



SLR-V – 1

Seat No.	
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**B.Sc. – I (Semester – I) (Entrepreneurship) (CGPA Pattern)  
Examination, 2015  
ENGLISH COMPULSORY  
'On Track' English Skills for Success**

Day and Date : Thursday, 29-10-2015  
Time : 10.30 a.m. to 1.00 p.m.

Max. Marks : 70

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

1. Rewrite the following sentences by choosing the correct alternative : **14**
- 1) The man from the west lived in the city of \_\_\_\_\_ after moving away from New York.
    - a) Washington
    - b) Mexico
    - c) Chicago
    - d) New Jersey
  - 2) The note that the man from the west received was in fact from \_\_\_\_\_.
    - a) his friend Jimmy
    - b) his wife
    - c) Chicago police
    - d) the owner of the restaurant
  - 3) In the end the narrator refused to accept all of Miss Krishna's possession except \_\_\_\_\_.
    - a) a cigarette lighter
    - b) a little nine-inch clock
    - c) a tiny glazed coffee cup
    - d) a small Burmese box
  - 4) The writer's attitude towards Miss Krishna was one of \_\_\_\_\_.
    - a) deep affection and admiration
    - b) apathy and patience
    - c) hatred and contempt
    - d) tolerance and patience

P.T.O.



- 5) The word 'almighty tool' refers to \_\_\_\_\_  
a) a scientific tool                      b) an electronic tool  
c) an all powerful method              d) the almighty god
- 6) 'The Myth of Artificial Intelligence' is written by \_\_\_\_\_  
a) Anita Desai                              b) Attila Narin  
c) Nargis Dalal                             d) Dr. Abdul Kalam
- 7) The phrase 'like the flame of her marriage' is the \_\_\_\_\_ used in the poem.  
a) simile                                      b) metaphor  
c) personification                         d) alliteration
- 8) In the poem 'Bangle Sellers', bangles are token of \_\_\_\_\_  
a) freedom                                  b) sacrifice  
c) shackles                                 d) prosperity
- 9) The words 'Kiltartan cross' refer to \_\_\_\_\_  
a) a well known place in Ireland      b) an Irish Church  
c) the battle field                         d) a pilgrim place
- 10) Kedar painted the picture \_\_\_\_\_  
a) hisself                      b) herself                      c) himself                      d) itself
- 11) The population of the tiger has increased in India.  
The underlined word is a \_\_\_\_\_ noun.  
a) proper                      b) common                      c) collective                      d) material
- 12) \_\_\_\_\_ Hutatma express runs between Solapur and Pune.  
a) A                              b) An                              c) The                              d) No article
- 13) My brother returned home \_\_\_\_\_ 10 P.M.  
a) on                              b) in                              c) at                              d) to
- 14) Mrs. Khanna looked \_\_\_\_\_ the orphan child after his parents death.  
a) after                              b) about                              c) at                              d) for

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

14

- 1) Why did Jimmy send another police officer to arrest Bob ?
- 2) What had happened to 'Big Joe Brady's restaurant ?
- 3) What is the narrator's initial opinion of Miss Krishna ?



- 4) Why does the narrator decide to terminate Miss Krishna's stay at her house ?
- 5) What are the many facets of intelligence ?
- 6) Why can computers 'not think' in the same way as human being ?
- 7) Which colours of bangles are suitable for a maiden's wrist ?
- 8) How does the Irish Airman imagine he will die ?

3. A) Write short paragraphs on **any two** of the following : **8**
- 1) Importance of tree plantation
  - 2) My hobby
  - 3) Solar energy.
- B) Answer **any two** of the following questions in about **eight** lines **each** : **6**
- 1) What sort of relationship did Bob and Jimmy share ?
  - 2) How did Krishna's sister behave with the narrator ?
  - 3) What image of bangle sellers at the temple do you gather from the poem ?
4. Write an essay on **any one** of the following : **14**
- 1) The reasons of farmers suicides.
  - 2) The role of youth in nation building.
5. Read the following passage and make notes of it. Use an appropriate title for your notes. **14**

Advertising is the way in which the manufacturer is able to communicate with his customer. In India it is a gigantic task, when one remembers that there are nearly 400 million potential customers. Not all of them yet have reached the stage, when they have money for more than the barest minimum of goods and clothing but many have already started earning enough money to allow them to look for some modest improvement in their living standards. Thus, purchasing power is sure to increase as India's plans develop. More customers will be created, and it is through advertising that they will learn how their new earnings can buy them a fuller life.

Now, let us look for a moment at how advertising works – how it tells people about goods which will make the world a more comfortable place for them to live in. To be effective, advertising must first attract attention, but more important, it



must be noticed by people in the right way. Advertisements which clamour our for attention in a cheap or vulgar way do not bring any credit to the products they sell. Just as in life it is easy to be noticed, but, less easy to be respected; so it is with advertising. You can print your advertisement upside down and it will attract a lot of attention, but that does not mean that people will think more of the product. That is why the advertiser has to be very careful about humour, if he makes a reader laugh, he must be sure to see the laugh is not at the expense of the product. That does not mean humour has no place in advertising. It can brighten advertising and make it memorable.

The real job of the advertisement is to sell. It has to be convincing. Market research has revealed the needs and desires of the customers and the product has been designed to meet those needs. Now, the advertising must base itself on that research and must explain to the consumer how the product is going to benefit them.

All advertising must reach the right people. There are a number of ways communicating with the potential customers advertising media they are called they are the newspapers and magazines, cinema advertising, shop display material, posters and soon. The job of combining the right media to reach the greatest number of potential customers with the right sort of impact at the lowest cost is an intricate and important one.

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**B.Sc. – I (Semester – I) Examination, 2015**  
**ENTREPRENEURSHIP (CGPA Pattern) (Paper – I)**  
**Entrepreneurship and The World of Business and Economics for**  
**Manager and Managerial Accounting**

Day and Date : Friday, 30-10-2015  
Time : 10.30 a.m. to 1.00 p.m.

Max. Marks : 70

- N. B. :**
- 1) **All questions are compulsory.**
  - 2) **Draw figure where it is necessary.**
  - 3) **Figure to the right indicates full marks.**
  - 4) **Answer of both the Section should be attempted in separate answer book.**
  - 5) **Each Section include three questions.**

**SECTION – A**  
**(Entrepreneurship and the World of Business)**

1. Complete and rewrite the statements choosing correct alternative :

5

- 1) Entrepreneurs are high in \_\_\_\_\_
  - a) Need achievement
  - b) Leadership
  - c) Quality
  - d) Motivation
- 2) \_\_\_\_\_ is in harnessing youth vigor.
  - a) Business
  - b) Entrepreneurship
  - c) Manager
  - d) None of these
- 3) \_\_\_\_\_ gives attention only within organization.
  - a) Manager
  - b) Leader
  - c) Employee
- 4) \_\_\_\_\_ creativity can be defined as the process of developing an original product.
  - a) Stimulation
  - b) Motivation
  - c) Innovation
  - d) None of these
- 5) \_\_\_\_\_ is the foundation upon which the whole structure of management is built.
  - a) Company
  - b) Society
  - c) Market
  - d) Organization

P.T.O.



2. Answer the following questions (**any 5**) : **10**
- 1) Classify the types of entrepreneur.
  - 2) How will you choose location and business line ?
  - 3) What are the features of business ?
  - 4) Discuss the nature and scope of business ethics.
  - 5) Differentiate public sector and private sector of organization.
  - 6) Explain entrepreneurship process.
  - 7) Explain entrepreneur V/s manager.
3. A) Write short notes on (**any 2**) : **10**
- 1) Characteristics of entrepreneur
  - 2) Barrier to entrepreneur
  - 3) Co-operative society
  - 4) Scope of entrepreneurship in India.
- B) Explain (**any 1**) : **10**
- 1) Problem faced by women entrepreneur.
  - 2) Influence of background factor on behavioral orientation.

**SECTION – B**  
**(Economics for Manager and Managerial Accounting)**

1. Choose correct answers from the given alternatives : **5**
- 1) Capital is \_\_\_\_\_ of the business.  
a) Assets                      b) Liability                      c) Property                      d) Goodwill
  - 2) Money value of business reputations called \_\_\_\_\_  
a) Premises                      b) Liability                      c) Goodwill                      d) Bank balance
  - 3) Financial statement is a part of \_\_\_\_\_  
a) Book keeping                      b) Debit                      c) Accounting                      d) None of these
  - 4) Managerial economics aims at providing help in the firms is \_\_\_\_\_  
a) Decision making                      b) Supply  
c) Production                      d) Demand
  - 5) The appropriate objective of firm is \_\_\_\_\_  
a) Maximization of sales                      b) Maximization of profit  
c) Maximization of Owner's Wealth                      d) None of the above



- 2. Short note (**any 5**) : 10
  - 1) Importance of Managerial Economic.
  - 2) Types of demand.
  - 3) What is production ?
  - 4) What is book-keeping ?
  - 5) What is Journal ?
  - 6) What is Trial Balance ?
  
- 3. A) Write short note (**any 2**) : 6
  - 1) What is Accounting and explain classification of Accounts.
  - 2) Types of demand.
  - 3) What is Business Finance and explain scope and function of business Finance ?
  
- B) Write note on Types of Market Structure. 4
  
- 4. Write short note (**any 2**) : 10
  - A) Journalize following transaction in the Books of Mr. Anil.

Date	Particulars	Amt.
1 March 2012	Started business with cash	10 lacks
2 March 2012	Amount Deposited in to Bank	600,000
5 March 2012	Brought Goods from Mohan	200,000
6 March 2012	Purchase Machinery and Furniture	20,000
9 March 2012	Paid for postage	1500
13 March 2012	Paid to Mohan from Bank A/c in full settlement	195,000

- B) Scope of managerial Economics.
  - C) Demand analysis and its objective.
-







5) The intensity of sound is measured in the unit \_\_\_\_\_

- |                       |          |
|-----------------------|----------|
| a) dB                 | b) ppm   |
| c) kg/dm <sup>3</sup> | d) mg/ml |

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

- a) Define covalent bond with example.
- b) Define radius ratio and coordination number.
- c) What are the types of water pollutants ?
- d) Draw structure of BF<sub>3</sub> molecule.
- e) Define hybridisation and give the examples of it.
- f) What are the toxic effects of carbon monoxide ?
- g) Draw MO diagram of H<sub>2</sub> molecule.

3. A) Write short notes on **any two** of the following : 10

- i) Born-Haber cycle for NaCl.
- ii) Geometry of Ammonia molecule.
- iii) Types of air pollutants.

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

- i) Explain bond order, stability and magnetic character of oxygen molecule on the basis of MO diagram.
- ii) a) Draw the crystal structure of NaCl.  
b) What are characteristics of ionic solids ?

## SECTION – II

### (Fundamentals of Organic Chemistry)

1. Choose the correct alternative for **each** of the following : 5

- 1) 1,4 pentadiene is an example of \_\_\_\_\_ diene.
 

a) conjugated	b) isolated
c) cummulated	d) none of these
- 2) Aromaticity is explained by \_\_\_\_\_ rule.
 

a) Phase	b) Hunds
c) Huckel's	d) None of these



- 3) Carbon and hydrogen in an organic compound can be estimated by \_\_\_\_\_ method.
- a) Combustion
  - b) Kjeldahl's
  - c) Carius
  - d) None of these
- 4) The drugs which lower body temperature in fever are \_\_\_\_\_
- a) Antibiotics
  - b) CNS drugs
  - c) Anaesthetics
  - d) Antipyretics
- 5) \_\_\_\_\_ is an example of chromophore.
- a) – N = N –
  - b) – OH
  - c) – Cl
  - d) – NH<sub>2</sub>

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

**10**

- i) What are antidiabetics and antibiotics ?
- ii) Explain Wurtz reaction.
- iii) Classify following compounds into aromatic and antiaromatic compounds with reasons.
  - a) Cyclobutadiene
  - b) Naphthalene.
- iv) How will you convert
  - a) Acetylene into benzene.
  - b) Ethene into bromoethane.
- v) Define :
  - a) Analgesics
  - b) Anaesthetics
- vi) What are qualities of good dye ?
- vii) Define 'drug'. What are antimalerials ?

3. A) Write short notes on **any two** of the following :

**10**

- i) Mechanism of sulphonation of benzene.
- ii) Steps involved in the determination of empirical formula of an organic compound.
- iii) Classification of dyes on the basis of method of applications.



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

10

- i) Discuss the mechanism of dehydration of lower alcohols into alkenes with suitable example. How will you obtain following products from ethylene ?
- |                     |                   |
|---------------------|-------------------|
| a) Ethane           | b) Ethylene oxide |
| c) Formaldehyde     | d) Ethyl alcohol  |
| e) Ethylene glycol. |                   |

- ii) Describe Carius method for the estimation of sulphur in an organic compound.

In an estimation of sulphur by Carius method  $0.24 \times 10^{-3}$  kg of an organic compound gave  $0.175 \times 10^{-3}$  kg of barium sulphate. Find the percentage of sulphur in the compound.

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**B.Sc. I (Semester – I) (Entrepreneurship) Examination, 2015**  
**(C.G.P.A. Pattern)**  
**INDUSTRIAL MICROBIOLOGY – I**

Day and Date : Monday, 2-11-2015  
Time : 10.30 a.m. to 1.00 p.m.

Max. Marks : 70

- Instructions:**
- 1) **All questions are compulsory.**
  - 2) **Figures to the right indicate full marks.**
  - 3) **Answers to the both Sections should be written in separate answerbooks.**

**SECTION – I**  
**(Fundamentals of Microbiology)**

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

5

- i) \_\_\_\_\_ type of ribose is present in procaryotic cell.  
a) 50s                      b) 30s                      c) 80s                      d) 70s
- ii) Moist heat is used in sterilization by  
a) Autoclave              b) Hot air oven              c) Burning                      d) U.V. rays
- iii) \_\_\_\_\_ is involved in motility of bacteria.  
a) Pili                      b) Capsule                      c) Flagella                      d) Cell wall
- iv) Teichoic acid is present in cell wall of \_\_\_\_\_ bacteria.  
a) Gram negative                      b) Gram positive  
c) Mycoplasma                      d) Both a and b
- v) \_\_\_\_\_ requires living media for growth.  
a) Viruses                      b) Bacteria                      c) Protozoa                      d) Fungi



2. Answer **any five** of the following : 10
- i) Contribution of John Tyndall.
  - ii) Define disinfection.
  - iii) Functions of cell membrane.
  - iv) Types of bacteria by Morphology.
  - v) Germicides.
  - vi) What is synchronous growth ?
  - vii) Define Dairy Microbiology.
3. A) Write short notes on **any two** of the following : 10
- i) Contribution of Louis Pasteur.
  - ii) Sterilization by autoclave.
  - iii) Describe the growth phases of bacteria.
- B) Answer **any one** of the following : 10
- i) Describe in detail cell wall of bacteria.
  - ii) Describe sterilization by chemical agent.

