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B.Sc. – I (Semester – I) (Entrepreneurship) Examination, 2015
ENGLISH COMPULSORY (CGPA Pattern)

Day and Date : Wednesday, 1-4-2015
Time : 11.00 a.m. to 2.00 p.m.

Max. Marks : 70

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

1. Rewrite the following sentences by choosing correct alternative : 14
- 1) What did the policeman look like ?
 - a) Uniformed and frail and short
 - b) Uniformed and well-built
 - c) Dressed in ordinary clothes and frail and short
 - d) Dressed in ordinary clothes and well-built
 - 2) When the writer invited her to stay with her for a while, Miss Krishna agreed _____
 - a) Reluctantly
 - b) Shyly
 - c) Readily
 - d) With little enthusiasm
 - 3) The name of the psychologist who developed the IQ test was _____
 - a) Dr. Sigmund Freud
 - b) Carl Jung
 - c) Robert Smith
 - d) Mr. Binet
 - 4) The word 'intelligence' is derived from the Latin word _____
 - a) Intellegere
 - b) Intellectual
 - c) Intellect
 - d) None of these
 - 5) Krishna's first name was _____
 - a) Maya
 - b) Sheela
 - c) Mala
 - d) Nergis
 - 6) What did the policeman on the beat constantly do ?
 - a) Twirl his stick
 - b) Interrogate people on his beat
 - c) Smoke a Cigar
 - d) Unlock doors



- 7) What does 'shining loads' mean _____
a) An unmarried woman's wrist b) bunches of bangles
c) The flame of a marriage fire d) Sunlit corn
- 8) The words Kiltartan cross refer to _____
a) A famous place in Ireland b) The battlefield
c) An Irish Church d) None of the above
- 9) The poem 'Bangle Sellers' is written by _____
a) W. B. Yeats b) Sarojini Naidu
c) John Milton d) W. B. Keats
- 10) The speaker of the poem 'An Irish Airman Foresees His Death' is _____
a) Irish Airman or Pilot b) Farmer
c) Sailor d) None of the above
- 11) Can you give me _____ money ?
a) Any b) Some c) Little d) A few
- 12) A man is known by _____ company he keeps.
a) the b) a
c) an d) none of the above
- 13) The woman _____ the car is my neighbour.
a) of b) in c) on d) under
- 14) What is the capital _____ Switzerland ?
a) of b) at c) on d) from

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

14

- 1) Describe the weather in the story 'After Twenty Years'.
- 2) What sort of relationship did Bob and Jimmy share ?
- 3) What did Miss Krishna claim to be the 'Panacea for all (her) ills' ?
- 4) How can you define 'intelligence' ?
- 5) What are the areas in which the computer is much faster than human brain ?
- 6) What colours of bangles are suitable for a maiden's wrists ?
- 7) How does the speaker imagine he will die ?
- 8) Whom are the purple and gold-flecked grey bangles meant for ?



3. A) Write short note on **any two** of the following : **8**
- 1) Jimmy Wells
 - 2) Miss Krishna's character
 - 3) The merits of artificial intelligence.
- B) Answer **any three** of the following questions briefly : **6**
- 1) Describe the different types of bangles which the bangle-sellers carry.
 - 2) How does the poet describe the faithful wife who is now middle-aged ?
 - 3) What is the Irish airman's attitude towards the war he is fighting in ?
 - 4) What do you think is the speaker's attitude towards his 'poor' countrymen ?
4. 1) Write an essay on 'Impact of Mobiles on the lives of the Youth Today'. **14**
- OR
- 2) Write paragraphs of **six to eight** sentences on **each** of the following :
- 1) Terrorism : Irrational and Inhuman
 - 2) Solar energy.
5. Read the following passage and make notes of it. Use an appropriate title for your notes : **14**
- There are different forms of environmental pollution. Air pollution is caused by the burning of coal and oil. It can damage the earth's vegetation and cause respiratory problems in humans. A second type of pollution is noise pollution. It is the result of the noise of aircraft and heavy traffic. Further, loud music is also a cause of noise pollution, which has been seen to affect people's hearing and give them severe headaches and high blood pressure. Another source of pollution is radioactivity, which occurs when there is a leak from a nuclear power station. Radioactivity is a deadly pollutant, which kills and causes irreparable harm to those exposed to it. Land and water pollution is caused by the careless disposal of huge quantities of rubbish, sewage and chemical wastes. Pollution of rivers and seas kills fishes and other marine life and also becomes the cause of water-borne diseases. Land pollution, on the other hand, Poisons the soil, making the food grown in it unfit for consumption.
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**B.Sc. – I (Entrepreneurship) (Semester – II) (New) (CGPA Pattern)
Examination, 2015
ENGLISH COMPULSORY (On Track)
English Skills for Success**

Day and Date : Monday, 20-4-2015
Time : 11.00 a.m. to 2.00 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 is known as the father of _____
 - a) Rocketry
 - b) PSLV
 - c) SLV-3
 - d) V-2 missiles
- 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) On which day was the first session of the Parliament of Religion scheduled to begin ?
 - a) On May 31, 1893
 - b) On September 11, 1893
 - c) On September 21, 1894
 - d) On May 31, 1894
- 4) After discovering 'his purse was nearly empty' what did Vivekananda do ?
 - a) He held on to whatever money was left
 - b) He met with Mr. J. H. Wright and asked him to help him out
 - c) He begged on the roads for money
 - d) He travelled to Boston with what was left
- 5) The Lusaka Zoo presents _____ as the world's most dangerous animal.
 - a) Man
 - b) Woman
 - c) Carnivorous animals
 - d) Reptiles



- 6) To find out if a society is civilized, we have to check _____
- a) Whether there is material progress
 - b) Whether all the people have jobs
 - c) Whether the people have freedom
 - d) Whether the poorest are supported
- 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) One message of the poem “Brahma” is that _____
- a) Lovers of good deeds are dear to the god
 - b) Lovers with sincere love are dear to the god
 - c) Selfless devotees of the good are dear to the god
 - d) Non-devotees of the evil are dear to the god
- 9) The garden of Gethsemane is famous because _____ here.
- a) Jesus Christ gave advice to his disciples
 - b) Jesus Christ got knowledge under a tree
 - c) Jesus Christ took his last supper
 - d) Jesus Christ said his last prayer
- 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) He is the _____ person for us.
- a) Valuable
 - b) More valuable
 - c) Valuablest
 - d) Most valuable
- 13) He went to the tailor to _____ his trousers which was a bit too long.
- a) altar
 - b) alter
 - c) alert
 - d) allot
- 14) The _____ refused to admit him in the science stream.
- a) principle
 - b) principal
 - c) prince
 - d) princess



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

- 1) What happened to the first V-2 Missile when it was first tested ?
- 2) Describe Vivekananda's meeting with J. H. Wright. How did Wright help him out ?
- 3) Why was Vivekananda not prepared for the weather condition in Chicago ?
- 4) What was the motivating slogan behind the American Civil War ?
- 5) Why does the author declare that human rights cannot function in a vacuum ?
- 6) What is the central theme of the poem "Brahma" ?
- 7) What does the end of the poem "Full Moon" suggest ?
- 8) What transition has taken place in our approach to the moon ?

