) Job-Analysis
- b) Job-Rotation
- c) Job-Specification
- d) Job-Description

9) Human Resource Management is a _____ Management function.

- a) Co-related
- b) Strategic
- c) Direct
- d) Dynamic

10) Straight Ranking Method is a method of _____

- a) Motivation
- b) Performance Appraisal
- c) Merit Rating
- d) Training

11) The focus of Human Resource Management revolves around

- a) Machine
- b) Money
- c) Men
- d) Material

12) Human Resource Management helps improve

- a) Production
- b) Productivity
- c) Profits
- d) Power

13) The human resource planning is done based on the Organizational Plan.

- a) True
- b) False

14) Employee is eligible for Pf, Gratuity, Salary arrears etc. in case discharge.

- a) True
- b) False

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

14

- 1) What is meant by Management ?
- 2) Define recruitment.
- 3) Write down step in selection process.
- 4) What is meant by Human Resource ?
- 5) Define Entrepreneurship.
- 6) What is Career Planning ?
- 7) What is Job Satisfaction ?
- 8) What is meant by problems ?
- 9) Write down Provident Fund.



3. A) Attempt **any two** of the following : 10
- 1) Write down function and importance of Human Resource.
 - 2) Write down need and objectives of Training.
 - 3) Write down elements of Career Development Programme.
- B) Write short note on Accident Prevention. 4
4. Answer **any two** of the following : 14
- 1) Explain the scope and role of Human Resource Management.
 - 2) Define performance appraisal. Explain need and method of P.A.
 - 3) Describe the recent trends in selection and job satisfaction.
5. Answer **any two** of the following : 14
- 1) Explain meaning, need, purpose of Internal and External Mobility.
 - 2) Explain Job-analysis, Job-description.
 - 3) Write down steps in career development system.
-



Seat No.	
----------	--

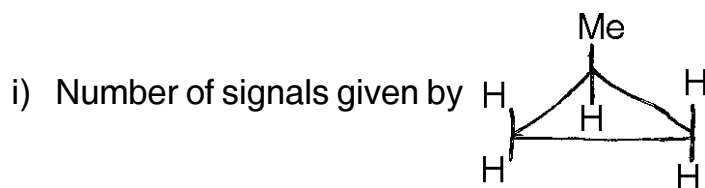
B.Sc. – III (Semester – V) (Entrepreneurship) (CGPA) (New)
Examination, 2016
INDUSTRIAL CHEMISTRY
Spectroscopic Methods

Time : 2½ Hours

Max. Marks : 70

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

1. Select the most correct alternative among the following and rewrite the following : 14



- a) 4 b) 3 c) 6 d) 5
- ii) Molecular ion is positively charged species which gives
- a) Molecular formula
b) Empirical formula
c) Molecular weight of compound
d) Fragment ions
- iii) In Beer-Lambert's law the term epsilon is known as
- a) Molality b) Molar extinction coefficient
c) Molarity d) Molar coefficient
- iv) Among the following, which shows IR active transition ?
- a) N₂ b) Cl₂ c) CCl₄ d) HCl
- v) The most deshielded proton is found in
- a) TMS b) CH₃ – Br c) CH₃ – CHO d) C₆H₆



- vi) IR spectroscopy is mainly useful in determination of
- | | |
|------------------|---------------------|
| a) Conjugation | b) Molecular weight |
| c) Atomic weight | d) Functional group |
- vii) The ratio of $\frac{I_t}{I_o}$ is called as
- | | |
|------------------|---------------------|
| a) Absorbance | b) Opacity |
| c) Transmittance | d) Optical activity |
- viii) In mass spectrum, the mass of m/e peak gives _____ of sample.
- | | |
|---------------------|------------------------|
| a) Atomic weight | b) Equivalent weight |
| c) Molecular weight | d) Number of fragments |
- ix) Among the following, _____ is magnetic nucleus.
- | | | | |
|---------------------|------------------------|---------------------|------------------------|
| a) ${}_1\text{H}^1$ | b) ${}_6\text{C}^{12}$ | c) ${}_1\text{H}^2$ | d) ${}_7\text{N}^{14}$ |
|---------------------|------------------------|---------------------|------------------------|
- x) Enones contain _____ groups.
- | | |
|--|---|
| a) $\text{C} = \text{C}$ & $\text{C} = \text{N}$ | b) $\text{C} \equiv \text{C}$ & $\text{C} = \text{C}$ |
| c) $\text{C} = \text{O}$ & $\text{C} - \text{C}$ | d) $\text{C} = \text{O}$ & $\text{C} = \text{C}$ |
- xi) Molecules does not absorb IR radiations if it fails to change in
- | | |
|------------------|---------------|
| a) Bond length | b) Bond angle |
| c) Dipole moment | d) Plane |
- xii) Mass spectroscopy generates _____ ions.
- | | |
|--------------|-----------------|
| a) Parent | b) Fragment |
| c) Molecular | d) All of these |
- xiii) Shift of absorption maxima to shorter wavelength is known as _____ chromic shift.
- | | |
|----------|----------|
| a) hypso | b) hypo |
| c) hyper | d) batho |
- xiv) Methyl protons in butanol gives splitted peaks having _____ multiplicity.
- | | |
|------------|------------|
| a) Quartet | b) Triplet |
| c) Doublet | d) Singlet |