## SECTION – II

### (Basic Techniques in Microbiology)

1. Rewrite the following sentences by selecting correct answers from given alternatives. 5
- i) Bacteria are observed under \_\_\_\_\_ objective of compound microscope.  
a) 10 x                      b) 5x                      c) 45 x                      d) 100 x
  - ii) \_\_\_\_\_ is an example of differential media.  
a) Peptone water                      b) Nutrient broth  
c) Nurién agar                      d) Mac Conkey's agar



- iii) \_\_\_\_\_ is primary stain in Gram staining.
- |                   |                  |
|-------------------|------------------|
| a) Crystal violet | b) Basic fuchsin |
| c) Alcohol        | d) Grams Iodine  |
- iv) \_\_\_\_\_ is used for cell enumeration.
- |                            |                  |
|----------------------------|------------------|
| a) Neubauer's chamber      | b) Calibrater    |
| c) Chromatographic chamber | d) Refractometer |
- v) \_\_\_\_\_ is acting as source of nitrogen in culture media.
- |            |             |
|------------|-------------|
| a) Glucose | b) Lactose  |
| c) Peptone | d) Dextrose |

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

- i) Applications of fluorescent microscope.
- ii) Classification of stains.
- iii) What is SPC ?
- iv) Define natural media.
- v) What is use of Agar Agar in culture media ?
- vi) Define Negative staining.
- vii) What is DMC ?

3. A) Write short notes on **any two** of the following : **10**

- i) Gram staining.
- ii) Semisynthetic media.
- iii) Membrane filter technique.

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

- i) Describe in detail bright field Microscope.
  - ii) Describe in detail isolation techniques.
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**B.Sc. – I (Sem. – I) (Entrepreneurship) (CGPA Pattern) Examination, 2015  
INDUSTRIAL BIOTECHNOLOGY (Paper – I)**

Day and Date : Tuesday, 3-11-2015  
Time : 10.30 a.m. to 1.00 p.m.

Max. Marks : 70

- N. B. :** 1) Figures to the **right** indicate **full** marks.  
2) **Each** section includes **four** questions.  
3) **All** the questions in **each** section are **compulsory**.  
4) **Draw** a neat, well labelled diagram **wherever** necessary.  
5) **Each** section should be attempted on **separate** answer book.

**SECTION – I  
(Cell Biology)**

**35**

1. Rewrite the answer by choosing **one** of the correct alternatives.

**5**

- 1) \_\_\_\_\_ contain hydrolytic enzymes.  
a) Rough ER    b) Chloroplast    c) Mitochondria    d) Lysosomes
- 2) Plant cells differ from animal cells due to the presence of \_\_\_\_\_.  
a) Mitochondria    b) ER    c) Cell wall    d) Lysosomes
- 3) Chromosome having terminal centromere is called \_\_\_\_\_.  
a) Acrocentric    b) Telocentric  
c) a) and b) both    d) Metacentric
- 4) \_\_\_\_\_ takes place in chloroplast.  
a) Oxidative phosphorylation    b) Respiration  
c) Transpiration    d) Photophosphorylation
- 5) Endoplasmic reticulum that bear ribosomes is called \_\_\_\_\_.  
a) rough ER    b) smooth ER  
c) agranular ER    d) cytoplasmic ER



2. Answer **any five** of the following : 10
- i) Write any two functions of endoplasmic reticulum.
  - ii) Define chromosome and enlist types of chromosomes based on presence of centromere.
  - iii) Differentiate between prokaryotic and eukaryotic cell (any 2 differences).
  - iv) Explain in one statements types of plastid (any 2).
  - v) Draw a well labelled diagram of Golgi complex.
  - vi) What are lysosomes ? Mention some of the enzymes involved in it.
  - vii) Define simple diffusion and give an example of it.

3. Write short notes on **any two** of following : 10
- i) Membrane transport
  - ii) Chemical nature and structure of genetic material
  - iii) Mitosis.

4. Answer **any one** of the following : 10
- i) Give a detailed account on meiosis.
  - ii) Describe structure and functions of plant cell wall.

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

35

1. Rewrite answer by choosing **one** of the correct alternatives. 5
- 1) Rubisco enzyme plays important role in \_\_\_\_\_  
a) photosynthesis                      b) respiration  
c) transpiration                        d) phosphorylation
  - 2) Which one of following is C4 plant ?  
a) Sugarcane    b) Mango        c) Hibiscus        d) Pea
  - 3) \_\_\_\_\_ is a basic element for growth.  
a) Helium        b) Iron            c) Calcium        d) Carbon





- 4) Non-medulated neurons are found in \_\_\_\_\_ nervous system.  
a) central            b) peripheral    c) autonomous    d) all
- 5) Fat is stored in \_\_\_\_\_ tissue.  
a) areolar            b) adipose        c) bone              d) cartilage

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

- i) Draw a well labelled diagram of photosynthetic apparatus.
- ii) Define plant tissue culture and mention an application of it.
- iii) Differentiate between C3 and C4 plants (any 2 differences).
- iv) Explain the functional types of neuron.
- v) What are the functions of muscular tissue ?
- vi) State the role of oxygen in growth of animal.
- vii) Draw a labelled diagram of V.S. of skin.

3. Write short notes on **any two** of following : **10**

- i) Crassulaceun Acid Metabolism (CAM)
- ii) Haversian canal system
- iii) Structure of pancreas.

4. Answer **any one** of the following : **10**

- i) Describe photosynthesis with respect to the reactions and process in photosystems, photophosphorylation.
  - ii) Describe the structure and functions of different types of binding and supportive connective tissue.
-







B) Answer **any two** of the following in brief : **4**

- 1) As Sam Thomas, Secretary of the Press Club of India, write a notice informing the Club's members about its annual meeting scheduled to be held in No. 3, Barakhamba Road, New Delhi, on 6 December 2014 from 10 a.m. to 1 p.m. Also invite the members to lunch in the Club's reception hall.
- 2) Prepare an agenda for the above mentioned meeting.
- 3) Suppose the above mentioned meeting was held as per the schedule. You are the secretary of the club. Prepare the minutes of the same meeting.

4. Answer **one** of the following questions : **10**

- 1) You are the secretary of the Bharat Sports Club in your town. The meeting of the office bearers of the club is scheduled for the 15<sup>th</sup> of next month. Prepare an agenda for the meeting and then draft the minutes of the meeting.
- 2) You are Prerana Pai living at 24, Marigold Apartment, Indira Nagar, Bengaluru and you have just received a letter of appointment as Assistant Executive in the accounts department of Samtron Industries, 124, Shubham Complex, M.G. Road, Bengaluru. Write an email to inform your confirmation to join the same company within given time.

5. You wish to apply for the post of an Executive Human Resource Manager in Infosys Company. Prepare a CV for the said post. **10**

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Seat No.	
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**B.Sc. (Entrepreneurship) Semester – II (Old) Examination 2015**  
**Entrepreneurship (Paper – III)**  
**PRINCIPLES OF MARKETING AND MANAGEMENT ACCOUNTING**

Day and Date : Friday, 6-11-2015

Total Marks : 50

Time : 10.30 a.m. to 12.30 p.m.

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

Multiple Choice Questions.

10

1. 1) Which one out of the following is not an inventory valuation method ?
  - a) LIFO
  - b) FIFO
  - c) Weighted Average
  - d) EOQ
- 2) Labour turnover means :
  - a) Turnover generated by labour
  - b) Rate of change in composition of labour force during a specified period
  - c) Either of the above
  - d) Both of the above
- 3) Costs associated with the labour turnover can be categorised into :
  - a) Preventive costs only
  - b) Replacement costs only
  - c) Both of the above
  - d) Machine costs
- 4) Overhead refers to :
  - a) Direct or prime cost
  - b) All indirect costs
  - c) Only Factory indirect costs
  - d) Only indirect expenses
- 5) Which of the following is not a reason for an idle time variance ?
  - a) Wage rate increase
  - b) Machine breakdown
  - c) Illness or injury to worker
  - d) Non-availability of material
- 6) \_\_\_\_\_ is also known as working capital ratio.
  - a) Current ratio
  - b) Quick ratio
  - c) Liquid ratio
  - d) Debt-equity ratio



- 7) When the sales increase from Rs. 40,000 to 60,000 and profit increases by Rs. 5,000, the and p/v ratio is  
a) 20%                      b) 30%                      c) 25%                      d) 40%
- 8) \_\_\_\_\_ is one of the limitations of marketing research.  
a) Sample    b) Sample method  
c) Environment    d) All the above
- 9) \_\_\_\_\_ is also known as marketing segmentation.  
a) Area of marketing    b) Manager  
c) Owner    d) Customer
- 10) Number of buyers and Number of seller gathered of one place that called  
a) Market                      b) Selling                      c) Marketing                      d) All the above

2. Solve **any five** from the following : **10**
- 1) Net profit ratio.
  - 2) Benefits of Market.
  - 3) What is meant by selling ?
  - 4) Concept of accounting.
  - 5) What is meant by Marketing ?
  - 6) Introduce any two Marketing Company.
  - 7) Meaning of Marketing research.
3. A) Short note on **any two** : **6**
- 1) Nature of Marketing.
  - 2) Net Profit ratio.
  - 3) Advantages of segmentation.
- B) Scope of Marketing Research. **4**
4. Answer **any two** of the following : **10**
- 1) Importance of Marketing Research.
  - 2) Nature of accounting.
  - 3) Criteria of Market segmentation.
5. Answer **any one** of the following : **10**
- 1) Marketing research process.
  - 2) Nature and Scope of accounting.
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Seat No.	
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**B.Sc. I (Semester – II) Examination, 2015**  
**Entrepreneurship (Paper – IV) (Old)**  
**COST ACCOUNTING AND PROJECT MANAGEMENT**

Day and Date : Saturday, 7-11-2015

Max. Marks : 50

Time : 10.30 a.m. to 12.30 p.m.

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

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

10

i) Cost of Production =

a) Factory Cost + Office Cost

b) Factory Cost – Office Cost

c) Prime Cost + Factory Cost

d) None of these

ii) Operation Costing is useful for

a) Transport

b) Power Generation

c) Both a and b

d) None of these

iii) Imputed cost is a

a) Differential Cost

b) Fixed Cost

c) Variable Cost

d) National Cost

iv) Service Costing is used in

a) Hotel

b) Hospital

c) Tourism

d) All the above

v) Builder/Developers used

a) Operation Costing

b) Contract Costing

c) Job Costing

d) Batch Costing



vi) LSI denote for

- a) Large Scale Industry
- b) Low Standard Industry
- c) Both a and b
- d) None of these

vii) Direct Labour Wages is

- a) Direct Cost
- b) Indirect Cost
- c) Both a and b
- d) All the above

viii) Salary to staff include in

- a) Administrative Cost
- b) Factory Cost
- c) Service Cost
- d) None of these

ix) PM stands for

- a) Prime Management
- b) Project Management
- c) Program Management
- d) Product Management

x) Cost Accounting is one of the Sub-Division of

- a) Management Accounting
- b) Cost Accounting
- c) Estimate Accounting
- d) None of these

2. Answer in short (any 5) :

10

- i) Job Costing.
- ii) What is meant by Cost ?
- iii) Write the example of Direct and Indirect Cost.
- iv) Write down Service Costing.
- v) Write note on Project.
- vi) Object of Cost Accounting.





3. a) Answer in brief (**any 2**) : **6**
- i) Write note on scope of SSI.
  - ii) Explain elements of cost.
  - iii) Define project selection process.
- b) Explain contract costing and Batch Costing. **4**
4. Describe **any two** of the following : **10**
- i) What do you mean by Project Reports and explain its contents ?
  - ii) Explain the role of SSI.
  - iii) Explain the characteristics of Cost Accounting.
5. Answer **any two** of the following : **10**
- i) Write down relationship of small and large unit.
  - ii) Explain the features of Job cost sheet.
  - iii) Write note on Project Management.
-





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**B.Sc. – I (Semester – II) (Entrepreneurship) Examination, 2015**  
**INDUSTRIAL CHEMISTRY (Paper – III) (Old)**  
**Fundamentals of Physical Chemistry**

Day and Date : Monday, 16-11-2015  
Time : 10.30 a.m. to 12.30 p.m.

Max. Marks : 50

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

1. Choose the most correct alternative from among those given below : **10**

1) Normality of a solution is the number of \_\_\_\_\_ of solute per litre the solution.

- a) moles  
b) equivalents  
c) formula weight  
d) mole fraction

2) The rate of chemical reaction depends upon \_\_\_\_\_

- a) Concentration  
b) Temperature  
c) Pressure  
d) All of these

3) A liquid rises in a capillary tube. It is due to \_\_\_\_\_

- a) Viscosity  
b) Osmosis  
c) Effusion  
d) Surface tension

4) The ideal gas equation for n moles is \_\_\_\_\_

- a)  $PV = RT$   
b)  $PT = nRV$   
c)  $PV = nRT$   
d)  $PV = \frac{nR}{T}$

5) The weight percent of solute in a solution is given by \_\_\_\_\_

- a)  $\frac{\text{Wt of solute}}{\text{Wt of solvent}} \times 100$   
b)  $\frac{\text{Wt of solvent}}{\text{Wt of solute}} \times 100$   
c)  $\frac{\text{Wt of solute}}{\text{Wt of solution}} \times 100$   
d)  $\frac{\text{Wt of solution}}{\text{Wt of solute}} \times 100$





3. A) Answer **any two** of the following : **6**
- i) Mention characteristics of first order reaction.
  - ii) Explain factors affecting the rate of reaction.
  - iii) Define the terms – Critical temperature, Critical pressure and Critical volume.
- B) A second order reaction with equal initial concentration of reactants is half completed in 60 min. In how much time it will be 70% completed. **4**
4. Answer **any two** of the following : **10**
- i) Explain how parachor can be used to determine the structure of quinone and –NO<sub>2</sub> group.
  - ii) Derive the expression for velocity constant of first order reaction.
  - iii) Write on determination of viscosity by Ostwald's viscometer.
5. Answer **any two** of the following : **10**
- i) Discuss Andrew's isotherms.
  - ii) Explain pseudo unimolecular reaction by taking a suitable example.
  - iii) Describe drop-weight method for determination of surface tension.
-



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**B.Sc. I (Semester – II) Entrepreneurship (Old) Examination, 2015**  
**INDUSTRIAL CHEMISTRY**  
**Fundamentals of Analytical Chemistry (Paper – IV)**

Day and Date : Tuesday, 17-11-2015

Max. Marks : 50

Time : 10.30 a.m. to 12.30 p.m.