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

- 1) How was Vivekananda's speech at the Parliament of Religions different from those of the other Speaker's ? How did it create a magic on the occasion ?
- 2) What kind of personality was Von Braun according to Dr. Kalam ?
- 3) What role do gods and religion have in the poem, in relation to Brahma ?

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

- 1) What is a notice ?
- 2) What are the aspects of a good C.V. ?
- 3) What is CC and BCC ?

4. Write a suitable C.V. for the post of a lecturer in English. **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 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 an e-mail message : **14**

You have to go to work on a mechanical project for your company in Bangalore. Send an e-mail message to Rajdeep Travels (Address : rajdeeptours@rajdeep.com), asking them to make travel arrangements for you to go Singapore by air and return after a week specify airline you would prefer to travel by, the dates, the class by which you want to travel, the mode of payment, the delivery instruction and your food preferences in an attachment called 'Travel details'.



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

Day and Date : Wednesday, 22-4-2015
Time : 11.00 a.m. to 2.00 p.m.

Max. Marks : 70

- N.B. :** 1) **All questions are compulsory.**
2) **Figures to the right indicate full marks.**
3) **Answers 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) Management accounting is applicable to _____
 - a) Service entities
 - b) Manufacturing entities
 - c) Not-for-profit entities
 - d) All of these
- 2) _____ is the most important elements in the marketing mix.
 - a) Product
 - b) Price
 - c) Service
 - d) Place
- 3) _____ is the function of Business.
 - a) Marketing
 - b) Innovation
 - c) Money
 - d) Service
- 4) Both direct materials and indirect materials are classified as
 - a) Raw Materials
 - b) Manufacturing overhead
 - c) Merchandise Inventory
 - d) Non-current Assets
- 5) Marketing means _____
 - a) Exchange
 - b) Distribution
 - c) Facilities
 - d) All the above



2. Answer **any five** of the following : 10
- i) Define Market.
 - ii) Define working capital.
 - iii) Benefit or Marketing Research.
 - iv) Explain Current Ratio.
 - v) What is meaning of Marketing Segmentation.
 - vi) Write down concept of Accounting.
3. a) Write short notes on **any two** of the following : 10
- i) Explain the nature and scope of Marketing.
 - ii) Explain external uncontrollable forces.
 - iii) Write short note on Inventory turnover Ratio.
- b) Write answer **any one** of the following : 10
- i) Explain the concept, scope and nature of management account.
 - ii) Explain the types of marketing.

SECTION – II

1. Rewrite the following sentences by selecting correct answers from given alternatives : 5
- 1) Material is _____
- a) Direct Expenses
 - b) Indirect Expenses
 - c) Both a) and b)
 - d) None of these
- 2) SSI means _____
- a) Small Scale Industry
 - b) Small Standard Industry
 - c) Standard Scale Industry
 - d) None of the these
- 3) Project means _____
- a) Plan of Action
 - b) Blue print of goals
 - c) Set of activities and consideration of output
 - d) All the above



- 4) Indirect material shows in _____
- a) Factory overhead
 - b) Administrative Overheads
 - c) Selling overhead
 - d) All of the above
- 5) Operation costing is useful for _____
- a) Transport
 - b) Power generation
 - c) Both a) and b)
 - d) None of these

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

- i) Types of Cost.
- ii) Define Price Value.
- iii) What is Indirect Cost ?
- iv) Write down sources of Capital.
- v) What is meant by Project Report ?
- vi) Note on SSI.

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

- i) What is meant by project ? Explain the types of project ?
- ii) Write down features of Job Cost Sheet.
- iii) Write down objective and scope of small business.

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

- i) Explain the process of project development.
 - ii) Explain the basic terms in cost accounting and financial accounting and management accounting.
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**B.Sc. (Part – I) (Semester – II) Examination, 2015
ENTREPRENEURSHIP (CGPA Pattern) (New)
Industrial Chemistry (Paper – II)**

Day and Date : Friday, 24-4-2015
Time : 11.00 a.m. to 2.00 p.m.

Total Marks : 70

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

SECTION – I

(Fundamentals of Physical Chemistry)

1. Choose the most correct alternative for **each** of the following : **5**
- i) Liquefaction is the reverse process of _____
a) Sublimation b) Evaporation
c) Solidification d) All of these
- ii) The photochemical reaction between H₂ and Cl₂ is an example of _____ order.
a) First b) Second c) Third d) Zero
- iii) The unit of surface tension is _____
a) dyne cm b) dyne cm⁻¹
c) dyne⁻¹ cm d) dyne⁻¹ cm⁻¹
- iv) P_c, V_c and T_c are known as _____ constants.
a) Critical b) Gas
c) Van der Waal's d) Velocity
- v) The molecularity of a chemical reaction never be _____
a) Zero b) Integral
c) Half integral d) None of these



2. Answer **any five** of the following : 10
- a) Define order of a reaction.
 - b) Mention Macleod's formula for parachor.
 - c) Write Van der Waal's gas equation.
 - d) What do you understand by the term stoichiometry ?
 - e) Define ideal and real gas.
 - f) What do you mean by continuity of a state ?
 - g) Give one example of first order reaction.
3. A) Write short notes on **any two** : 10
- i) Characteristics of second order reaction.
 - ii) P-V isotherms of real gases.
 - iii) Different methods of determination of concentration.
- B) Answer **any one** of the following : 10
- i) Derive the expression for rate constant for first order reaction. Give characteristics of first order reaction.
 - ii) Describe drop-weight method for determination of surface tension.