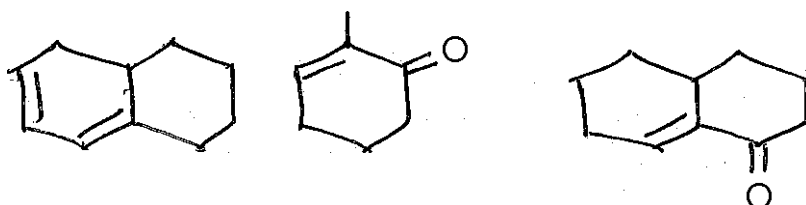


2. Answer **any seven** of the following : 14
- Draw the diagram of NMR instrument
 - Define molecular ion and radical ion.
 - Explain Beer-Lambert law.
 - What is the principle of mass spectroscopy ?
 - Explain peak area.
 - How fragment ions are formed ?
 - Define coupling constant with example.
 - What is the effect of conjugation on position of UV band ?
 - Write the applications of IR spectroscopy.

3. A) Write short notes on (**Any two**) : 10
- Conditions for absorption of IR radiation.
 - Measurement of chemical shift.
 - Spectra of acetaldehyde.

B) Explain TMS as reference in NMR spectroscopy. 4

4. Answer **any two** of the following : 14
- Calculate λ_{\max} of the following compound



- Explain what types of vibrations are observed in IR spectroscopy ?
- Explain applications of mass spectroscopy.

5. Answer **any two** of the following : 14
- Discuss the applications of UV spectroscopy.
 - Explain fundamental group region.
 - Deduce the structure of compound with following data :

Molecular formula : C_2H_6O
m/e : 46
IR : 3620 cm^{-1}
PMR : δ 1.2 (t, 3 H)
 3.7 (q, 2 H)
 4.8 (s, 1 H)



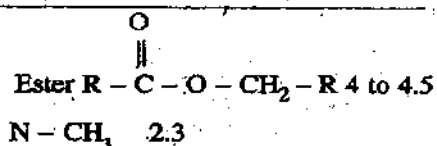
TABLE - 1
Characteristic Infrared Absorptions of Functional Groups

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 - CH = CH ₂	985 - 1000	(s)
	and 905 - 920	(s)
R ₂ C = CH ₂ (out of plane)	880 - 900	(s)
cis - RCH = CHR (C-H bendings)	675 - 730	(s)
trans - RCH = CHR	960 - 975	(s)
C. Alkynyl		
\equiv C - H (stretching)	- 3300	(s)
C \equiv C (stretching)	2100 - 2260	(v)
D. Aromatic		
Ar - H (stretching)	- 3030	(v)
Aromatic substitution type (C-H out-of-plane bendings)		
Monosubstituted	690 - 710	(very s)
	and 730 - 770	(very s)
o - Disubstituted	735 - 770	(s)
m - Disubstituted	680 - 725	(s)
	and 750 - 810	(very s)
p - Disubstituted	800 - 840	(very s)
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		
C \equiv 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	1.6 - 1.9
 R	
Benzylic, ArCH ₂	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, RCCH ₃	2.1 - 2.6
 O	
Aldehyde, RCH	9.5 - 9.6
 O	
Vinylic, R ₂ C = CH ₂	4.6 - 5.0
Vinylic R ₂ C = CH	5.2 - 5.7
 R	
Aromatic, ArH	6.0 - 9.5
Acetylenic, RC \equiv CH	2.5 - 3.1
Alcohol hydroxyl, ROH	0.5 - 6.0 ^d
Carboxylic, RCOH	10 - 13 ^d
 O	
Phenolic, ArOH	4.5 - 7.7 ^d
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 : $-\overset{\beta}{\underset{ }{\text{C}}}=\overset{\alpha}{\underset{ }{\text{C}}}-\text{CO}-$	
	a) Acyclic or 6 - membered ring	215
	b) 5 - membered ring	202
2)	Aldehydes $-\overset{ }{\text{C}}=\overset{ }{\text{C}}-\text{CHO}$	207
3)	Extended Conjugation $-\overset{\delta}{\underset{ }{\text{C}}}=\overset{\gamma}{\underset{ }{\text{C}}}-\overset{\beta}{\underset{ }{\text{C}}}=\overset{\alpha}{\underset{ }{\text{C}}}-\text{CO}-\text{etc.},$	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