- Instructions:** I) **All** questions are **compulsory**.  
II) Draw **neat** diagrams and give 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 :

10

- 1) Efficiency of heat engine is always
  - a) less than one
  - b) greater than one
  - c) equal to one
  - d) all of these
- 2) The process that occurs of its own accord is called \_\_\_\_\_ process.
  - a) Non-spontaneous
  - b) Spontaneous
  - c) Adiabatic
  - d) Isothermal
- 3) Based on the origin the polymers are grouped into \_\_\_\_\_ and \_\_\_\_\_ polymers.
  - a) Homo and hetero
  - b) Homo and addition
  - c) Synthetic and natural
  - d) All of these
- 4) The polymer which is become softer on heating and harden on cooling is called \_\_\_\_\_ polymer.
  - a) Thermocouple
  - b) Rubber
  - c) Elaster
  - d) Thermosetting



- 5) \_\_\_\_\_ is used to increase the percentage of fat in milk.  
a) Starch                      b) NaCl                      c) Gum                      d)  $\text{CaCl}_2$
- 6) \_\_\_\_\_ is used as antacid in medicine.  
a)  $\text{Mg}(\text{OH})_2$                       b)  $\text{Ca}(\text{OH})_2$                       c) NaOH                      d)  $\text{MgCO}_3$
- 7) \_\_\_\_\_ has zero octane number.  
a) n-Hexane    b) n-Heptane  
c) Iso-octane    d) Iso-heptane
- 8) In case of cyclic process, equation is  
a)  $q = -w$                       b)  $q = w$                       c)  $-q = w$                       d)  $\Delta E = W$
- 9) Refining of petroleum is based on  
a) simple distillation    b) steam distillation  
c) fractional distillation    d) none of these
- 10) No machine has \_\_\_\_\_ efficiency.  
a) 0%                      b) 99%                      c) 100%                      d) 50%

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

10

- 1) Explain the role of cis-platin as a medicine.
- 2) What do you understand by the term enthalpy ?
- 3) What are the constituents of petroleum ?
- 4) Define with suitable example :  
a) Monomer                      b) Polymer.
- 5) State and explain Kirchoff's equation.
- 6) What is meant by desalination ?

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

6

- 1) Describe efficiency of carot cycle.
- 2) Explain in brief strain run and gasoline.
- 3) Explain the types of water.

B) Explain the chemical composition of milk in various species.

4



4. Write short note on **any two** : **10**
- 1) Second law of thermodynamic
  - 2) Nylon – 66
  - 3) Types of fuels.
5. Answer **any two** of the following : **10**
- 1) Explain reforming and hydroforming process of fuels.
  - 2) Explain the role of  $\text{Na}_2\text{CO}_3$ ,  $\text{Al}(\text{OH})_3$  as antacid.
  - 3) Distinguish between spontaneous and non-spontaneous processes.
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**B.Sc. – I (Semester – II) (Old) (Entrepreneurship) Examination, 2015  
INDUSTRIAL MICROBIOLOGY (Paper – III)  
Fundamentals of Microbiology**

Day and Date : Wednesday, 18-11-2015  
Time : 10.30 a.m. to 12.30 p.m.

Max. Marks : 50

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

1. Rewrite the sentences by selecting correct answer from the given alternatives : **10**

- Basic principle in industrial microbiology is \_\_\_\_\_
  - Fermentation
  - Providing aseptic conditions
  - Suitable growth condition
  - Suitable growth culture
- Over heating of fermentor during fermentation is controlled by \_\_\_\_\_
  - Steam
  - Cool air
  - Cooling jacket
  - Sparger
- For thorough mixing of medium and inoculum the part of fermentor useful is
  - Shaft
  - Headspace
  - Impeller
  - Sparger
- Molasses and corn steep liquor are the rich source of \_\_\_\_\_
  - Proteins
  - Vitamins
  - Carbohydrates
  - C, N and Minerals
- Upto the production of desirable product in the fermenter is called as \_\_\_\_\_ process.
  - Surface fermentation
  - Up stream
  - Down stream
  - Recycling
- If more than one micro-organisms are used to obtain the required product, that type of fermentation is called
  - Batch
  - Continuous
  - Dual
  - Fed-batch
- Addition of inoculum to the fermentation medium is \_\_\_\_\_
  - Pitching
  - Inoculation
  - Incubation
  - Sterilization





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**B.Sc. I (Semester – II) (Entrepreneurship) (Old) Examination, 2015**  
**INDUSTRIAL MICROBIOLOGY (Paper – IV)**  
**Basic Techniques in Microbiology**

Day and Date : Thursday, 19-11-2015  
Time : 10.30 a.m. to 12.30 p.m.

Max. Marks : 50

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

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

10

- i) Selection of auxotrophic mutant is done by \_\_\_\_\_ technique.  
a) Pour plate      b) Penicillin      c) Spread plate      d) Streak plate
- ii) Biomass is separated from fermentation mash by  
a) Filtration      b) Precipitation      c) Drying      d) Distillation
- iii) *S. aureus* is used as test organism for \_\_\_\_\_ bioassay.  
a) Ethanol      b) Citric acid      c) Penicillin      d) Xanthan
- iv) Genetic recombination is used for strain \_\_\_\_\_  
a) Destruction      b) Screening      c) Isolation      d) Improvement
- v) Phosphoric acid is used for recovery of \_\_\_\_\_  
a) Penicillin      b) Ethanol      c) Vit B<sub>12</sub>      d) Lysine
- vi) Agar cup method is used for \_\_\_\_\_ assay.  
a) Enzymatic      b) Physical      c) Chemical      d) Diffusion
- vii) \_\_\_\_\_ is used as mutagenic agent.  
a) Acridine dyes      b) H<sub>2</sub>SO<sub>4</sub>      c) HCl      d) NaOH

P.T.O.



- viii) If product is extracellular, then \_\_\_\_\_ is taken for recovery.  
a) Biomass      b) Sediment      c) Filtrate      d) None of these
- ix) Growth enhancement zones are observed during \_\_\_\_\_ assay.  
a) Antibiotic      b) Organic acid      c) Vit B<sub>12</sub>      d) Biopolymer
- x) Conversion of digital to analogue and analogue to digital is done by  
a) Interface      b) Voltmeter      c) Sensor      d) Ampere

2. Answer **any five** of the following : **10**
- i) List the chemical mutagens.
  - ii) Define Enzymatic assay.
  - iii) List the solvents used for product recovery.
  - iv) Enzymes in Gene manipulation.
  - v) Define production strain.
  - vi) Define inoculum media.
3. A) Answer **any two** of the following : **6**
- i) Strain improvement by U.V. rays.
  - ii) Recovery of product by distillation.
  - iii) Inoculum development.
- B) Describe the computer control of fermentation process. **4**
4. Answer **any two** of the following : **10**
- i) Strain improvement by Gene manipulation.
  - ii) Recovery by solvent extraction.
  - iii) Chemical assay.
5. Answer **any one** of the following : **10**
- i) Describe in detail microbial assay.
  - ii) Write an essay on scale up of fermentation process.
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**B.Sc. – I (Semester – II) Entrepreneurship Examination, 2015**  
**INDUSTRIAL BIOTECHNOLOGY (Old)**  
**Basic Biomolecules (Paper – III)**

Day and Date : Friday, 20-11-2015  
Time : 10.30 a.m. to 12.30 p.m.

Max. Marks : 50

**N.B. :** 1) **All questions are compulsory.**  
2) Draw **neat** labelled diagram **wherever** necessary.

1. Rewrite the following sentences by choosing correct alternatives : **10**

- 1) Triacylglyceride is \_\_\_\_\_ fat.  
A) Acidic  
B) Basic  
C) Neutral  
D) Alcoholic
- 2) \_\_\_\_\_ is secretory hormone responsible for lactation.  
A) Insulin  
B) Melanin  
C) Estrogen  
D) Prolactin
- 3) \_\_\_\_\_ is water soluble Vitamin.  
A) Vit. C  
B) Vit. A  
C) Vit. K  
D) Vit. D
- 4) Fibrous protein consist \_\_\_\_\_  
A)  $\alpha$  helix  
B)  $\beta$  sheets  
C) Turns  
D) None of above
- 5) Sucrose is composed from \_\_\_\_\_  
A) Glucose-Glucose  
B) Glucose-Fructose  
C) Fructose-Fructose  
D) Glucose-Galactose
- 6) The inorganic element required for enzyme activity is called as \_\_\_\_\_  
A) Coenzyme  
B) Cofactor  
C) Apoenzyme  
D) Prosthetic group
- 7) \_\_\_\_\_ lipid abundantly present in cell membrane.  
A) Phospholipid  
B) Fats  
C) Wax  
D) Cerebrosides

P.T.O.







- 8) Electron transport between cytochrome b & c is blocked by \_\_\_\_\_
  - a) Streptomycin
  - b) Antimycin A
  - c) Kanamycin
  - d) Gentamycin
- 9) The chemiosmotic hypothesis of coupling of ETC & Oxidative phosphorylation proposed by \_\_\_\_\_
  - a) Peter mitcherl
  - b) Emden Mayerhoff
  - c) Krebs
  - d) Fluid Mosaic
- 10) Movement of molecules across cell membrane in the direction against concentration gradient is the \_\_\_\_\_ transport.
  - a) Opposite
  - b) Forced
  - c) Active
  - d) Passive

2. Answer **any five** of the following. **10**
- 1) Define glycolysis.
  - 2) Explain autotrophs with example.
  - 3) Add a note on ATP.
  - 4) Define metabolism.
  - 5) Explain structure of mitochondria.
  - 6) Explain voltage gated channels with example.
3. A) Answer **any two** of the following. **6**
- 1) Write a note on classification of transporter.
  - 2) Explain in detail HMP pathway.
  - 3) Write in brief high energy phosphate compound.
- B) Explain in detail EMP pathway. **4**
4. Answer **any two** of the following. **10**
- 1) Describe in detail Glyoxilate cycle.
  - 2) Write an essay on Biotransformation of xenobiotics.
  - 3) Write in detail regarding Toxicity.
5. Answer **any one** of the following. **10**
- 1) Write an essay on TCA cycle.
  - 2) Write an essay on Phosphorylation.
- \_\_\_\_\_





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**B.Sc. (Entrepreneurship) (Semester – II) Examination, 2015**  
**ENGLISH COMPULSORY (New CGPA Pattern)**  
**On Track : English Skills for Success**

Day and Date : Thursday, 5-11-2015  
Time : 10.30 a.m. to 1.00 p.m.

Max. Marks : 70

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

1. Rewrite the following sentences by choosing the correct alternative given below **each** : **14**
- 1) Wernher von Braun advised Dr. A.P.J Abdul Kalam to make rocketry his mission and \_\_\_\_\_  
a) Profession      b) Glory      c) Religion      d) Division
  - 2) To succeed in any mission, says Dr. Kalam, one needs \_\_\_\_\_  
a) Single handed victory      b) Single man's devotion  
c) Single attempt success      d) Single minded devotion
  - 3) The Parliament of religions was to be held in \_\_\_\_\_  
a) America      b) Singapore  
c) Canada      d) South Africa
  - 4) When did Vivekanand leave Bombay ?  
a) On September 11, 1893      b) On May 31, 1893  
c) On May 15, 1893      d) On June 5, 1893
  - 5) The Lusaka Zoo presents \_\_\_\_\_ as the World's most dangerous animal.  
a) Man      b) Woman  
c) Carnivorous animals      d) Reptiles



- 6) The main reason of the serious economic problems of the majority is \_\_\_\_\_  
a) Famine                      b) Negligence                      c) Drought                      d) Ignorance
- 7) Brahma is a Hindu deity who is responsible for \_\_\_\_\_  
a) The creation of the World                      b) The maintenance of the world  
c) The destruction of the World                      d) The rules of governing the World
- 8) The poem “Brahma” displays the influence of \_\_\_\_\_ on Emerson.  
a) The Vedas                      b) The Upanishads  
c) The Geeta                      d) The Puranas
- 9) The people on whose graves the full moon shines were \_\_\_\_\_  
a) Poor people                      b) Simple people  
c) Superstitious people                      d) Moon-dependent people
- 10) Today the moon is merely an attraction for \_\_\_\_\_  
a) The poets                      b) The children  
c) The lovers                      d) The scientists
- 11) The gentleman would not drink \_\_\_\_\_ tea without your company.  
a) my                      b) her                      c) our                      d) his
- 12) \_\_\_\_\_ are the European people.  
a) English                      b) The English                      c) An English                      d) The english
- 13) The \_\_\_\_\_ refused to admit him in the science stream.  
a) Principle                      b) Principal                      c) Prince                      d) Princess
- 14) Who won the race ? The \_\_\_\_\_ or the tortoise ?  
a) here                      b) hair                      c) hare                      d) heir

2. Answer **any seven** of the following questions in **two to three** sentences **each** : **14**

- 1) What kind of personality was Von Braun, according to Dr. Kalam ?
- 2) What happened to the first V-Z missile when it was first tested ?
- 3) Who were the other Indians present at the Parliament of Religions ?
- 4) Where did Swami Vivekanand leave for and why ?



- 5) Human rights are against the government. How ?
- 6) What message does the poem “Brahma” leave for us ?
- 7) What is the theme of the poem “Full Moon” ?
- 8) Is the moon depicted as a challenge or a threat or a comfort in the poem ?

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

- 1) Summarise the points of advice that Von Braun gave Dr. Kalam.
- 2) How was Vivekananda’s speech at the Parliament of Religions different from those of the other speakers ? How did it create a magic on the occasion ?
- 3) Examine Palkhivala’s evaluation of the current status of human rights in the World.

B) Answer **any two** of the following questions briefly : **6**

- 1) What is a notice ?
- 2) What are the aspects of a good CV ?
- 3) What is an e-mail ?

4. You are Anne Jacob, a graduate in Chemical Engineering from the NIT Warangal. You have three years experience as an assistant project engineer with a fertilizer company. Write an email application letter in response to an advertisement for the post of Project Engineer in a well-known Petrochemical Company. Refer only briefly to your educational qualifications and work experience in the body of the letter and say that you are attaching your C.V. and testimonials for the company’s reference. **14**

OR

You are the principal of the Arya College of Arts and Science, Lucknow. Prepare an agenda for a meeting with the head of the English department and the secretary and the treasurer of the college’s literary association. The meeting has been called to discuss the venue, date, time.

5. Write a suitable C.V. for the post of lecturer in the Senior College in English subject. **14**

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**B.Sc. – I (Semester – II) (C.G.P.A. Pattern) Examination, 2015**  
**ENTREPRENEURSHIP (Paper – II) (New)**  
**Section – I (Principles of Marketing and Management Accounting)**  
**Section – II (Cost Accounting and Project Management)**

Day and Date : Friday, 6-11-2015  
Time : 10.30 a.m. to 1.00 p.m.

Max. Marks : 70

- N.B. :** 1) *All questions are **compulsory**.*  
2) *Figures to the **right** indicate **full** marks.*  
3) *Answer to the **two** Sections should be written on the **separate** answer books.*

SECTION – I

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

5

- 1) Which of the following is not an internal user of management information ?
  - a) Creditor
  - b) Department manager
  - c) Controller
  - d) Treasure
- 2) Internal reports are generally \_\_\_\_\_
  - a) Aggregated
  - b) Detailed
  - c) Regulated
  - d) Unreliable
- 3) \_\_\_\_\_ is the function of Business Marketing.
  - a) Innovation
  - b) Feedback
  - c) Service
  - d) Money
- 4) Area of marketing research \_\_\_\_\_
  - a) Price
  - b) Product and distribution channel
  - c) Advertising
  - d) All the above

P.T.O.



5) NPR stands for \_\_\_\_\_

- |                          |                      |
|--------------------------|----------------------|
| a) National Profit Ratio | b) Net Profit Ratio  |
| c) Natural Profit Ratio  | d) Near Profit Ratio |

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

- i) Write down nature of marketing.
- ii) Define environment.
- iii) Meaning of marketing segmentation.
- iv) What is meant by management ?
- v) What is meant by research ?
- vi) Write down type of ratio.