SECTION – II

(Fundamentals of Analytical Chemistry)

1. Select the most correct alternative from given below and rewrite the sentences : 5
- i) The process that does not occur of its own accord is called _____
 - a) Non-isothermal
 - b) Isothermal
 - c) Spontaneous
 - d) Non-spontaneous
 - ii) Based on the origin, polymers are grouped into _____ and _____
 - a) Co-polymer, polymer
 - b) Homo, hetero
 - c) Synthetic, normal
 - d) All of these



- iii) The chief component of natural gas is _____
- a) Acetylene
 - b) Methane
 - c) Ethane
 - d) Propane
- iv) In case of cyclic processes _____
- a) $q = W$
 - b) $\Delta E = W$
 - c) $q = -W$
 - d) $-q = W$
- v) _____ is taken up by plant from air.
- a) Carbon as CO_2
 - b) Sulphur as SO
 - c) Carbon as CO
 - d) None of these

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

10

- a) What are the types of fuels ?
- b) Explain in brief, vulcanization.
- c) What is the roll of cis-platin as a medicine ?
- d) State the second law of thermodynamics.
- e) Define octane number and flash point.
- f) Explain in brief, heat of decomposition.
- g) Define calorific value and heating value.

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

10

- i) Write a short note on refining of petroleum.
- ii) Explain in brief, major and minor nutrients for plants.
- iii) Explain with suitable example, linear, branched and cross-linked polymers.

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

10

- i) a) Explain Joule-Thomson effect.
 - b) Write the difference between spontaneous and non-spontaneous process.
 - ii) Explain in detail natural gas, strain run, gasoline and kerosene.
- _____



2. Answer **any five** of the following : **10**
- i) List the antifoam agents.
 - ii) Define precursors.
 - iii) How the fermentor is sterilized ?
 - iv) What is significance of buffer during fermentation ?
 - v) What is crowded plate technique ?
 - vi) Define production strain.
 - vii) Which materials are used for construction of fermentor ?
3. A) Write short notes on **any two** of the following : **10**
- i) Describe in detail scope of industrial Microbiology.
 - ii) Design of fermentor and factors affecting on fermentation process.
 - iii) Raw materials used for designing of fermentation media.
- B) Answer **any one** of the following : **10**
- i) Write an essay on Screening Techniques.
 - ii) Describe in detail preservation and maintenance of industrially important microorganisms.

SECTION – II
(Basic Techniques in Microbiology)

1. Rewrite the following sentences by selecting correct answers from given alternatives : **5**
- i) Distillation is used for recovery of _____
 - a) Antibiotic
 - b) Enzyme
 - c) Vitamins
 - d) Ethanol
 - ii) Strain improvement is carried out by _____
 - a) Mutation
 - b) Sterilization
 - c) Incubation
 - d) Pasteurization
 - iii) _____ is used as test organism for penicillin assay.
 - a) E.coli
 - b) S. typhi
 - c) S. aureus
 - d) Shigella
 - iv) Agar cup method is used for bioassay of _____
 - a) Organic solvent
 - b) Enzyme
 - c) Antibiotics
 - d) Ethanol



v) Zone of growth enhancement are found in _____ assay.

- a) Vitamin
- b) Antibiotic
- c) Ethanol
- d) Enzyme

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

- i) Define strain improvement.
- ii) Define enzymatic assay.
- iii) What is inoculum ?
- iv) Give the use of computer in fermentation.
- v) Define biological assay.
- vi) Give the methods for separation of biomass.
- vii) Give the list of mutagenic agents.

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

- i) Describe the methods of strain improvement.
- ii) Describe recovery of product by solvent extraction and distillation.
- iii) Describe the computer applications in fermentation process.

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

- i) Describe in detail microbial assay.
 - ii) Describe in detail development of inoculum and scale up of fermentation.
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SLR-N – 19

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**B.Sc. – I (Semester – II) (Entrepreneurship) (New) Examination, 2015
INDUSTRIAL BIOTECHNOLOGY (Paper – II) (CGPA Pattern)**

Day and Date : Wednesday, 29-4-2015
Time : 11.00 a.m. to 2.00 p.m.

Max. Marks : 35+35=70

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

**SECTION – I
(Basic Biomolecules)**

1. Rewrite the following sentences by choosing correct alternatives. **5**

- 1) _____ is a disaccharide.
A) Glucose B) Sucrose
C) Raffinose D) Starch
- 2) Double bonds are present in _____ fatty acid.
A) Unsaturated B) Saturated C) Simple D) Complex
- 3) α helix and β sheets are present in _____ structure.
A) Primary B) Secondary C) Tertiary D) Quaternary
- 4) Pellagra is the disorder caused due to deficiency of _____ vitamins.
A) Thiamin B) Biotin C) Niacin D) Riboflavin
- 5) The enzymes are nomenclatured by _____ numbers.
A) AC B) OC C) UC D) EC

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

- i) Define disaccharide and give an example.
- ii) Define hormones.
- iii) Write biochemical functions of vitamin B
- iv) Write about peptide bond.

P.T.O.



- v) Active site.
- vi) Liposomes.
- vii) Homopolysaccharide.

3. A) Write **any two** of the following : 10
- 1) Describe in detail structural level classification of proteins.
 - 2) Describe in detail storage polysaccharide.
 - 3) Describe in detail chemical classes and functions of hormones.
- B) Write **any one** of the following : 10
- 1) Describe in detail methods of immobilization of enzymes.
 - 2) Write an account on lipids.

SECTION – II
(Basics of Metabolism)

1. Rewrite the following sentences by choosing correct alternatives. 5
- 1) _____ type of organism prepare their own food material.
 - a) Heterotrophs
 - b) Autotrophs
 - c) Chemoautotrophs
 - d) Saprophyte
 - 2) _____ is the site of ATP production.
 - a) Golgi apparatus
 - b) Endoplasmic reticulum
 - c) Mitochondria
 - d) Nucleus
 - 3) Glyoxylate cycles takes place in _____
 - a) Glyoxysome
 - b) Cytosol
 - c) Mitochondria
 - d) All of above
 - 4) Conversion of glucose to two molecules of pyruvate is known as _____
 - a) Glycolysis
 - b) Gluconeogenesis
 - c) Glycogenesis
 - d) Regeneration
 - 5) Which of the following is the Phase-I reaction of biotransformation ?
 - a) Oxidative
 - b) Reductive
 - c) Hydrolytic
 - d) All of above