Seat No.	
-------------	--

B.Sc. III (Semester – V) (New-CGPA) Examination, 2016
ENTREPRENEURSHIP
Advances in Fermentation Technology

Time : 2½ Hours

Max.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 from given below : **14**
- i) A symbol, word or words legally registered or established by use as representing a company or product is
 - a) Copyright
 - b) Trademark
 - c) Patent
 - d) Secret
 - ii) _____ is example of patenting of biological material.
 - a) Basmati rice
 - b) Turmeric
 - c) Both a) and b)
 - d) None
 - iii) Interferon is
 - a) Protein
 - b) Carbohydrate
 - c) Lipid
 - d) All of these
 - iv) Vinegar production is an example of _____ step process.
 - a) Dual
 - b) Single
 - c) Triple
 - d) None
 - v) _____ is used for production of xanthum gum.
 - a) *Xanthomonas competris*
 - b) *E. Coli*
 - c) *Pseudomonas*
 - d) Yeast species
 - vi) _____ is natural biopreservatives.
 - a) Bacteriocin
 - b) Nisin
 - c) Both a) and b)
 - d) None



- vii) GMP stands for
- a) Good manufacturing practices
 - b) Good laboratory practices
 - c) Quality control
 - d) All of these
- viii) It is type of IPR
- a) Patent
 - b) Trademark
 - c) Secrets
 - d) All
- ix) _____ is the study of the typically controversial ethical issues emerging from new situations and possibilities brought about by advances in biology and medicine.
- a) Bioethics
 - b) Biosafety
 - c) Risk assessment
 - d) International code
- x) _____ is a chemically modified toxin from a pathogenic microorganism, which is no longer toxic but is still antigenic and can be used as a vaccine.
- a) Toxoid
 - b) Toxin
 - c) Bacteriocin
 - d) Nisin
- xi) Mushroom is
- a) Fungus
 - b) Bacteria
 - c) Yeast
 - d) Virus
- xii) _____ a system of maintaining standards in manufactured products by testing a sample of the output against the specification.
- a) Quality control
 - b) Quality assurance
 - c) Quality management
 - d) None
- xiii) PHB is a
- a) Polyhydroxybutyrate
 - b) Polysorbate
 - c) Polyhydroxide
 - d) None
- xiv) Insulin is secreted by
- a) Pancreas
 - b) Heart
 - c) Spleen
 - d) Stomach

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

- i) Define bioethics.
- ii) What is DNA vaccine ?
- iii) Define copyright.
- iv) Define Quality control.



- v) Define Toxoid.
 - vi) Write applications of vinegar.
 - vii) What is GMP ?
 - viii) What is interferon ?
 - ix) Define biosafety.
3. A) Answer **any two** of the following : **10**
- i) Explain in detail IPR and its types.
 - ii) Explain in detail production of Xanthan gum.
 - iii) Describe in detail Biosafety levels.
- B) Write detail account on mushroom cultivation. **4**
4. Answer **any two** of the following : **14**
- i) What is interferon and explain in detail its mechanism.
 - ii) Explain in detail the process of acetone-butanol production.
 - iii) Describe in detail GLP.
5. Answer **any two** of the following : **14**
- i) Define patent and give suitable example of patenting of biological material.
 - ii) Write in detail insulin production.
 - iii) Explain in detail the process of vinegar production.
-