3. A) Write short notes on **any two** of the following : **10**

- i) Write down benefits of market segmentation.
- ii) Explain the nature and scope of management account.
- iii) Explain the internal force and external force.

B) Write answer **any one** of the following : **10**

- i) What do you mean by marketing research ? Write down advantages and limitations of marketing research.
- ii) Explain nature, need and importance of environment analysis.

### SECTION – II

1. Rewrite the following sentences by selecting correct answers from given alternatives : **5**

1) Costs includes in inventory values are known as \_\_\_\_\_

- |            |             |
|------------|-------------|
| a) Product | b) Price    |
| c) Market  | d) Planning |

2) The methods used for the calculation of cost per unit are known as

- |                    |                      |
|--------------------|----------------------|
| a) Costing methods | b) Costing procedure |
| c) Costing system  | d) None of these     |



- 3) Cost of production is \_\_\_\_\_
- a) Factory cost + administration overhead
  - b) Factory cost + prime cost
  - c) Prime cost + factory cost
  - d) Prime cost + factory overheads
- 4) MP stands for \_\_\_\_\_
- a) Market Potential
  - b) Management Process
  - c) Money Project
  - d) Material Project
- 5) An \_\_\_\_\_ cost is the advantage foregone.
- a) Threats
  - b) Opportunity
  - c) Strength
  - d) Weakness

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

- i) Define cost and price value.
- ii) What do you mean by project report ?
- iii) What is meant by working capital ?
- iv) What do you mean by cost accounting ?
- v) Meaning of small enterprises.
- vi) What is meant by job costing ?

3. A) Write short notes on **any two** of the following : **10**

- i) Explain the concept of entrepreneurship.
- ii) Explain the characteristics of cost accounting.
- iii) Write down process of project development.

B) Write answer **any one** of the following : **10**

- i) Define project. Explain types of project and contents of project report.
  - ii) Explain the role and scope of small scale industries.
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**B.Sc. (Part – I) (Semester – II) Examination, 2015**  
**ENTREPRENEURSHIP (New) (CGPA Pattern)**  
**Industrial Chemistry (Paper – II)**

Day and Date : Saturday, 7-11-2015

Total Marks : 70

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

- 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)**

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

**5**

- i) The unit of second order rate constant is  
a) mole dm<sup>-3</sup> s<sup>-1</sup>                      b) dm<sup>3</sup> mole<sup>-1</sup> s<sup>-1</sup>  
c) s<sup>-1</sup>                                      d) s
- ii) Van der Waals equation is applicable for  
a) mixture of gases                      b) real gas  
c) ideal gas                                      d) none of these
- iii) \_\_\_\_\_ is an extensive property.  
a) Mass                      b) Density                      c) Refractive index                      d) Viscosity
- iv) The temperature at which a real gas shows ideal behavior is known as \_\_\_\_\_ temperature.  
a) critical                      b) boyle                      c) reduced                      d) inversion
- v) The order of a chemical reaction may be  
a) zero                      b) integral                      c) half integral                      d) all of these



2. Answer **any five** of the following : **10**
- a) Define molecularity of a reaction.
  - b) What do you mean by parachor ?
  - c) Give the statement for Joule-Thomson effect.
  - d) What do you understand by the term stoichiometry ?
  - e) Define surface tension.
  - f) What are the causes of deviations of gases from ideal behavior ?
  - g) Give one example of zero order reaction.
3. A) Write short notes on **any two**. **10**
- i) Characteristics of second order reaction.
  - ii) Joule Thomson effect.
  - iii) Mole fraction and atomic fraction.
- B) Answer **any one** of the following : **10**
- i) Discuss in detail Ostwald's method of determination of coefficient of viscosity.
  - ii) Explain various factors that affect the rate of chemical reaction.

## SECTION – II

**(Fundamentals of Analytical Chemistry)**

1. Select the most correct alternative from given below and rewrite the sentences. **5**
- i) The process that of its own accord is called
    - a) non-isothermal
    - b) isothermal
    - c) non-spontaneous
    - d) spontaneous
  - ii) \_\_\_\_\_ is the best known vulcanizing agent.
    - a) Chlorine
    - b) Nitrogen
    - c) Sulphur
    - d) All of these
  - iii) The refining of petroleum is based on \_\_\_\_\_ distillation.
    - a) Steam
    - b) Fractional
    - c) Water bath
    - d) Oil bath
  - iv) Hot reservoir represents
    - a) source
    - b) sink
    - c) both a and b
    - d) none of these
  - v) \_\_\_\_\_ inorganic compound used as medicine.
    - a)  $Mg(OH)_2$
    - b)  $Ca(OH)_2$
    - c)  $MgOH$
    - d)  $NaOH$





2. Answer **any five** of the following : **10**
- a) Define the calorific value and heating value.
  - b) What is meant by desalination ?
  - c) What is the composition of milk of the species like cow and buffalo ?
  - d) Define monomer and polymer.
  - e) Define octane number and flash point.
  - f) Explain in brief, heat of decomposition.
  - g) Explain in brief vulcanisation.
3. A) Answer **any two** of the following : **10**
- i) Write a short note on second law of thermodynamics.
  - ii) Explain in brief, role of inorganic compounds as medicine.
  - iii) Explain with suitable example, linear, branched and cross-linked polymers.
- B) Answer **any one** of the following : **10**
- i) a) Write a note on natural rubber.  
b) Explain heat capacity of engine.
  - ii) What is meant by cracking of fuels and why it is necessary ? Write the different types of cracking.
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**B.Sc. – I (Semester – II) (Entrepreneurship) (CGPA Pattern)  
Examination, 2015  
INDUSTRIAL MICROBIOLOGY (Paper – II) (New)**

Day and Date : Monday, 16-11-2015  
Time : 10.30 a.m. to 1.00 p.m.

Max. Marks : 70

- N.B. :** 1) *All questions are **compulsory**.*  
2) *Figures to the **right** indicates **full** marks.*  
3) *Answers to the **both** Sections should be written in **separate** answer book.*

**SECTION – I  
(Fundamentals of Microbiology)**

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

5

- i) Crowded plate technique is used for primary screening of \_\_\_\_\_ producers.  
a) Vitamin                                      b) Enzyme  
c) Alcohol                                         d) Antibiotic
- ii) \_\_\_\_\_ is used for preservation of cultures.  
a) Lyophilization                              b) Sterilization  
c) Incubation                                     d) Pasteurization
- iii) \_\_\_\_\_ is waste material of sugar industry.  
a) Whey                      b) SWL                      c) CSL                      d) Molasses
- iv) \_\_\_\_\_ is an example of antifoam agent.  
a) Alcohol                      b) HCl                      c) NaOH                      d) Vegetable oil
- v) \_\_\_\_\_ is used for decreasing vortex formation during fermentation.  
a) Sparger                      b) Aerator                      c) Baffle                      d) Mixer



2. Answer **any five** of the following : 10
- i) Define fermentation.
  - ii) What is indicator plate technique ?
  - iii) Define buffer.
  - iv) What is screening ?
  - v) Define crude media.
  - vi) What is Whey ?
  - vii) Define precursors.

3. A) Write short notes on **any two** of the following : 10
- i) Describe the secondary screening.
  - ii) Sterilization of fermentation media.
  - iii) Preservation of industrial important organisms.

- B) Answer **any one** of the following : 10
- i) Describe in detail various raw material used for designing of fermentation media.
  - ii) With diagram describe fermentor and factors affecting on fermentation process.

SECTION – II  
(Basic Techniques in Microbiology)

1. Rewrite the following sentences by selecting correct answers from given alternatives : 5
- i) Recovery of ethanol is done by \_\_\_\_\_
    - a) Distillation
    - b) Precipitation
    - c) Filtration
    - d) Solvent extraction
  - ii) *Staphylococcus aureus* is used for bioassay of \_\_\_\_\_
    - a) Penicillin
    - b) Streptomycin
    - c) Vit. B<sub>12</sub>
    - d) Amylase



- iii) Genetic engineering is used for strain \_\_\_\_\_
  - a) Preservation
  - b) Cultivation
  - c) Improvement
  - d) Sterilization
- iv) Generally \_\_\_\_\_ % of inoculum is added in fermentation media.
  - a) 20 – 30%
  - b) 50 – 60%
  - c) 0 – 1%
  - d) 2 – 5%
- v) Biomass is separated by \_\_\_\_\_ from fermented broth.
  - a) Distillation
  - b) Crystallization
  - c) Filtration
  - d) Precipitation

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

- i) Define diffusion assay.
- ii) What is inoculum ?
- iii) What is meaning of Recovery ?
- iv) Define test organism.
- v) Define mutagenesis.
- vi) Define chemical assay.
- vii) List the precipitating agents used in down stream processing.

3. A) Write short notes on **any two** of the following : 10

- i) Describe the computer control of fermentation process.
- ii) Describe in detail antibiotic assay.
- iii) Describe the scale up of fermentation process.

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

- i) Describe in detail strain improvement methods.
  - ii) Describe various methods used for down stream processing.
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**B.Sc. I (Semester – II) (Entrepreneurship) (CGPA Pattern) Examination, 2015  
INDUSTRIAL BIOTECHNOLOGY(Paper – II) (New)**

Day and Date :Tuesday, 17-11-2015  
Time : 10 .30 a.m. to 1.00 p.m.

Max. Marks : 35+35=70

- N. B. :** 1) **All questions are compulsory.**  
2) Draw a **neat** labelled diagram **wherever** necessary.  
3) Write answer in **two** separate answer sheets for **two** Sections.

**SECTION – I**  
**(Basic Biomolecules)**

1. Rewrite the following sentences by choosing correct alternatives. 5
- 1) \_\_\_\_\_ is a storage polysacchride.  
a) Glucose    b) Cholesterol  
c) Glycogen    d) Peptidoglycan
  - 2) \_\_\_\_\_ is a phospholipid found in membrane but not derived from glycerol.  
a) sphingosine    b) sphingomyelin  
c) cholesterol    d) cerebroside
  - 3) \_\_\_\_\_ is example of -OH containing amino acids.  
a) serine                    b) glycine                    c) proline                    d) cysteine
  - 4) The Inhibitor binds to enzyme-substrate complex such inhibition called as \_\_\_\_\_ inhibition.  
a) Competative    b) Noncompetative  
c) Feedback    d) Uncompetative
  - 5) Beriberi disease caused due to deficiency of \_\_\_\_\_ vitamin.  
a) Riboflavin    b) Niacin  
c) Biotin    d) Thiamin



2. Write **any five** of the following. 10
- i) Active site.
  - ii) Fat soluble vitamins and enlist their function.
  - iii) What are isoenzymes ? Give its example.
  - iv)  $\alpha$  helix as secondary structure.
  - v) State functions of hormones.
  - vi) What are the functions of lipoproteins ?
  - vii) Enlist the monosacchrides with their properties.

3. A) Write **any two** of the following. 10
- 1) Define oligosacchride. Describe in detail disacchrides.
  - 2) Describe in detail classification and nomenclature of enzymes.
  - 3) Describe in detail saturated and unsaturated fatty acids.

- B) Write **any one** of the following. 10
- 1) Write a detailed account on structural level classification of proteins.
  - 2) Describe in detail factors affecting on enzyme activity.

SECTION – II  
(Basic of Metabolism)

1. Rewrite the following sentences by choosing correct alternatives. 5
- 1) Which of the following is known as power house of cell ?
    - a) Nucleus
    - b) Chloroplus
    - c) Mitochondria
    - d) Golgi apparatus.
  - 2) \_\_\_\_\_ of the following require energy during transport.
    - a) Passive transport
    - b) Active transport
    - c) Simple diffusion
    - d) Facilitated diffusion
  - 3) How many ATP molecules are synthesized during Glycolysis in aerobic respiration ?
    - a) 1 ATP
    - b) 10 ATP
    - c) 3 ATP
    - d) 8 ATP



- 4) Phototrophs use \_\_\_\_\_ as energy source.
- a) Organic compound
  - b) Inorganic compound
  - c) Light
  - d) Chemical compound
- 5) The phase – II reaction of biotransformation is also known as \_\_\_\_\_
- a) Oxidative reaction
  - b) Conjugative reaction
  - c) Reductive reaction
  - d) None

2. Write **any five** of the following. **10**

- 1) Define Xenobiotics.
- 2) What is meant by passive transport ?
- 3) Explain the term photosystem.
- 4) Draw a structure of ATP synthase.
- 5) Give difference between cyclic and non-cyclic photophosphorylation.
- 6) Explain role of enzyme in biotransformation.
- 7) Draw a neat labelled diagram of mitochondria.

3. A) Write **any two** of the following. **10**

- 1) Explain in detail Glyoxilate cycle.
- 2) Explain Electron transport system.
- 3) Explain the voltage gated and Ligand gated channels with example.

B) Write **any one** of the following. **10**

- 1) Write in detail biotransformation of xenobiotics.
  - 2) Describe in detail Kreb's cycle.
-







- 8) \_\_\_\_\_ include in rationalisation.
- A) Rational use of money only                      B) Scientific management  
C) Project management                                D) Social responsibility
- 9) The two factor theory of motivation was propounded by
- A) Peter Drucker                                        B) Herzberg  
C) Mc. Gregon    D) Maslow
- 10) \_\_\_\_\_ steps is involved in the organisation.
- A) Determination of activities                      B) Grouping of activities  
C) Delegation of authority                          D) All of these
- 11) \_\_\_\_\_ factor is not including in statistics.
- A) Job analysis    B) Recruitment  
C) Selection    D) Aptitude test
- 12) \_\_\_\_\_ is ordinarily understand as giving of orders or restricting.
- A) Motivation    B) Controlling  
C) Leadership    D) Decision-making
- 13) Management is an art and
- A) Science    B) Economic  
C) Accountancy                                        D) None of these
- 14) \_\_\_\_\_ is not fixed plan under the following.
- A) Policy     B) Budget  
C) Rules    D) Working procedure

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

14

- 1) Give the concept of division of labour.
- 2) What is management ?
- 3) Elements of top management.
- 4) Importance of Business management.
- 5) What is planning ?
- 6) What is organisation ?
- 7) Define decision making.
- 8) Define staffing.
- 9) What is leadership ?



3. A) Attempt **any two** out of three : **10**
- 1) Types of planning.
  - 2) Roles of manager.
  - 3) Discuss the importance of motivation.
- B) Discuss the leadership style. **4**
4. Attempt **any two** out of the following : **14**
- 1) Explain in detail types of organisation.
  - 2) Discuss making process with diagrammatic representation.
  - 3) Discuss functions and qualities of leader.
5. Attempt **any two** out of the following : **14**
- 1) Define staffing and its features.
  - 2) Explain in detail theory of motivation.
  - 3) Methods of staffing. Discuss.
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**B.Sc. – II (Semester – III) (Entrepreneurship) Examination, 2015  
(CGPA Pattern) (New)  
ADVANCED ACCOUNTANCY AND AUDITING (Paper – IV)**

Day and Date : Tuesday, 24-11-2015  
Time : 2.30 p.m. to 5.00 p.m.