2. Write **any five** of the following : **10**
- 1) Define heterotrophs with example.
 - 2) Which are the components of electron transport chain ?
 - 3) What is mean by xenobiotics ?
 - 4) Explain uncoupling agents.
 - 5) What is the chemical constituents of plasma membrane ?
 - 6) Explain the term anabolism and catabolism.
 - 7) What is mean by active transport ?
3. A) Write **any two** of the following : **10**
- 1) Explain the role of enzyme in biotransformation.
 - 2) Explain in detail redox reaction.
 - 3) Explain in detail glycolysis.
- B) Write **any one** of the following : **10**
- 1) Write an essay on TCA pathway.
 - 2) Explain in detail oxidative phosphorylation.
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B.Sc. – I (Semester – I) (CGPA Pattern) Examination, 2015
ENTREPRENEURSHIP (Paper – I)
Entrepreneurship and the World of Business, Economics for Manager and Managerial Accounting

Day and Date : Tuesday, 7-4-2015
Time : 11.00 a.m. to 2.00 p.m.

Max. Marks : 70

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

SECTION – I
(Entrepreneurship and the World of Business)

1. Rewrite the answer by choosing correct alternative : 5
- 1) The word entrepreneurship is derived from _____ verb *entrependre*.
a) French b) Latin c) Greek d) German
 - 2) In the early 1960s psychological roots of theory of entrepreneurship was put forward by _____
a) David Mc. Clelland b) Maslow
c) David Boyd d) Thomas Begley
 - 3) The first and traditionally the hardest barrier to over come is _____ barrier.
a) Societal b) Financial c) Environmental
 - 4) Entrepreneurship is the best way to fight the civil of _____
a) Unemployment b) Poverty c) Corruption
 - 5) _____ handles all human right violations against women.
a) National Human Right Commission for Women
b) National Council for Women
c) NGO



2. Answer the following questions (**any 5**) : **10**
- 1) Name the promotional measures for women's entrepreneurship.
 - 2) What do you mean by entrepreneur and entrepreneurship ?
 - 3) State the influence of background factor on behavioural orientation of entrepreneur.
 - 4) Define business ethics and its importance.
 - 5) Describe the entrepreneurial process.
 - 6) Discuss objective and scope of business.
 - 7) What is sole trader's business organization ?
3. A) Write short notes on (**any 2**) : **10**
- a) Public Limited Company and Private Limited Company.
 - b) Barriers to entrepreneurship.
 - c) Entrepreneurial motivation.
 - d) Characteristics of entrepreneur.
- B) Discuss in brief (**any 1**) : **10**
- 1) Factors responsible for emergence of entrepreneurship.
 - 2) Problem faced by women entrepreneur.

SECTION – II
(Economics for Manager and Managerial Accounting)

1. Choose correct answers from the given alternatives : **5**
- 1) Machinery A/c shows _____ balance.
a) Debit b) Credit c) Positive d) Negative
 - 2) Debtors A/c shows _____ Balance.
a) Debit b) Credit c) Nominal d) Real
 - 3) Financial statement is a part of _____
a) Book keeping b) Debit c) Accounting d) None of these
 - 4) Profit is measured by _____
a) Revenue – fixed costs b) Fixed cost + revenue
c) Revenue – sales d) Revenue – total costs
 - 5) Production cost is concerned with _____ to produce a given quantity of output.
a) Demand forecast b) Estimation of costs
c) Profit management d) Pricing policies



2. Short notes (**any 5**) : **10**
- 1) What is economics ? Meaning and definition.
 - 2) Explain in Individual demand and market demand.
 - 3) Criteria of good forecasting methods.
 - 4) What is journal ?
 - 5) Preparation of final a/c.
 - 6) What is function of business finance ?

3. A) Write short note (**any 2**) : **6**
- 1) What is economic of scale ? Classified of internal economics and external economics.
 - 2) Define demand forecasting. Explain in short the type of demand forecasting.
 - 3) What is accounting and explain classification of accounts ?

B) Journalize following transaction : **4**

Date	Particulars	Amt.
1	Started business with cash	80,000
2	Paid salary	2,000
3	Brought Goods from Mohan	50,000
4	Purchase Machinery and Furniture	20,000
5	Paid for postage	1,500

4. Write brief Question (**any 1**) : **10**
- A) Journalize the following transaction. In the books of Miss. Nivedita

Date	Particulars	Amt.
(May 2010)		
1	Started business with cash	1,10,000
4	Purchased goods for cash	60,000
5	Sold goods for cash	70,000
9	Deposited in to Bank of India	1,10,000
13	Paid for stationary	1,000
17	Purchased computer with printer	40,000
21	Purchased goods from Ravi on credit	50,000
25	Paid for office rent	2,000
26	Received commission	1,000
30	Paid for salaries'1	4,500

B) What is Managerial Economics ? And explain in detail the scope and nature of it.



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B.Sc. – I (Entrepreneurship) (Old) (Semester – II) Examination, 2015
ENGLISH (Comp.)
On Track – English Skills for Success

Day and Date : Monday, 20-4-2015
Time : 11.00 a.m. to 1.00 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 choosing correct alternatives given below : **10**
- 1) Dr. Kalam successfully tested _____ while in France.
 - a) V-2 Missile
 - b) Jupiter Missile
 - c) SLV-3 Apogee motor
 - d) Agni Missile
 - 2) _____ represented the Jains at the Parliament of Religions.
 - a) Vivekananda
 - b) Mahatma Gandhi
 - c) Annie Besant
 - d) Pratap Chander Mazoomdar
 - 3) After our incredible scientific progress, what is the greatest threat to humanity ?
 - a) Natural calamity
 - b) Diseases
 - c) The human being himself
 - d) Nuclear weapons
 - 4) But thou, made lover of the _____ !
Find me, and turn thy back on heaven.
 - a) Nature
 - b) Beauty
 - c) Good
 - d) Mankind
 - 5) In the poem Full Moon, bubble house is the _____
 - a) heaven
 - b) bungalow
 - c) big factory
 - d) moon



- 6) No longer _____ of goddess to whom we pray.
a) Palace
b) Throne
c) House
d) Temple
- 7) The antonym of the word dormant is _____
a) Latent
b) Active
c) Passive
d) Inactive
- 8) Mother is a _____ singer than me.
a) Best
b) Better
c) Good
d) More good
- 9) Who won the race ? The _____ or the tortoise ?
a) Hire
b) Hare
c) Here
d) Hear
- 10) Find the synonym of the word diffident.
a) Confident
b) Tolerant
c) Shy
d) Difficult

2. Answer the following questions briefly (**any five**) :

10

- 1) What were the points about the new culture that struck Vivekananda on his arrival in America ?
- 2) What are the sings of hope for a better World that Palkhiwala sees ?
- 3) What advice did Verner Van Braun give to Dr. Kalam ?
- 4) Describe Vivekananda's meeting with J. H. Wright.
- 5) What is the complex that Von Braun attributed to the Americans ?
- 6) What do you understand by Human Rights ?

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

6

- 1) What is the central theme of the poem Brahma ?
- 2) What role do gods and religion have in the poem Brahma ?
- 3) Why does the poet bemoan the moon's fate ?



B) Write short answers to the following **(any two)** : **4**

- 1) Draft a notice of the second meeting of the Managing Director of ABC Institute to be held at the Head Office at 5 p.m. on Saturday 10 May 2014.
- 2) You are the Chairman of SUTA, Solapur. Prepare an agenda for a meeting with the VC. The meeting has been called to discuss the venue, date and time.
- 3) Write in brief the role of email in the process of communication.

4. Answer the following **(any one)** : **10**

- 1) You are Anne Jacob, a graduate in chemical engineering from NIT Hyderabad. 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 the 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 CV.
- 2) You are Asha Kiran, Secretary of the English Literary Association, Mangalore College Mangalore. Prof. Kiran Nagarkar a well-known novelist has agreed to inaugurate the Association on 15 May 2014. Write a notice informing about the meeting of office bearers of the Association, about the date, time and venue of the function and also prepare minutes of the said meeting.

5. Suppose you are applying for the post of Assistant Professor of Chemistry in Rayat Shikshan Sanstha, Satara. Prepare a CV for the post mentioned above. **10**



Seat No.	
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B.Sc. – I (Semester – II) Examination, 2015
ENTREPRENEURSHIP (Old) (Paper – III)
Principles of Marketing and Management Accounting

Day and Date : Tuesday, 21-4-2015

Max. Marks : 50

Time : 11.00 a.m. to 1.00 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 the given alternatives :

10

- i) ITR stands for
a) Inventory Turnover Ratio b) Interest Turnover Ratio
c) Internation Turnover Ratio d) Income Turnover Ratio
- ii) Manufactured Goods sub classified into _____
a) Industrial Goods b) Consumer Goods
c) Both a) and b) d) None of these
- iii) Types of Data _____
a) Primary b) Secondary
c) Both a) and b) d) None of these
- iv) Which of the following is not an internal user of management information ?
a) Creditor b) Department Manager
c) Controller d) Treasurer
- v) Management accounting reports can be described as
a) General-purpose b) Macro-reports
c) Special-purpose d) Classified financial statements
- vi) Marketing means _____
a) Exchange b) Distribution c) Facilities d) All the above
- vii) _____ is a decision making system.
a) Management A/c b) Financial A/c
c) Cost A/c d) All the above

P.T.O.



- viii) Revenue or benefits accrued to the business is known as _____
a) Income b) Bad debts c) Posting d) Journal
- ix) _____ is dealing between two or more persons.
a) Transaction b) Books c) Account d) Debts
- x) MS stands for _____
a) Market Segmentation b) Market Selling
c) Market Search d) Market System

2. Answer in short (**any five**) : **10**
- i) Define Market.
 - ii) What is meant by Environment ?
 - iii) Importance of Marketing.
 - iv) What is meant by Management ?
 - v) Write note on Net Profit Ratio.
 - vi) Write down types of Account.
3. a) Answer in brief (**any 2**) : **6**
- i) Concept of Account
 - ii) Scope of Management Account
 - iii) Selling Vs Marketing.
- b) Write down advantages of Segmentation. **4**
4. Describe **any two** of the following : **10**
- i) Explain the Marketing Environment.
 - ii) Explain the importance of Marketing Research.
 - iii) Write down Working Capital.
5. Answer **any two** of the following : **10**
- i) Write down various type of ratios in Management Accounting.
 - ii) Explain the scope and types of Marketing.
 - iii) Explain external uncontrollable forces.
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Seat No.	
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B.Sc.– I (Semester – II) (Entrepreneurship) Examination, 2015
COST ACCOUNTING AND PROJECT MANAGEMENT
(Paper – IV) (Old)

Day and Date : Wednesday, 22-4-2015
Time : 11.00 a.m. to 1.00 p.m.

Max. Marks : 50

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

1. Choose the correct alternative from the given alternatives : **10**
- 1) _____ is mainly related with the historical records namely what has happened.
a) Management Accounting b) Financial Accounting
c) Cost Accounting d) All of the above
 - 2) Direct labour cost is a _____
a) Direct cost b) Indirect cost
c) Factory cost d) Selling cost
 - 3) Overhead is a _____
a) Direct expenses b) Indirect expenses
c) Both a) and b) d) None of the above
 - 4) Service costing is useful for _____
a) Construction b) Hotel and tourism
c) Hospital d) Both b) and c)
 - 5) Delivery van expenses considered as _____
a) Prime cost b) Factory cost
c) Production cost d) Selling and distribution cost
 - 6) Office staff salary is considered as _____
a) Selling exp. b) Factory exp.
c) Administrative exp. d) None of the above



5. Prepare cost sheet considering 20% profit on sales from the following given information : 10

Direct material	–	4,00,000
Direct labour	–	2,00,000
Factory overhead	–	1,50,000
Office overheads	–	50,000
Selling and distribution exp.	–	70,000
Opening stock :		
Raw material	–	25,000
Finished goods	–	30,000
WIP	–	70,000
Closing stock :		
Raw material	–	20,000
Finished goods	–	40,000
WIP	–	71,000

OR

5. Explain the factors influencing working capital requirement.



Seat No.	
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B.Sc. – I (Semester – II) (Entrepreneurship) Examination, 2015
INDUSTRIAL CHEMISTRY (Paper – III) (Old)
Fundamentals of Physical Chemistry

Day and Date : Thursday, 23-4-2015

Max. Marks : 50

Time : 11.00 a.m. to 1.00 p.m.