Max. Marks : 70

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

1. Rewrite the statement choosing the correct alternative : 14
- 1) A \_\_\_\_\_ is an intangible asset.  
a) Building                      b) Furniture                      c) Goodwill                      d) Cash
  - 2) Provision of taxation is treated as \_\_\_\_\_  
a) As a current liability                      b) As an appropriation of profits  
c) Either a) or b)                      d) None of the above
  - 3) Trading Account is prepared on the basis of \_\_\_\_\_ expenses and incomes.  
a) Other                      b) Revenue                      c) Indirect                      d) Direct
  - 4) Internal Auditor is appointed by \_\_\_\_\_  
a) The Management                      b) The Shareholders  
c) The Government                      d) The Statutory Body
  - 5) Bills payable is \_\_\_\_\_  
a) Long term loan                      b) Current liability  
c) Liquid Asset                      d) Net loss
  - 6) \_\_\_\_\_ Audit is conducted generally between two annual Audits.  
a) Internal                      b) Interim                      c) Final                      d) Continuous
  - 7) Chartered Accountant Act was passed by the Indian Institute of Chartered Accountant in \_\_\_\_\_  
a) 1949                      b) 1932                      c) 1880                      d) 1945
  - 8) Voucher relates to \_\_\_\_\_  
a) Cash receipt                      b) Cash payment  
c) Credit transaction                      d) All the above



9) A statement showing financial position of a business is called as \_\_\_\_\_

- a) Balance Sheet
- b) Trading Account
- c) Trial Balance
- d) Profit and Loss A/c

10) Auditing begins where \_\_\_\_\_ ends.

- a) Selling
- b) Inventory valuation
- c) Accounting
- d) Purchases

11) Dividend received is transferred to credit side of \_\_\_\_\_

- a) Trading A/c
- b) P and L A/c
- c) Goodwill A/c
- d) None of the above

12) Which of the following are applications of funds ?

- a) Payment of dividend on share capital
- b) Payment of tax
- c) Increase in working capital
- d) All of the above

13) As per Income Tax Act, Financial Year ends on \_\_\_\_\_ every year.

- a) Assets
- b) Liability
- c) Property
- d) Goodwill

14) Trial balance is a list of \_\_\_\_\_ Account.

- a) Personal
- b) Real
- c) Nominal
- d) Ledger

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

14

- 1) Introduction to VAT.
- 2) What is meant by verification of assets and liabilities ?
- 3) What is meant by Final Account ?
- 4) Types of Voucher.
- 5) What is types of errors ?
- 6) What do you meant by vouching ?
- 7) Explain in three adjustment of Final Account.
- 8) What is working Capital ?
- 9) What are the objects of Internal Audits ?



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

1) From the following particulars prepare Trading A/c as on 31-12-2011 :

<b>Particulars</b>	<b>Rs.</b>
Opening Stock	5,000
Carriage Inward	1,200
Purchases	22,000
Freight	1,700
Return outward	2,000
Sales	51,700
Customs Duty	2,000
Return Inward	700
Closing Stock	5,300

2) What is meant by verification ? State difference between verification and valuation.

3) What are the classification of Account ? What are the Golden Rules of Accounting ?

B) What is Trial Balance ? States its objectives and important of Balance Sheet. 4

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

1) A fire broke out in the godown of Hindustan and Co. Ltd., on 31-5-2010 and destroyed the considerable part of stock salvaged stock is valued at Rs. 20,000. The following information was rendered available from the books :

<b>Particulars</b>	<b>Sales</b>	<b>Gross Profit</b>
	<b>Rs.</b>	<b>Rs.</b>
2005	15,00,000	5,25,000
2006	16,50,000	6,60,000
2007	17,80,000	7,47,600
2008	18,00,000	6,84,000
2009	20,00,000	9,00,000

Stock on 31-12-2009 was valued at Rs. 80,000 upto the end of May 2010 :

<b>Particulars</b>	<b>Rs.</b>	<b>Particulars</b>	<b>Rs.</b>
Purchases	8,60,000	Wages	2,30,000
Sales	12,00,000	Carriage Inward	40,000

Prepare the statement of fire claim on the insurance claim with necessary working notes.



2) Complete the following table and comment :

<b>Particulars</b>	<b>X Ltd.</b>	<b>Y Ltd.</b>	<b>Z Ltd.</b>
Current Assets	2,31,000	4,25,000	1,80,000
Current Liability	1,11,000	2,91,000	95,000
Working capital	?	?	?
Current ratio remark	?	?	?

3) What do you mean by Auditing ? Explain meaning of nature and scope of Audit.

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

14

1) X and Co.Ltd., Balance Sheet.

<b>Liabilities</b>	<b>2001</b>	<b>2002</b>	<b>Assets</b>	<b>2001</b>	<b>2002</b>
	<b>(Rs.)</b>	<b>(Rs.)</b>		<b>(Rs.)</b>	<b>(Rs.)</b>
Share Capital	1,60,000	1,90,000	Machinery	1,90,000	2,00,00
Debentures	60,000	40,000	Stock	45,000	60,000
Profit and Loss	50,000	60,000	Sundry Debtors	55,000	70,000
Sundry Creditors	45,000	55,000	Cash	35,000	20,000
O/S expenses	35,000	25,000	Furniture	25,000	20,000
<b>Total</b>	<b>3,50,000</b>	<b>3,70,000</b>		<b>3,50,000</b>	<b>3,70,000</b>

Prepare a statement showing change in working capital.

2) What is vouching ? Explain the objective and importance of vouching.

3) What is Bank ? State difference in Cash Book and Pass Book.

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**B.Sc. (Part – II) (Semester – III) (Entrepreneurship) Examination, 2015  
INDUSTRIAL CHEMISTRY (Paper – III)  
(New CGPA Pattern)  
Analytical and Industrial Aspects of Inorganic Chemistry**

Day and Date : Thursday, 26-11-2015  
Time : 2.30 p.m. to 5.00 p.m.

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) Phenolphthalein is \_\_\_\_\_
  - a) weak acid
  - b) strong acid
  - c) weak organic acid
  - d) weak inorganic acid
- 2) Ionic theory of an acid-base indicator was proposed by \_\_\_\_\_
  - a) Ostwald
  - b) J.J. Thomson
  - c) Both a and b
  - d) None of these
- 3) Particle size of crystalline precipitate is \_\_\_\_\_
  - a) 0.1 to 1.0 micron
  - b) 0.02 to 1.0 micron
  - c) less than 0.02 micron
  - d) none of these
- 4) Increase in temperature decrease the extent of \_\_\_\_\_
  - a) post precipitation
  - b) precipitation
  - c) peptization
  - d) co-precipitation
- 5) DMG is selective for \_\_\_\_\_
  - a) Nickel
  - b) Zinc
  - c) Sulphur
  - d) Nitrogen

P.T.O.





- 6) Contact process was developed by \_\_\_\_\_  
a) Philips                      b) Haber                      c) Ostwald                      d) Solvay
- 7) The optimum temperature for maximum yield of  $\text{H}_2\text{SO}_4$  by contact process is \_\_\_\_\_  
a) 600 to 700°C                      b) 300 to 450°C  
c) 500 to 550°C                      d) 425 to 450°C
- 8) Electrochemical theory of corrosion was introduced by \_\_\_\_\_  
a) Whithy                      b) Evan                      c) Keir                      d) Faraday
- 9) Driving force for causing digestion is \_\_\_\_\_  
a) Free energy                      b) surface area  
c) surface energy                      d) kinetic energy
- 10) Adsorption theory was first introduced by \_\_\_\_\_  
a) Ostwald                      b) Evan                      c) Faraday                      d) None of these
- 11) The catalyst which increase the rate of reaction is known as \_\_\_\_\_  
a) negative catalyst                      b) positive catalyst  
c) auto catalyst                      d) all of these
- 12) Eriochrome Black-T is also known as \_\_\_\_\_  
a) Solochrome black                      b) Molochrome black  
c) Acid-base indicator                      d) None of these
- 13) Self stifling process \_\_\_\_\_ metals from corrosion.  
a) prevents                      b) promotes                      c) increases                      d) none of these
- 14) The co-precipitated impurities are removed by \_\_\_\_\_  
a) washing                      b) boiling  
c) concentrating the precipitant                      d) digestion

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

14

- 1) Define the terms : titrant and titrand.
- 2) What is meant by metallochromic indicators ?
- 3) Give the types of precipitate with suitable example.



- 4) Define the term nucleation.
  - 5) Define the catalysis with example.
  - 6) What are heavy chemicals ? Give suitable example.
  - 7) Write the physicochemical principles of manufacture of ammonia by Haber's process.
  - 8) Explain atmospheric and immersed corrosion.
  - 9) What is the role of promoter in the catalysis ?
3. A) Answer **any two** from the following. 10
- 1) Comment on neutralization curve for acid base titration.
  - 2) Discuss the oxide film theory for passivity.
  - 3) What are the conditions for precipitation ?
- B) Explain the homogenous and heterogenous catalysis. 4
4. Write note on **(any two)**. 14
- 1) Organic precipitants.
  - 2) Types of EDTA titration.
  - 3) Applications of catalysts in industry.
5. Answer **any two** from the following. 14
- 1) Discuss the optimum condition in the manufacture of sulphuric acid by contact process.
  - 2) Discuss the methods for protection of metals from corrosion.
  - 3) Discuss the various types of catalysis.
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**B.Sc. (Part – II) (Entrepreneurship) (Semester – III) Examination, 2015**  
**INDUSTRIAL CHEMISTRY (New CGPA Pattern)**  
**Paper – IV : Analytical and Industrial Aspects of Organic Chemistry**

Day and Date : Friday, 27-11-2015  
Time : 2.30 p.m. to 5.00 p.m.

Total Marks : 70

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

1. Choose and write a correct answer from given four alternatives : 14

- 1) Alkaline hydrolysis of oil or fat is known as \_\_\_\_\_
  - a) esterification
  - b) neutralization
  - c) saponification
  - d) none
- 2) Inversion of sugar takes place in \_\_\_\_\_ medium.
  - a) alkaline
  - b) neutral
  - c) acidic
  - d) none
- 3) \_\_\_\_\_ is an anti-inflammatory agent.
  - a) Chloromycetin
  - b) Ibuprofen
  - c) Phenobarbitone
  - d) Tolbutamide
- 4) \_\_\_\_\_ detergents are known as invert soaps.
  - a) Anionic
  - b) Cationic
  - c) Amphoteric
  - d) Non-ionic
- 5) Paludrin is used as \_\_\_\_\_ agent.
  - a) C.N.S.
  - b) Antidiabetics
  - c) Antiinflammatory
  - d) antimalarial
- 6) Sodium hyposulphite is used as \_\_\_\_\_ in soap.
  - a) oxidant
  - b) reductant
  - c) antioxidant
  - d) none



- 7) Compound imbibitions process is used for \_\_\_\_\_ of juice.
- a) crystallization                      b) clarification  
c) extraction                              d) defication
- 8) The process of desizing is used \_\_\_\_\_
- a) for removing starch material    b) to remove grease, wax etc.  
c) to remove colour from fibre    d) to remove dust from fibre
- 9) Pesticides are classified on the basis of \_\_\_\_\_
- a) chemical nature  
b) mode of action  
c) type of paste against which they are used  
d) all above
- 10) Molasses contain \_\_\_\_\_ % of sugar.
- a) 50-60                                      b) 60-70  
c) 70-80                                      d) 80-90
- 11) Pyrethroides are the natural \_\_\_\_\_ insecticides.
- a) fumigants                                b) stomach  
c) systemic                                  d) contact
- 12) Bleaching of cotton by NaOCl involves \_\_\_\_\_ reaction.
- a) reduction                                b) oxidation  
c) hydrolysis                                d) hydrogenation
- 13) \_\_\_\_\_ is a plant growth regulation hormone.
- a) Endosulphan                              b) Indole-3-acetic acid  
c) Monochrotophos                        d) DDT
- 14) MIC is required for the synthesis of \_\_\_\_\_
- a) Carbaryl                                  b) Indole-3-acetic acid  
c) Monochrotophos                        d) Endosulphan

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

14

- 1) What are raw materials used in the preparation of soaps ?
- 2) Give uses of molasses.
- 3) Explain term singeing and scouring.
- 4) Name the types of alcohol.



- 5) Give preparation of Teepol.
  - 6) What is antibiotics ? Give its example.
  - 7) What are the ideal requirements of a good drug ?
  - 8) Write the structure of Monochrotophos and give its application.
  - 9) Write the synthesis of Ethophan.
3. A) Attempt **any two** of the following : **10**
- 1) Explain the cleansing action of detergent.
  - 2) Explain the details classification of fibre.
  - 3) What are antitubercular drug ? Give synthesis of isoniazide.
- B) Give the qualities of good dye. **4**
4. Attempt **any two** of the following : **14**
- 1) Explain the synthesis and application of following drugs :
    - a) Anti-inflammatory drug-ibuprofen
    - b) Antibiotic-chloromycetin.
  - 2) Explain the synthesis and application of following agrochemicals :
    - a) Ethophan
    - b) Methoxychlor.
  - 3) Explain the manufacture of alcohol by fermentation of molasses.
5. Attempt **any two** of the following : **14**
- 1) Discuss sizing process in textile industry.
  - 2) What are soaps ? Discuss the manufacturing of soap by hot process.
  - 3) Explain the terms :
    - a) Extraction of juice
    - b) Rectified spirit
    - c) Denatured spirit.
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Seat No.	
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**B.Sc. II (Semester – III) (Entrepreneurship) Examination, 2015**  
**(New CGPA Pattern)**  
**MICROBIAL BIOTECHNOLOGY (Paper – III)**  
**Genetics**

Day and Date : Saturday, 28-11-2015  
Time : 2.30 p.m. to 5.00 p.m.

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) \_\_\_\_\_ discover ABO blood group in humans.  
a) E.M. East b) K. Landsteiner  
c) Levine d) Walsh and Montgomery
  - 2) \_\_\_\_\_ is a dominant characters of Mendel's experiments.  
a) Wrinkled seed b) Green pod colour  
c) Terminal flower position d) Dwarfness
  - 3) The separation of chromosome from centromere towards the end is know as  
a) Transcription b) Translation  
c) Terminalization d) Transformation
  - 4) The normal human karyotype contains  
a) 47 chromosomes b) 46 chromosomes  
c) 45 chromosomes d) 48 chromosomes
  - 5) Irradiation of DNA to UV radiation forms \_\_\_\_\_ dimer.  
a) T = T b) A = G  
c) T = A d) G ≡ C
  - 6) \_\_\_\_\_ phage mediate generalised transduction.  
a)  $\lambda$  b)  $T_4$   
c)  $P_{22}$  d)  $\phi 80$



- 7) If a segment of DNA is removed and reinserted in a reverse direction is called as
- a) Inversion
  - b) Insertion
  - c) Deletion
  - d) Translocation
- 8) The test cross is used to determine \_\_\_\_\_ of plants.
- a) Phenotype
  - b) Genotype
  - c) Both a) and b)
  - d) None
- 9) In Down's syndrome, the trisomy of 21 is produced due to
- a) deletion
  - b) translocation
  - c) non-disjunction
  - d) duplication
- 10) In sex determination, heterogametic sex is present in
- a) Man
  - b) Bird
  - c) Honey bees
  - d) All of above
- 11) Klinefelter's syndrome is characterised by
- a) atleast one extra X-chromosome
  - b) one extra Y-chromosome
  - c) one extra autosome
  - d) one X-chromosomes less in female
- 12) Monohybrid phenotypic cross ratio is
- a) 3 : 1
  - b) 2 : 1
  - c) 1 : 1
  - d) 9 : 3 : 3 : 1
- 13) The fundamental statistical indicator are
- a) Media
  - b) Mean
  - c) Variance
  - d) Correlation
- 14) Who coined term linkage ?
- a) Correns
  - b) Mendel
  - c) de Vries
  - d) Morgan

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

14

- 1) Define Median.
- 2) What is recombination ? Explain with example.
- 3) What is test cross ? Explain with example.