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

1. Select the most correct alternative : 10
- The ratio of number of moles of the substance to the number of moles of all the substances in the solution is called as _____
 - Mole fraction
 - Weight fraction
 - Molarity
 - Normality
 - The number of moles of solute present in 1 kg of solvent is called as _____ of solution.
 - Molarity
 - Molality
 - Normality
 - All of these
 - Unit of zero order reaction is _____
 - $\text{dm}^3 \text{mol}^{-1} \text{time}^{-1}$
 - time^{-1}
 - $\text{dm}^{-3} \text{mol}^{-1} \text{time}^{-1}$
 - $\text{mol dm}^{-3} \text{time}^{-1}$
 - Total number of reactant .molecules participating in the reaction is called as _____
 - Order
 - Molecularity
 - Rate constant
 - All of these



- 5) Decomposition of oxalic acid is _____ order reaction.
a) Zero b) First c) Second d) Third
- 6) The reaction in which the rate is directly proportional to square of concentration of reactant is called as _____
a) Third b) First
c) Second d) Zero
- 7) Liquefaction is reverse process of _____
a) Vaporization b) Solidification
c) Sublimation d) All of these
- 8) The graph of pressure against volume at constant temperature is called as _____
a) Isochore b) Isotherm
c) Both a) and b) d) None of the above
- 9) The reciprocal of coefficient of viscosity is called as _____
a) Parachor b) Surface tension
c) Fluidity d) Molecular volume
- 10) _____ is determined by drop weight method.
a) Parachor b) Viscosity
c) Density d) Surface tension

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

10

- 1) Define % composition by weight and % composition by volume.
- 2) Give two characteristics of first order reaction.
- 3) Define ideal and nonideal gas.
- 4) Give the names of methods used to determine the order of reaction.
- 5) Define “additive and constitutive property” with example.
- 6) Define first order reaction and give the unit of its rate constant.



3. A) Attempt **any two** : 6
- 1) Define critical temperature, critical pressure and critical volume.
 - 2) Calculate the parachor value for Kekule's structure of benzene.
(Atomic parachor for C = 4.8, H = 17.1, structural parachor for double bond = 23.2, six membered ring = 6.1)
 - 3) Show that half life time of first order reaction is independent of initial concentration of reactant.
- B) First order reaction is half complete in 25 minutes. In how much time it will be 75% completed ? 4
4. Attempt **any two** : 10
- 1) Ostwald's isolation method with example.
 - 2) Joule Thomson effect.
 - 3) Determination of viscosity of liquid.
5. Answer **any two** of the following : 10
- 1) Explain the phenomenon of surface tension.
 - 2) Explain second order reaction with example.
 - 3) Explain critical phenomenon with Andrew's experiment on carbon dioxide.
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Seat No.	
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B.Sc. – I (Semester – II) (Entrepreneurship) Examination, 2015
INDUSTRIAL CHEMISTRY (Old)
Paper – IV : Fundamentals of Analytical Chemistry

Day and Date : Friday, 24-4-2015
Time : 11.00 a.m. to 1.00 p.m.

Max. Marks : 50

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

1. Choose the most correct alternative from each of the following : **10**

- 1) The process that does not occur of its own accord is called as _____ process.
a) Non-spontaneous b) Spontaneous
c) Isothermal d) Adiabatic
- 2) Based on origin, the polymers are grouped into _____ and _____ polymers.
a) homo, hetero b) synthetic, natural
c) co-polymer, polymer d) both a) and c)
- 3) No machine has _____ efficiency.
a) 0% b) 100% c) 50% d) 99.9%
- 4) Refining of petroleum is based on _____
a) simple distillation b) steam distillation
c) fractional crystallisation d) fractional distillation
- 5) _____ is used to increase fat percentage in milk.
a) starch b) sodium chloride
c) calcium chloride d) none of these
- 6) Efficiency of heat engine is always _____
a) greater than one b) less than one
c) equal to one d) all of these
- 7) The polymer which soften on heating and harden on cooling is called _____
a) rubber b) elastomer
c) thermosetting d) thermoplastic



- 8) All reversible heat engines operating between the same two temperatures have _____ efficiency.
a) same b) different c) unequal d) none of these
- 9) Cracking process is used for _____
a) preparing cyclic compound b) preparing higher paraffins
c) preparing lower paraffins d) none of these
- 10) _____ water is saturated with calcium, magnesium and many other inorganic minerals.

2. Answer **any five** of the following : **10**
- 1) Write types of fuels.
 - 2) Define polymer and monomer.
 - 3) What is spontaneous process ?
 - 4) What are the essential nutrients for plants ?
 - 5) Define enthalpy.
 - 6) Define isomerisation.
3. A) Answer **any two** of the following : **6**
- 1) Give the procedure for refining of petroleum.
 - 2) What is natural rubber ? Give example.
 - 3) Give diagrammatic representation of Carnot's heat engine.
- B) Discuss the classification of polymers. **4**
4. Answer **any two** of the following : **10**
- 1) Explain reforming and hydroforming process in fuels.
 - 2) Explain in brief – desalination of water.
 - 3) How will you synthesize polyvinyl chloride, polystyrene and resin ?
5. Answer **any two** of the following : **10**
- 1) Distinguish between spontaneous and nonspontaneous process.
 - 2) Explain in detail Joule-Thomson effect.
 - 3) Write a note on antacid.
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Seat No.	
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B.Sc. – I (Semester – II) (Old) (Entrepreneurship) Examination, 2015
INDUSTRIAL MICROBIOLOGY (Paper – III)
Fundamentals of Microbiology

Day and Date : Saturday, 25-4-2015
Time : 11.00 a.m. to 1.00 p.m.

Max. Marks : 50

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

1. Rewrite the following sentences by selecting correct answers from given alternatives : 10
- i) Crowded plate technique is used for the screening of _____ producing organism.
a) Antibiotic b) Amine c) Vitamin d) Organic acid
- ii) Foam is produced by _____
a) Inoculum addition b) Steam
c) Agitation and aeration d) Boiling
- iii) _____ material is more suitable for construction of fermentor.
a) Stainless steel b) Glass
c) Wooden d) Plastic
- iv) _____ are used in the medium for maintaining pH changes during fermentation process.
a) Buffers b) Acids
c) Bases d) Antifoam agents
- v) The antifoam agents lowers the _____ of foam bubbles.
a) Molecular weight b) Surface tension
c) Osmotic pressure d) Solubilization
- vi) _____ is used as precursor for Vitamin B₁₂ production.
a) Chloride b) Phenyl acetic acid
c) Cyanide d) Antranilic acid



- vii) Pilot scale fermentors have capacity of _____ liters.
 a) 1 – 15 b) 15 – 1000 c) 1000 – 4500 d) 0 – 1
- viii) _____ prevents the vortex formation during fermentation process.
 a) Sparger b) Bottom drain c) Impeller d) Baffles
- ix) Industrially important microorganisms are preserved by _____
 a) Filtration b) Lyophilization
 c) Fermentation d) Agitation
- x) _____ is example of inert antifoam agent.
 a) Silicon compound b) Vegifat-Y
 c) Lard oil d) Octadecanol

2. Answer **any five** of the following : **10**
- i) Enlists the C and N sources used for the production of fermentation media.
 - ii) Define stock cultures.
 - iii) Enlist the industrially important microorganisms.
 - iv) What is sterilization ?
 - v) Draw the neat labelled diagram of typical fermentor.
 - vi) Define screening.
3. A) Answer **any two** of the following : **6**
- i) Describe the inoculum preparation.
 - ii) Explain the preservation of the microorganisms by overlaying with mineral oil.
 - iii) Write in detail 'Secondary screening'.
- B) Describe the raw materials used for production of fermentation media. **4**
4. Write short notes on **any two** : **10**
- i) Write in detail about the production strain.
 - ii) Lyophilization.
 - iii) Describe the factors involved in fermentor design.
5. Answer **any one** of the following : **10**
- i) Primary screening
 - ii) Factors affecting on the fermentation process.
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Seat No.	
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B.Sc. – I (Sem. – II) Entrepreneurship (Old) Examination, 2015
INDUSTRIAL MICROBIOLOGY (Paper – IV)
Basic Techniques in Industrial Microbiology

Day and Date : Monday, 27-4-2015
Time : 11.00 a.m. to 1.00 p.m.

Max. Marks : 50

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

1. Rewrite the following sentences by selecting correct answers from given alternatives. 10
- 1) _____ is used as vectors in strain improvement by genetic engineering.
A) DNA B) Mosquito C) Plasmid D) T₄ Phage
 - 2) The recovery of alcohol carried out by _____
A) Filtration B) Distillation C) Precipitation D) Osmosis
 - 3) _____ test organism used for penicillin antibiotic assay.
A) B. subtilis B) A. niger C) S. aureus D) P. chrysogenum
 - 4) The quantity of inoculum normally used between _____ % of medium volume.
A) 10 – 15 B) 3 – 10 C) 20 – 25 D) 1 – 2
 - 5) Foam is produced by _____ and _____
A) Agitation and rise in temperature
B) Agitation and aeration
C) Both A) and B)
D) Aeration and rise in pH
 - 6) Tyndallization process was discovered by
A) Alexander Flemming B) Louis Pasteur
C) John Tyndall D) Both A) and B)
 - 7) Which of the following is not physical method for cell disruption ?
A) Milling B) Homogenization
C) Lysozyme D) Ultrasonication



- 8) _____ is an example of continuous filtration.
A) Plate and Frame B) Rotary Vacuum
C) Membrane Filter D) HEPA Filter
- 9) _____ is used as precipitating agent for recovery of proteins.
A) Ammonium sulphate B) Methanol
C) NaOH D) EDTA
- 10) _____ is used in computer controlled fermentation process to convert ADC to DAC.
A) Interface B) Clock C) Meter D) None of these

2. Write answer **any five** of the following : **10**
- 1) Define fermentation.
 - 2) Define assay and enlist the type of assay.
 - 3) Precipitation.
 - 4) UV as mutagenic agent.
 - 5) Enlist the names of microorganisms used for penicillin production.
 - 6) Auxotroph and prototroph.
3. A) Answer **any two** of the following : **6**
- 1) Explain in brief microbial assay.
 - 2) Explain in detail crystallization.
 - 3) Explain in short steps involved in gene manipulation.
- B) Define strain improvement and discuss methods involved in strain improvement. **4**
4. Answer **any two** of the following : **10**
- 1) Describe in detail scale up of fermentation.
 - 2) Describe in detail enzymatic assay.
 - 3) Describe in short process of inoculum development.
5. Answer **any one** of the following : **10**
- 1) Describe in detail computer control of fermentation process.
 - 2) Describe in detail 'solvent extraction' for recovery of fermentation product.
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Seat No.	
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B.Sc. – I (Entrepreneurship) (Semester – II) Examination, 2015
INDUSTRIAL BIOTECHNOLOGY
Basic Biomolecules (Paper – III) (Old)

Day and Date : Tuesday, 28-4-2015
Time : 11.00 a.m. to 1.00 p.m.

Max. Marks : 50

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

1. Rewrite the following sentences by selecting appropriate alternative given below : **10**

- 1) On hydrolysis of disaccharides gives _____ sugar.
a) 1 b) 2 c) 3 d) 5
- 2) Peptidoglycan is an example of _____ polysaccharides.
a) Complex b) Structural c) Storage d) Derived
- 3) Cerebrosides and Gangliosides belongs to the class of _____
a) Sphingolipids b) Phospholipids c) Glycolipids d) Steroids
- 4) _____ is caused due to deficiency of Vitamin C.
a) Scurvy b) Beri-Beri c) Pellagra d) Rickets
- 5) Vitamins A, D, E, K are soluble in _____
a) Water b) Fat c) Milk d) Protein
- 6) _____ are the organic compounds which are required by body in trace amount to perform specific cellular function.
a) Hormones b) Enzyme c) Vitamins d) Antibodies
- 7) Multiple form of enzyme catalyzing same reaction are called as _____
a) Isomers b) Isotopes c) Isomerase d) Isoenzymes
- 8) Glycogen is branched polymer of _____
a) Glucose b) Fructose c) Sucrose d) Lactose
- 9) When two or more polypeptides line up side by side _____ structure is formed.
a) α Helix b) β plated sheet
c) Coiled d) Linear
- 10) _____ are the enzyme which catalyze cleavage of bonds along with addition of water.
a) Oxidoreductase b) Transferases
c) Lyases d) Hydrolases



2. Answer **any five** of following : **10**
- 1) Define enzyme and give its two example.
 - 2) What are the storage polysaccharides ? Give its example.
 - 3) Draw chemical structure of glycine and alanine.
 - 4) Differentiate between simple and complex lipids.
 - 5) Write down properties of monosaccharides.
 - 6) Give classes of enzyme.
3. A) Answer **any two** of following : **6**
- 1) Write a note on cholesterol.
 - 2) Explain factors affecting enzyme activity.
 - 3) Write a note on protein stabilising forces.
- B) Explain the sources and functions of fat soluble vitamins. **4**
4. Answer **any two** of following : **10**
- 1) Define hormones. Give its classification and functions.
 - 2) Explain immobilization of enzyme.
 - 3) Write a note on specific peptide cleavage and sequence differentiation of protein.
5. Answer **any one** of following : **10**
- 1) Describe the classification of enzyme.
 - 2) Describe in detail secondary structure of protein.
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Seat No.	
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B.Sc. (Entrepreneurship) (Semester – II) (Old) Examination, 2015
INDUSTRIAL BIOTECHNOLOGY (Paper – IV)
Basics of Metabolism

Day and Date : Wednesday, 29-4-2015
Time : 11.00 a.m. to 1.00 p.m.