- 4) What is sickle cell anaemia ?
  - 5) Define induced mutation.
  - 6) What is epistasis ?
  - 7) Explain inversion.
  - 8) Write down significance of linkage.
  - 9) What is monohybrid ratio ?
3. A) Answer **any two** of the following : **10**
- 1) Explain Mendel's law of segregation.
  - 2) Explain in detail transposable elements.
  - 3) Define mutation and state its merits and demerits.
- B) Describe in detail specialised transduction. **4**
4. Answer **any two** of the following : **14**
- 1) Explain in detail conjugation process of gene transfer.
  - 2) Describe in detail multiple alleles with example.
  - 3) Define T-test and explain with example.
5. Answer **any two** of the following : **14**
- 1) Define mutation and explain induced mutation.
  - 2) Explain in detail gene interaction.
  - 3) Describe in detail structural organization of chromosome.
-







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**B.Sc. – II (Semester – III) (Entrepreneurship) (New-CGPA Pattern)  
Examination, 2015  
MICROBIAL BIOTECHNOLOGY (Paper – IV)  
Fermentation Technology**

Day and Date : Monday, 30-11-2015  
Time : 2.30 p.m. to 5.00 p.m.

Max. Marks : 70

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

1. Choose and write a correct answer from given four alternatives : **14**
- 1) \_\_\_\_\_ precursor used in the production of penicillin G.
    - a) Vit. B<sub>12</sub>
    - b) Citric acid
    - c) Phenyl acetic acid
    - d) Acetic acid
  - 2) Vit. B<sub>12</sub> is also known as \_\_\_\_\_.
    - a) Cobamide
    - b) Provitamin
    - c) Citric acid
    - d) Riboflavin
  - 3) \_\_\_\_\_ substrate mainly used for production of amylase enzyme.
    - a) Glucose
    - b) Starch
    - c) Protein
    - d) Lipid
  - 4) CRYEMA test is used for identification of \_\_\_\_\_.
    - a) Citric acid
    - b) Lactobacillus
    - c) Aspergillus niger
    - d) Rhizobium
  - 5) Solvent extraction is used for recovery of \_\_\_\_\_.
    - a) Alcohol
    - b) Amylase
    - c) Penicillin
    - d) None of above
  - 6) Dried biomass of a single species of microbes that can be used as a protein source in the diet is known as \_\_\_\_\_.
    - a) SCP
    - b) SPC
    - c) TVC
    - d) None of above



- 7) Microorganism which produce methane under anaerobic condition are called as \_\_\_\_\_  
a) Acidogens            b) Alkaligens            c) Butagens            d) Methanogens
- 8) The antibiotic streptomycin is produced by \_\_\_\_\_  
a) Streptomyces griseus            b) E. coli  
c) Azotobacter            d) Penicillium
- 9) In ethanol production the concentration of molasses is adjusted between \_\_\_\_\_  
a) 10 – 50%            b) 10 – 18%            c) 30 – 40%            d) 1 – 10%
- 10) Corynebacterium glutamicum mainly used in \_\_\_\_\_ production.  
a) Vit. B<sub>12</sub>            b) Biofertilizer            c) L-Lysine            d) Citric acid
- 11) \_\_\_\_\_ is a principle fungus mainly used for production of citric acid.  
a) Aspergillus niger            b) Bacillus subtilis  
c) Clostridium tetani            d) E.coli
- 12) \_\_\_\_\_ organism mainly used in the biinsecticide production.  
a) Bacillus subtilis            b) Bacillus thuriengensis  
c) Aspergillus niger            d) Bacillus cereus
- 13) During the world war – II, biomass of \_\_\_\_\_ was consumed as SCP.  
a) Candida lipolytica            b) S. Cerevisae  
c) Candida utilis            d) E.coli
- 14) \_\_\_\_\_ is a enzyme which can cleave R-sidechain from penicillin molecule.  
a) Amylase            b) Protease  
c) Pectinase            d) Penicillin acylase

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

14

- 1) Define SCP.
- 2) Application of citric acid.
- 3) Enlist the name of microbes used in Amylase production.
- 4) Define distillation.
- 5) Write uses of Biogas.



- 6) Write applications of ethanol.
  - 7) Define bioinsecticide.
  - 8) Write applications of biofertilizer.
  - 9) Enlist steps involve in recycling process.
3. A) Answer **any two** of the following : **10**
- 1) Describe in detail amylase production.
  - 2) Explain in detail wine production from grapes.
  - 3) Write in detail penicillin production.
- B) Describe in detail citric acid production. **4**
4. Answer **any two** of the following : **14**
- 1) Describe in detail Biogas production.
  - 2) Explain in detail Bioethanol production.
  - 3) Describe in detail Bioinsecticide production.
5. Answer **any two** of the following : **14**
- 1) Describe in detail production of single cell protein.
  - 2) Explain in detail Vit. B<sub>12</sub> production.
  - 3) Write in detail Beer production.
-



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**B.Sc. – II (Semester – IV) (Entrepreneurship) (New) Examination, 2015  
CORPORATE ACCOUNTING AND PROFESSIONAL ETHICS (Paper – VII)**

Day and Date : Tuesday, 1-12-2015  
Time : 10.30 a.m. to 12.30 p.m.

Max. Marks : 50

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

1. Multiple choice questions :

10

- 1) What is meant by the phrase CSR ?
  - A) Corporate social responsibility
  - B) Company social responsibility
  - C) Corporate society responsibility
  - D) Company society responsibility
- 2) What is meant by the phrase teleological ethics ?
  - A) Is used to judge in an action is right, fair and honest
  - B) An action can only be judged by its consequences
  - C) Developing the individual personal characteristics
  - D) None of these
- 3) A limited pays Rs. 40,000 for 80% of the shares of B limited when B's share capital is Rs. 2,00,000 and its reserves are Rs. 1,20,000 then what is the goodwill arising on this acquisition \_\_\_\_\_
  - A) Rs. 20,000/-
  - B) Rs. 1,80,000/-
  - C) Rs. 1,40,000/-
  - D) Rs. 84,000/-
- 4) A holding company is best defined as one which is \_\_\_\_\_
  - A) Holds both shares and debentures in another company
  - B) Holds most of the shares in another company
  - C) Holds most of the net assets of another company
  - D) None of these



- 5) \_\_\_\_\_ may be stakeholders of the company.
- A) Supplier    B) Competitor  
C) Customer     D) Investor
- 6) The discount allowed on reissue of forfeited shares is debited to \_\_\_\_\_
- A) Profit and loss a/c  
B) Share premium a/c  
C) Forfeited share a/c  
D) Re-issue of share a/c
- 7) In government company the holding of the central government in paid up capital should not be less than \_\_\_\_\_
- A) 25%    B) 50%  
C) 51%    D) 75%
- 8) Opening stock of company is Rs. 40,000/- and closing stock is 50,000/- if the purchases during the year is Rs. 2,00,000/- the cost of goods sold will be \_\_\_\_\_
- A) 2,10,000/-     B) 2,00,000/-  
C) 2,50,000/-     D) 1,90,000/-
- 9) \_\_\_\_\_ should be deducted in the balance sheet of a company from the share capital to find out paid up capital
- A) Call-in advance  
B) Calls-in-arrears  
C) Share forfeiture  
D) Discount on issue of share
- 10) The maximum amount beyond which a company is not allowed to raise funds by issue of share is \_\_\_\_\_
- A) Issue capital  
B) Reserve capital  
C) Nominal capital  
D) Subscribed capital



2. Solve **any five** from the following : 10
- 1) What is mean by valuation of share ?
  - 2) Define business ethics and personal ethics.
  - 3) Meaning and definition of corporate governance.
  - 4) What is market and fair value method ?
  - 5) Define holding company.
  - 6) What is mean by corporate social responsibility ?

3. A) Answer **any two** from the following : 6
- 1) Role of MNC in India
  - 2) Marketing ethics.
  - 3) Format of valuation of shares.
- B) Explain in detail corporate governance. 4

4. Solve **any two** from the following : 10
- 1) Global corporation and factors facilitating globalization.
  - 2) Balance Sheet as on 31-3-2003

<b>Liabilities</b>	<b>H</b>	<b>S</b>	<b>Assets</b>	<b>H</b>	<b>S</b>
	(Rs.)	(Rs.)		(Rs.)	(Rs.)
Equity share capital(10 each)	5,00,000	1,50,000	Investment (12000 each)	1,90,000	–
General reserve	80,000	30,000	Machinery	2,50,000	1,50,000
P & L, A/c	70,000	60,000	Sundry debtors	50,000	50,000
Sundry creditors	80,000	40,000	Cash/Bank	3,00,000	1,15,000
Bills payable	60,000	35,000			
<b>Total</b>	<b>7,90,000</b>	<b>3,15,000</b>	<b>Total</b>	<b>7,90,000</b>	<b>3,15,000</b>

Additional Information :

H limited purchased 12,000 equity shares of S. Limited on 1-4-2002 on which date, S Limited general reserve stock at Rs. 10,000 and profit and loss stood at Rs. 20,000.

Prepare a consolidated Balance Sheet.

- 3) Explain in detail Ethics in HRM.



5. Solve **any one** from the following :

**10**

1) Define personal and business ethics. What is functional areas of ethics ?  
Discuss.

2) Nashik company Limited Balance Sheet as on 31-3-2004 :

<b>Liabilities</b>	<b>Rs.</b>	<b>Assets</b>	<b>Rs.</b>
Equity shares capital	3,00,000	Cash in hand	40,000
Preference share capital	30,000	Building	60,000
Debentures	35,000	Machinery	1,00,000
Sundry creditors	28,000	Stock	50,000
Preference creditors	7,000	P & L	1,50,000
<b>Total</b>	<b>4,00,000</b>	<b>Total</b>	<b>4,00,000</b>

1) The company went into liquidation and assets realised as under :

a) Building Rs. 80,000/-

b) Machinery Rs. 78,000/-

c) Stock Rs. 22,000/-

2) Liquidation and legal expenses Rs. 8,000/-

3) Liquidators remuneration is 3% on assets realised

Prepare liquidators final statement of account

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**B.Sc. II (Semester – IV) (Entrepreneurship) Examination, 2015  
(Paper – VIII) (New)  
INTERNATIONAL MARKETING & MARKETING DECISION**

Day and Date : Wednesday, 2-12-2015

Max. Marks : 50

Time : 10.30 a.m. to 12.30 p.m.

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

1. Multiple Choice Questions :

10

- 1) When the manufacturer, manufacture the product of \_\_\_\_\_ to the intermediary sale which directly to the consumer, then this is known as sale.  
a) Seller Goods                      b) Consumer goods      c) Manufacturer goods
- 2) \_\_\_\_\_ is the process where by individual decide with questions to purchase goods and services.  
a) Consumer decision      b) Consumer behavior      c) All above
- 3) \_\_\_\_\_ is directly marketing a commercial message way group of people using e-mail.  
a) Telecalling marketing      b) Direct marketing      c) E-mail marketing
- 4) \_\_\_\_\_ is one of the global marketing environment.  
a) Economic                      b) Social                      c) All above
- 5) A \_\_\_\_\_ as anything that can be offered to a market for attention, use or consumption that might satisfied a want or need.  
a) Product                      b) Goods                      c) Commodity
- 6) Consumer make may \_\_\_\_\_ every day and their are reasons behind their buying action.  
a) Purchasing power      b) Buying behavior      c) Buying decision
- 7) \_\_\_\_\_ is the identification of particular product or services.  
a) Branding                      b) Packaging                      c) All above



- 8) PLC means
  - a) Private Limited Company
  - b) Product Life Cycle
  - c) None of these
- 9) \_\_\_\_\_ consist of all the individual product available through the organisation.
  - a) Product Mix
  - b) Product Line
  - c) Product Plan
- 10) \_\_\_\_\_ can also broke down into more specialized area's such as web-marketing, E-mail, social web etc. marketing.
  - a) Marketing
  - b) Telecalling marketing
  - c) E-marketing

- 2. Answer **any five** from the following : **10**
    - 1) Meaning of price.
    - 2) Market decision.
    - 3) What is meant by product line ?
    - 4) E-commerce
    - 5) Define buying behavior.
    - 6) Concept of distribution.
    - 7) Commodity product.
  - 3. Write short note on **any two** : **6**
    - A)
      - 1) Brand management
      - 2) Consumer behaviour.
      - 3) Marketing communication.
    - B) Emergence of global marketing. **4**
  - 4. Answer **any two** : **10**
    - 1) Models of behavior
    - 2) Public relation and publicity.
    - 3) Product Planning and Development.
  - 5. Explain in detail types of product and product life cycle. **10**
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**B.Sc. (Entrepreneurship – II) (New) (Semester – IV) Examination, 2015**  
**INDUSTRIAL CHEMISTRY (Paper – VII)**  
**Analytical and Industrial Aspects of Physical Chemistry**

Day and Date : Thursday, 3-12-2015

Max. Marks : 50

Time : 10.30 a.m. to 12.30 p.m

- 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 : 10
- 1) On dilution specific conductance \_\_\_\_\_
- a) Increases b) Decreases  
c) Remains Constant d) None of these
- 2) Cell constant is given by the ratio \_\_\_\_\_
- a) Specific conductance/observed conductance  
b) Observed conductance/specific conductance  
c) Equivalent conductance/observed conductance  
d) None of these
- 3) A device measuring the response of photocell is called \_\_\_\_\_
- a) Voltmeter b) Galvanometer  
c) Conductometer d) None of these
- 4) Wave length of visible region ranges from \_\_\_\_\_ nm.
- a) 400 to 760 b) 200 to 400  
c) 800 to 1200 d) None of these



- 5) The titration in which the end point is determined by emf measurements is called as \_\_\_\_\_ titration.
- a) Acid-base    b) Iodimetric  
 c) Conductometric                                  d) Potentiometric
- 6) Standardization of potentiometer is done by using standard cell of \_\_\_\_\_ volts.
- a) 1.018                  b) 1.18                  c) 1.48                  d) 1.98
- 7) Flame photometry is also named as \_\_\_\_\_ spectroscopy.
- a) Flame emission                                  b) Absorption  
 c) Infrared    d) None of these
- 8) In the equation  $(N^*/N_0 = A e^{-\Delta E/KT})$ , K is called as \_\_\_\_\_ constant.
- a) Planck's    b) Boltzmann  
 c) Gas    d) All of these
- 9) Transport number of ions is measured by using \_\_\_\_\_ method.
- a) Moving boundary                                  b) pH metric  
 c) Colorimetric    d) None of these
- 10)  $P^H = P^{K_a} + \log_{10} ([\text{salt}] / [\text{acid}])$  is called as \_\_\_\_\_ equation.
- a) Faraday    b) Nernst  
 c) Henderson    d) None of these

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

**10**

- 1) Statement of Kohlrausch law.
- 2) Define  $P^H$  and  $P^{OH}$ .
- 3) Advantages of conductometric titration.
- 4) Deviations from Beer's law.
- 5) First derivative plot in potentiometric titration.
- 6) Limitations of flame photometry.



3. A) Explain types of conductors with figures. 4
- B) Attempt **any two** : 6
- 1) Theory of colorimetry.
  - 2) Sketch and explain glass electrode.
  - 3) Block diagram of flame photometer.
4. Attempt **any two** : 10
- 1) Beer's law.
  - 2) Acid-base titration in potentiometry.
  - 3) Factors affecting transport number.
5. Attempt **any two** : 10
- 1) Specific conductance of 0.2 N solution of  $\text{ZnSO}_4$  at 298 K is  $0.02107 \text{ ohm}^{-1} \text{ cm}^{-1}$ . Calculate the equivalent conductance of the solution.
  - 2) General principles of flame photometry.
  - 3) Strong acid versus strong base conductometric titration.
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**B.Sc.– II (Semester – IV) (New) (Entrepreneurship) Examination, 2015**  
**INDUSTRIAL CHEMISTRY (Paper – VIII)**  
**Industrial Aspects of Applied Chemistry**

Day and Date : Friday, 4-12-2015

Max. Marks : 50

Time : 10.30 a.m. to 12.30 p.m

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

1. Select the most correct alternative from among those given below and rewrite the sentence. 10
- i) All the ores are minerals but all minerals are not \_\_\_\_\_  
a) minerals                      b) ores                      c) metals                      d) non-metals
- ii) To remove lighter particles of gangue from ore \_\_\_\_\_ method is used.  
a) magnetic                      b) hand-picking                      c) gravity                      d) leaching
- iii) Steel is the \_\_\_\_\_ of iron with carbon intermediate between cast iron and wrought iron.  
a) both mixer and alloy                      b) mixer  
c) alloy                      d) paste
- iv) In electroplating \_\_\_\_\_ plays an important role.  
a) electrolysis                      b) electrosmosis  
c) osmosis                      d) none of these
- v) The property by virtue of which uniform deposit of metal may be obtained on cathode is known as \_\_\_\_\_  
a) throwing power                      b) magic power                      c) all of these                      d) none of these
- vi) \_\_\_\_\_ fertilizers are those which are added to the soil in order to improve its chemical, mechanical or biological properties.  
a) direct                      b) indirect                      c) simple                      d) hard

P.T.O.



- vii) The % of nitrogen in ammonium sulphate is \_\_\_\_\_  
a) 5 to 6%                      b) 20 to 21%      c) 0%                      d) 100%
- viii) Glass is only attacked by an acid \_\_\_\_\_  
a) HF                              b) HCl                      c) H<sub>2</sub>SO<sub>4</sub>                      d) HNO<sub>3</sub>
- ix) Glass has \_\_\_\_\_ melting point.  
a) sharp                              b) definite                      c) indefinite                      d) all of the above
- x) The Greek word 'Keramos' means \_\_\_\_\_  
a) glass                              b) polymer                      c) fuel                      d) ceramic

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

- i) Define :  
a) Metallurgy  
b) Mineral.
- ii) What is steel ? Give any two types of steel with its composition.
- iii) State Faraday's second law of electrolysis.
- iv) What are direct and indirect fertilizers ?
- v) What is glass ? Give its general chemical composition.
- vi) What is cement ? Give its main contents.

3. A) Answer **any two** of the following : 6

- i) Give the applications of Ni-plating.  
ii) Mention the properties of ceramics.  
iii) What are physical properties of glass ?

B) Write a note on pollution caused by fertilizers. 4

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

- i) Distinguish between Bessemer process and L.D. process.  
ii) What are the types of cement ? Give the applications of cement.  
iii) Explain the manufacturing process of ammonium sulphate.

5. Write short note on **any two** of the following : 10

- i) Froth floatation method.  
ii) Electroplating of chromium.  
iii) Pot furnace used in manufacture of glass.
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**B.Sc. – II (Semester – IV) (Entrepreneurship) (New) Examination, 2015  
MICROBIOLOGY AND BIOTECHNOLOGY (Paper – VII)  
Molecular Biology**

Day and Date : Saturday, 5-12-2015

Max. Marks : 50

Time : 10.30 a.m. to 12.30 p.m.

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

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

10

- 1) DNA replication in procaryotes is \_\_\_\_\_
  - a) Bidirectional
  - b) Unidirectional
  - c) Multidirectional
  - d) Random
- 2) The strand where okazaki fragments are formed is known as \_\_\_\_\_ strand.
  - a) Leading
  - b) Lagging
  - c) Template
  - d) Antisense
- 3) \_\_\_\_\_ is responsible for removal of RNA primer after DNA replication.
  - a) Ligase
  - b) Primase
  - c) DNA polymerase – II
  - d) Nuclease
- 4) When Lactose molecule is binds to \_\_\_\_\_ gene. The operator gene of lac operon is turned on
  - a) Promoter
  - b) Repressor
  - c) Operator
  - d) Signal
- 5) The determination of nucleotide sequence of molecule is known as \_\_\_\_\_
  - a) DNA sequencing
  - b) Hybridization
  - c) Cloning
  - d) Substitution
- 6) In chemical sequencing method \_\_\_\_\_ technique is used to map DNA binding sites for DNA binding protein.
  - a) Methylation interference assay
  - b) Wandring spot analysis
  - c) TLC
  - d) Two dimensional chromatography





- 7) Southern Blotting is used to separate \_\_\_\_\_  
a) RNA                      b) DNA                      c) DNA and RNA      d) Protein
- 8) \_\_\_\_\_ specifies the amino acid sequence of a polypeptide chain.  
a) Operator gene                      b) Structural gene  
c) Split gene                      d) Regulator gene
- 9) \_\_\_\_\_ is used to cut the DNA.  
a) Ligase                      b) Nuclease                      c) Kinase                      d) Replicase
- 10) Prokaryotic ribosomes are of \_\_\_\_\_ type.  
a) 80S                      b) 70S                      c) 60S                      d) 90S

2. Answer **any five** of the following : **10**
- a) SOS in DNA repair mechanism
  - b) RFLP
  - c) Template
  - d) Primer
  - e) Specific transcription factors
  - f) Function of aminoacyl RNA synthetase.
3. A) Answer **any two** of the following : **6**
- a) r-RNA processing
  - b) F-met-t-RNA
  - c) Abortive initiation.
- B) Write note on : **4**  
Lac operon.
4. Answer **any two** of the following : **10**
- a) Explain in detail transcription mechanism in prokaryotic micro-organisms.
  - b) Briefly describe different methods used in DNA sequencing.
  - c) Describe in detail rolling circle model of DNA replication.
5. Answer **any two** of the following : **10**
- a) Explain in detail isolation of nucleic acid.
  - b) Describe in detail replication of DNA in prokaryotic organisms.
  - c) Explain in detail trp operon.
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**B.Sc. – II (Semester – IV) (Entrepreneurship) (New) Examination, 2015  
MICROBIOLOGY & BIOTECHNOLOGY (Paper – VIII)  
Food and Dairy Technology**

Day and Date : Monday, 7-12-2015  
Time : 10.30 a.m. to 12.30 p.m.

Max. Marks : 50

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

1. Rewrite the following sentences by selecting correct answers from given alternatives. 10
- i) \_\_\_\_\_ is an example of food poisoning organism.  
a) E.coli                      b) Salmonella              c) Shigella                      d) Clostridium
  - ii) \_\_\_\_\_ is main protein present in milk.  
a) Casein                      b) Globulin                      c) Albumin                      d) Gelatin
  - iii) Degradation of proteinous food is called \_\_\_\_\_  
a) Fermentation              b) Putrefaction              c) Hydrolysis                      d) Rancidity
  - iv) \_\_\_\_\_ enzyme is used for cheese preparation.  
a) Amylase                      b) Hexokinase                      c) Renin                      d) Cellulase
  - v) In LTH method of pasteurization milk is heated at \_\_\_\_\_ for 30 minutes.  
a) 62.8°C                      b) 35°C                      c) 71.7°C                      d) 100°C
  - vi) Fish are preserved by \_\_\_\_\_  
a) Pasteurization    b) Salting and drying  
c) Sterilization    d) Canning
  - vii) Psychrophilic bacteria are growing around \_\_\_\_\_ temperature.  
a) 35 – 40°C                      b) 55 – 60°C                      c) 70 – 80°C                      d) 10 – 20°C



- viii) \_\_\_\_\_ is used as chemical food preservative.  
a) HCl                      b) NaOH                      c)  $H_2SO_4$                       d) Na-benzoate
- ix) Cheddar is an example of \_\_\_\_\_  
a) Cream                      b) Butter                      c) Ice cream                      d) Cheese
- x) \_\_\_\_\_ test is used to determine the efficiency of pasteurization.  
a) Phosphatase                      b) MBRT                      c) MPN                      d) SPC

2. Answer **any five** of the following. **10**
- i) Define food poisoning.
  - ii) What is cheese ?
  - iii) Define pasteurization.
  - iv) Define thermophilic bacteria.
  - v) What is rancidity ?
  - vi) Define hard cheese.
3. A) Answer **any two** of the following. **6**
- i) Give the composition of milk.
  - ii) Describe meat preservation.
  - iii) Give the nutritive value of cream.
- B) Discuss the food preservation by canning. **4**
4. Answer **any two** of the following. **10**
- i) Describe in detail methods of Pasteurization.
  - ii) Describe in detail manufacture of cheese.
  - iii) Describe food as substrate and food poisoning.
5. Answer **any two** of the following. **10**
- i) Describe composition and production of cream.
  - ii) Principles and methods of food preservation.
  - iii) Spoilage of poultry and vegetables.
-



Seat No.	
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**B.Sc. III (Entrepreneurship) Semester – V Examination, 2015**  
**ENGLISH (Compulsory) (New)**

Day and Date : Thursday, 29-10-2015

Max. Marks : 50

Time : 2.30 p.m. to 4.30 p.m.

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

1. A) Rewrite the following sentences by choosing the correct alternatives. 6
- 1) 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
  - 2) Shaw believes that a society must be judged by  
a) its average parson                      b) its few rebels  
c) its journalists and editors                      d) its millions of obedient subjects
  - 3) The united states was founded on the principle that  
a) all men are equal  
b) white men are superior  
c) it is under God  
d) a govt. is of the people, by the people and for the people
  - 4) The \_\_\_\_\_ have already consecrated the ground at Gettysburg.  
a) clergy                      b) founding fathers  
c) common people                      d) soldiers
  - 5) The value accorded to \_\_\_\_\_ prevented women from living a free life like male writers.  
a) decency                      b) humility  
c) anonymity                      d) chastity
  - 6) Why are there so few writers among women and the working classes ?  
a) their talents are mocked and suppressed  
b) they have no interest in writing  
c) they are illiterate  
d) their talents are more inclined towards scientific discoveries.



- B) Choose the appropriate modal in the following : 2
- 1) You \_\_\_\_\_ be frank with your parents.  
 a) may                      b) should                      c) might                      d) could
- 2) Hamid \_\_\_\_\_ climb the tall coconut palm in his field when he was just ten.  
 a) can                      b) could                      c) may                      d) might
- C) Rewrite the following sentences in indirect speech. 2
- 1) I said to the men, “You can keep your boxes in the room”.
- 2) “Take the certificates that you left here two days ago”, said the principal to the student.
2. Answer the following questions in **two-three** sentences **each**. (**any five**) 10
- 1) What does the average parson do ?
- 2) Why do so many women writers choose to remain anonymous ?
- 3) What according to Lincoln, would give the nation a new birth of freedom ?
- 4) How does society erode the talents of women writers ?
- 5) What according to Shaw, will cure people of sickness ?
- 6) Why did Lincoln say the task of consecration and dedication was impossible ?
3. A) Answer the following questions in about **fifty** words (**any two**). 6
- 1) What did Abou Ben Adhem ask the angel ?
- 2) Why does the poet ask the captain to rise up ?
- 3) What request did Abou Ben Adhem make ?
- B) Write short reports on **any two** of the following : 4
- 1) Making an omlette
- 2) A scientific experiment
- 3) Sitar maestro honoured.
4. Answer **any one** of the following questions. 10
- 1) Write a group discussion on the topic ‘Global Warming’.
- 2) Write a group discussion on the topic ‘Information Technology’.
5. Answer the following question. 10
- Prepare a presentation to promote a new washing machine in the market giving five charts or slides.
-



Seat No.	
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**B.Sc. (Entrepreneurship) (Sem. – V) Examination, 2015**  
**BUSINESS FINANCE (New) (Paper – IX)**

Day and Date : Friday, 30-10-2015  
Time : 2.30 p.m. to 4.30 p.m.

Max. Marks : 50

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

1. Multiple Choice Questions :

10

- 1) \_\_\_\_\_ is the area of finance that works with monetary decisions within a corporate entity.  
A) Corporate Finance                      B) Personal Finance  
C) Financial Management                D) Business Finance
- 2) In 1985 the \_\_\_\_\_ introduced Venture Capital Fund schemes to assist industries efforts for technological advancement.  
A) ICICI                      B) IFC                      C) SFCS                      D) IDBI
- 3) IMF as called as \_\_\_\_\_  
A) International Monitory Fund      B) International Monetary Fund  
C) International Monetry Finance    D) None of these
- 4) Establishing investment policy refers to the allocation of assets amongs the major allocated asset in the \_\_\_\_\_  
A) Capital Market                      B) Share Market  
C) Financial Management                D) Business Finance
- 5) \_\_\_\_\_ is kinds of lease facility is provided on period-to-period basis.  
A) Operating Lease                      B) Direct Lease  
C) Finance Lease                        D) Sale and Back
- 6) Venture Capital start in India since \_\_\_\_\_  
A) 1958                      B) 1950                      C) 1944                      D) 1940
- 7) Foreign exchange market as defined as \_\_\_\_\_  
A) Agreement between two countries  
B) Transaction between two countries  
C) Exchange goods and services between two countries  
D) All of the above



- 8) PPP is refers to \_\_\_\_\_  
A) Public Private Partnership      B) Private Partnership Public  
C) Private Public Partnership      D) None of these
- 9) \_\_\_\_\_ is sources of Capital.  
A) IMF                      B) IBRD                      C) MIGA                      D) Loan from banks
- 10) \_\_\_\_\_ is called as E-Banking.  
A) Internet Banking                      B) Electronic Banking  
C) International Banking                      D) All of the above

2. Write **any five** out of seven : **10**
- 1) Private placement.
  - 2) Write on function of stock exchange.
  - 3) What is online trading ?
  - 4) Defination of stock exchange.
  - 5) Introduce financial planing.
  - 6) Concept of capital budgeting.
  - 7) Present value method.
3. A) Attempt **any two** from the following : **6**
- 1) Buy decision
  - 2) Introduce about International Financial Management
  - 3) Issue of Securities.
- B) Explain in detail importance of business finance. **4**
4. Attempt **any two** from the following : **10**
- 1) IBRD
  - 2) Sources of working capital finance
  - 3) IFC.
5. Write **any one** from the following : **10**
- 1) BSE and NSE and their working. Discuss.
  - 2) Trading on stock exchange. Explain.
-



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Seat No.	
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**B.Sc. (Entrepreneurship) – III (Semester – V) Examination, 2015  
HUMAN RESOURCE MANAGEMENT (New) (Paper – IX)**

Day and Date : Saturday, 31-10-2015  
Time : 2.30 p.m. to 4.30 p.m.

Max. Marks : 50

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

1. Multiple Choice Questions :

10

- 1) The term procurement stands for \_\_\_\_\_  
A) recruitment and selection      B) training and development  
C) pay and benefits                  D) health and safety
- 2) Which of the following is not usually a group incentive plan ?  
A) Halsey incentive plan              B) Priestman bonus plan  
C) Rucker incentive plan              D) Towne's incentive plan
- 3) Which of the following is an example of fringe benefits ?  
A) Health and accident insurance  
B) Contribution to superannuation funds  
C) Leave facilities  
D) All of the above
- 4) Recruitment is widely viewed as a \_\_\_\_\_ process.  
A) Positive                                  B) Negative  
C) Both positive and negative      D) None of these
- 5) State employment exchanges are generally the main agencies of  
A) Private employment              B) Public employment  
C) Professional employment        D) None of the above
- 6) \_\_\_\_\_ seeks to examine the goals of the organisation and the trends that are likely to affect these goals.  
A) Organisational support              B) Organisational analysis  
C) Person analysis                      D) Key skill abilities analysis
- 7) \_\_\_\_\_ refers to the learning opportunities designed to help employees grow.  
A) Training                                  B) Development  
C) Education                                D) All of the above

P.T.O.





- 8) Which of this is a step in training process ?  
A) KSA deficiency                      B) Provide proper feedback  
C) Obstacles in the system            D) Use of evaluation models
- 9) In career development, discussing your career with your manager is part of  
A) Individual role                      B) Manager role  
C) Employer role                      D) Line Manager
- 10) Large recruitment \_\_\_\_\_ problematic and vice-versa.  
A) Less                                      B) More  
C) Any of the above                    D) Medium

2. Write **any five** from the following : 10
- 1) Introduction to selection.
  - 2) Demotions.
  - 3) Meaning and definition of recruitment.
  - 4) Meaning of training.
  - 5) Job description.
  - 6) Internal and external mobility.
  - 7) Need for training.
3. A) Write **any two** out of three : 6
- 1) What are the functions of HRM ?
  - 2) Objectives of recruitment.
  - 3) Kinds of promotion.
- B) Explain in detail E.S.I. maintenance allowance. 4
4. Write **any two** out of three : 10
- 1) Training principles – Discuss.
  - 2) Steps in career development system.
  - 3) Problems of P. A. who will appraise.
5. Write **any one** : 10
- 1) Explain in detail concept of selection and steps in selection procedure.
  - 2) Need of performance appraisal with diagrammatic representation.
-



Seat No.	
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**B.Sc. (Part – III) (Entrepreneurship) (Semester – V) Examination, 2015  
INDUSTRIAL CHEMISTRY (New)  
(Spectroscopic Methods) (Paper – IX)**

Day and Date : Monday, 2-11-2015  
Time : 2.30 p.m. to 4.30 p.m.

Total Marks : 50

- 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 : 10
- I) \_\_\_\_\_ electronic transition requires lowest energy.  
a)  $\sigma$  to  $\sigma^*$                       b)  $n$  to  $\sigma^*$                       c)  $\pi$  to  $\pi^*$                       d)  $n$  to  $\pi^*$
- II) The shift of absorption band to longer wavelength is called as \_\_\_\_\_ shift.  
a) hypsochromic    b) bathochromic    c) hyperchromic    d) blue
- III) Wave number is expressed in \_\_\_\_\_ units.  
a) cm                      b)  $\text{cm}^{-1}$                       c) Hz                      d) delta
- IV) In IR spectroscopy group frequency region lies in \_\_\_\_\_ region.  
a) 1400 to 665  $\text{cm}^{-1}$                       b) 400 to 665  $\text{cm}^{-1}$   
c) 4000 to 1400  $\text{cm}^{-1}$                       d) 140 to 444  $\text{cm}^{-1}$
- V) \_\_\_\_\_ is an example of non-magnetic nuclei.  
a)  ${}^6_6\text{C}^{12}$                       b)  ${}^1_1\text{H}^1$                       c)  ${}^{13}_6\text{Cl}^3$                       d)  ${}^{15}_7\text{N}^{15}$
- VI) In NMR spectroscopy unit of coupling constant is \_\_\_\_\_  
a) Hz                      b)  $\text{cm}^{-1}$                       c) cm                      d) delta
- VII) PMR spectrum of benzene will show \_\_\_\_\_ signal/s.  
a) 2                      b) 3                      c) 1                      d) 5
- VIII) In IR spectroscopy fundamental modes of the vibrations for a linear molecule can be given by formula \_\_\_\_\_  
a)  $(3n - 6)$                       b)  $(3n - 5)$                       c)  $n(n + 1)$                       d)  $n + 1$



IX) In mass spectroscopy ions are separated according to \_\_\_\_\_ ratio.

- a)  $m/z$                       b)  $z/m$                       c)  $m/Hz$                       d)  $Hz/m$

X) Presence of halogens in the compound can be easily detected by \_\_\_\_\_ in MS.

- a) isotopic ion                      b) molecular ion  
c) ion molecule complex                      d) metastable ion

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

I) What are magnetic nuclei ? Give two examples.

II) Define chromophore and auxochrome.

III) What are the conditions for absorption of IR – radiation by molecule ?

IV) Draw the schematic diagram of mass-spectrometer.

V) How many signals are expected in PMR spectrum of ethanol ? Comment on splitting of signals.

VI) Explain types of in-plane bending vibrations in IR spectroscopy.

3. A) Answer **any two** of the following : 6

I) Which compound is used as internal standard in NMR spectroscopy ?  
What are its advantages ?

II) What is finger print region in IR spectroscopy ? How it can be used for structure determination of an organic compound ?

III) How mass spectroscopy can be used for determination of molecular weight ?

B) Answer the following : 4

I) How UV spectroscopy can be used for detection of cis-trans isomerism ?

4. Attempt **any two** of the following : 10

I) Explain spin-spin splitting with two examples.

II) Explain different types of electronic transitions in UV spectroscopy.

III) What are different types of ions generated in mass spectrum ? Give one example of each type.

5. Attempt **any two** of the following : 10

I) What is shielding and deshielding ? Explain with example.

II) How will you distinguish following pairs of compounds using IR spectroscopy ?

- A) Ethyl alcohol and dimethyl ether                      B) Acetone and Ethyl acetate.

III) Explain PMR spectrum of acetaldehyde.



TABLE - 1  
Characteristic Infrared Absorptions of Functional Groups

GROUP	FREQUENCY RANGE $\text{cm}^{-1}$	INTENSITY
A. Alkyl		
C - H (stretching)	2853-2962	(m - s)
Isopropyl - $\text{CH}(\text{CH}_3)_2$	1380 - 1385	(s)
	and 1365 - 1370	(s)
tert - Butyl - $\text{C}(\text{CH}_3)_3$	1385 - 1395	(m)
	and - 1365	(s)
B. Alkenyl		
C - H (stretching)	3010 - 3095	(m)
C = C (stretching)	1620 - 1680	(v)
R - $\text{CH} = \text{CH}_2$	985 - 1000	(s)
	and 905 - 920	(s)
$\text{R}_2\text{C} = \text{CH}_2$ (out of plane)	880 - 900	(s)
cis - $\text{RCH} = \text{CHR}$ C-H bendings)	675 - 730	(s)
trans - $\text{RCH} = \text{CHR}$	960 - 975	(s)
C. Alkynyl		
$\equiv \text{C} - \text{H}$ (stretching)	- 3300	(s)
$\text{C} \equiv \text{C}$ (stretching)	2100 - 2260	(v)
D. Aromatic		
Ar - H (stretching)	- 3030	(v)
Aromatic substitution type (C-H out-of-plane bendings)		
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		
aldehydes - 1720 { stre 2700 - 2900	1630 - 1780	(s)
ketones	1690 - 1740	(s)
esters	1680 - 1750	(s)
carboxylic acids	1735 - 1750	(s)
amides	1710 - 1780	(s)
	1630 - 1690	(s)
G. Amines		
N - H	3300 - 3500	(m)
H. Nitriles		
$\text{C} \equiv \text{N}$	2220 - 2260	(m)



TABLE - 2  
Approximate Proton Chemical Shifts in NMR

TYPE OF PROTON	CHEMICAL SHIFT, DELTA, PPM ( $\delta$ )
1° Alkyl, $RCH_3$	0.8 - 1.0
2° Alkyl, $RCH_2R$	1.2 - 1.4
3° Alkyl $R_3CH$	1.4 - 1.7
Allylic, $R_2C = \underset{\substack{  \\ R}}{C} - CH_3$	1.6 - 1.9
Benzylic, $ArCH_3$	2.2 - 2.5
Alkyl chloride $RCH_2Cl$	3.6 - 3.8
Alkyl bromide, $RCH_2Br$	3.4 - 3.6
Alkyl iodide, $RCH_2I$	3.1 - 3.3
Ether, $ROCH_2R$	3.3 - 3.9
Alcohol, $HOCH_2R$	3.3 - 4.0
Ketone, $RCCH_3$ $\begin{array}{c}    \\ O \end{array}$	2.1 - 2.6
Aldehyde, $RCH$ $\begin{array}{c}    \\ O \end{array}$	9.5 - 9.6
Vinylic, $R_2C = CH_2$	4.6 - 5.0
Vinylic $R_2C = \underset{\substack{  \\ R}}{CH}$	5.2 - 5.7
Aromatic, $ArH$	6.0 - 9.5
Acetylenic, $RC \equiv CH$	2.5 - 3.1
Alcohol hydroxyl, $ROH$	0.5 - 6.0 <sup>a</sup>
Carboxylic, $RCOH$ $\begin{array}{c}    \\ O \end{array}$	10 - 13 <sup>a</sup>
Phenolic, $ArOH$	4.5 - 7.7 <sup>a</sup>
Amino $R-NH_2$	1.0 - 5.0

<sup>a</sup>The chemical shifts of these groups vary in different solvents and with temperature and concentration.

TABLE - 3

## U.V. Absorption rules for diene chromophores

- |   |        |                           |
|---|--------|---------------------------|
| 1) Parent   | 215 nm |                           |
| 2) Each extra conjugation   | 30 nm  |                           |
| 3) Homoannular  | 39 nm  | - OH, - OR, Cl, Br 5 (nm) |
| 4) Exocyclic double bond  | 05 nm  | - SR, (30 nm)             |
| 5) Each alkyl (R) substituent directly attached to double bonded carbon | 05 nm  | - NR <sub>2</sub> (60 nm) |

## U.V. Absorption rules for Enone System

- |                                    |        |
|------------------------------------|--------|
| 1) Parent                          | 215 nm |
| 2) Each extra conjugation          | 30 nm  |
| 3) Homoannular                     | 39 nm  |
| 4) Substituents                    |        |
| a) Alkyl group at $\alpha$         | 10 nm  |
| b) Alkyl group at $\beta$          | 12 nm  |
| c) Alkyl group at $\gamma, \delta$ | 18 nm  |

	$\alpha$	$\beta$	$\gamma$
Cl	15	12	
OH, OR	35	30	
SR		85	
NR <sub>2</sub>		95	
O		75	
Acy!	6	6	6



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**B.Sc. – III (Sem. – V) Entrepreneurship Examination, 2015**  
**INDUSTRIAL MICROBIOLOGY AND INDUSTRIAL BIOTECHNOLOGY (New)**  
**Paper – IX : Advances in Fermentation Technology**

Day and Date : Tuesday, 3-11-2015  
Time : 2.30 p.m. to 4.30 p.m.

Max. Marks : 50

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

1. Choose and write correct answers from given four alternatives. **10**
- 1) \_\_\_\_\_ are antibacterial proteins produced by bacteria that kill or inhibit the growth of other bacteria.  
A) Antibiotics                                    B) Bacteriocin  
C) Both A) and B)                               D) None of these
  - 2) \_\_\_\_\_ is biodegradable plastic.  
A) PHA     B) PHB  
C) Both A) and B)                               D) None of these
  - 3) \_\_\_\_\_ hormone produced by pancreas  $\beta$  cells.  
A) Insulin            B) Glucagon     C) Trypsin            D) Thymine
  - 4) Xanthan gum is produced by \_\_\_\_\_  
A) Penicillium Spp.  
B) Aspergillus niger  
C) Bacillus subtilis  
D) Xanthomonas compestris
  - 5) \_\_\_\_\_ recongnizable sign, design or expression which identifies products or services.  
A) Patent            B) Secret            C) Trademark            D) All of these



6) A \_\_\_\_\_ is a bacterial toxin which is inactivated or suppressed by physical or chemical treatment.

- A) Toxoid
- B) Toxin
- C) Both A) and B)
- D) Interferon

7) GMP means \_\_\_\_\_

- A) Good Laboratory Practices
- B) Good Manufacturing Practice
- C) Genetically Modified Product
- D) None of these

8) \_\_\_\_\_ are of steps for mushroom cultivation.

- A) Composting
- B) Spawning
- C) Cropping
- D) All of these

9) Acetic acid bacteria used for production of \_\_\_\_\_

- A) Acetone
- B) Vinegar
- C) Butanol
- D) Glycerol

10) \_\_\_\_\_ is the study of typically controversial ethical issues emerging from new situations and possibilities brought about by advances in biology and medicine.

- A) Biosafety
- B) Bioethics
- C) Bioinformatic
- D) All of these

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

10

- i) Quality control
- ii) Copyright
- iii) Define Vaccine
- iv) Interferon
- v) International codes
- vi) Define Biopolymer
- vii) Enlist names of recombinant products.



3. A) Answer on **any two** of the following : **6**
- i) Write a note on risk and risk assessment.
  - ii) Explain in brief IPR.
  - iii) What is toxoid ? Explain in brief method of toxoid preparation.
3. B) Give detailed account on Insuline production. **4**
4. Answer on **any two** of the following : **10**
- i) Explain in detail GMP and biosafety.
  - ii) Describe in detail PHB production.
  - iii) Write a detail account on glycerol production.
5. Answer on **any one** of the following : **10**
- i) Describe in detail mushroom cultivation.
  - ii) Give a detailed account on fermentative production of Vinegar.
-