Max. Marks : 50

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

1. Rewrite the following sentences by choosing correct alternative. 10

- 1) Synthesis of ATP in the presence of light is called as _____
 - a) Oxidative phosphorylation
 - b) Photophosphorylation
 - c) Substrate level phosphorylation
 - d) None of these
- 2) Krebs's cycle was discovered by _____
 - a) Robert Brown
 - b) H. A. Krebs
 - c) Peter Mitchell
 - d) Meyerhof
- 3) Cleavage of glucose molecule into 2 PGAL molecule is known as _____
 - a) Glycolysis
 - b) Krebs cycle
 - c) Gluconeogenesis
 - d) None of these
- 4) _____ is the final electron acceptor in Aerobic respiration.
 - a) CO₂
 - b) O₂
 - c) Cyt.b
 - d) NADH₂
- 5) Phase – I reactions of Biotransformation involves _____
 - a) Hydrolysis
 - b) Reduction
 - c) Oxidation
 - d) All of these
- 6) Carrier proteins that transport single solid from one side membrane to the other are called as _____
 - a) Uniporters
 - b) Symporters
 - c) Antiporters
 - d) None of these
- 7) In 1972, Singer and Nicolson proposed the _____ model of plasma membrane.
 - a) Unit layer
 - b) Fluid Mosaic
 - c) Single layer
 - d) Bilayer



- 8) In Glyoxylate cycle Isocitrate is converted into Glyoxylate and succinate by _____ enzyme.
 - a) Isocitrate lyase
 - b) Citrate synthase
 - c) Malate synthase
 - d) Malate dehydrogenase
- 9) _____ is called as ‘Energy currency of the cell’.
 - a) Adenosine diphosphate
 - b) Adenosine Monophosphate
 - c) Adenosine triphosphate
 - d) None
- 10) The reactions which release energy are called _____ reactions.
 - a) Exergonic
 - b) Endergonic
 - c) Both a) and b)
 - d) None

- 2. Write **any five** of the following : **10**
 - 1) Define heterotrophs.
 - 2) Draw the structure of ATP.
 - 3) Define Biotransformation.
 - 4) Define xenobiotics.
 - 5) Write down net reaction of glycolysis.
 - 6) Define Anabolism.
- 3. Write down **any two** of the following : **6**
 - A)
 - 1) Significance of EMP pathway
 - 2) Heterolactic fermentation
 - 3) Role of enzymes in biotransformation.
 - B) Explain in detail structure of mitochondria. **4**
- 4. Write **any two** of the following : **10**
 - 1) Explain in detail EMP pathway
 - 2) Write in detail about glyoxylate cycle
 - 3) Define photophosphorylation and write down cyclic and noncyclic electron transport.
- 5. Write **any one** of the following : **10**
 - 1) Describe in detail TCA cycle.
 - 2) Explain in detail ‘Biotransformation’.



Seat No.	
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B.Sc. – I (Semester – I) (Entrepreneurship) (CGPA Pattern)
Examination, 2015
INDUSTRIAL CHEMISTRY (Paper – I)

Day and Date : Monday, 13-4-2015
Time : 11.00 a.m. to 2.00 p.m.

Max. Marks : 70

- N. B. :**
- i) Answer to the **two** Sections should be written in **separate** answer books.
 - ii) **All** questions are **compulsory**.
 - iii) Draw **neat**, labelled diagrams and write equations **wherever** necessary.
 - iv) Figures to the **right** indicates **full** marks.
 - v) Atomic weights : H = 1, C = 12, O = 16, Cl = 35.5, Br = 80, Ag = 108, S = 32, Ba = 137, Pt = 195.

SECTION – I
(Fundamentals of Inorganic Chemistry)

1. Select the most correct alternative for each of the following and rewrite the sentences : 5
- 1) Carbon undergoes _____ hybridisation in CH₄ molecule.
a) sp³ b) sp² c) sp d) All of these
 - 2) Geometry of CsCl is _____
a) FCC b) BCC c) Pentagonal d) None of these
 - 3) Bond order in Be₂ molecule is _____
a) Two b) One c) Zero d) Three
 - 4) Bond angle in BeCl₂ molecule is _____
a) 360° b) 120° c) 90° d) 180°
 - 5) Due to carbon monoxide pollution oxygen transportation work of _____ is affected.
a) Haemoglobin b) Myoglobin
c) Ferredoxin d) None of these



2. Answer **any five** of the following : 10
- Define coordinate bond with example.
 - Define electron affinity and explain its effect on formation of anion.
 - What are the types of hybridisation and give their geometries ?
 - Write the toxic effects of SO_2 .
 - What do you mean by hard water ?
 - Define COD.
 - Define bonding and antibonding molecular orbitals.
3. A) Write the short notes on **any two** : 10
- LCAO principle
 - Radius ratio for octahedral geometry
 - VSEPR theory.
- B) Answer **any one** of the following : 10
- Draw MO diagram of oxygen molecule and explain its BO, stability and magnetic character.
 - Draw the crystal structure of NaCl.
 - Explain alkalinity and hardness of water sample.

SECTION – II
(Fundamentals of Organic Chemistry)

1. Choose the correct alternative for **each** of the following : 5
- The general formula of an alkyne is _____
 - $\text{C}_n\text{H}_{2n+1}$
 - $\text{C}_n\text{H}_{2n+2}$
 - C_nH_{2n}
 - $\text{C}_n\text{H}_{2n-2}$
 - Benzene contains _____ π electrons.
 - 6
 - 0
 - 3
 - 8
 - During estimation of sulphur, by carious method, sulphur is precipitated as _____
 - BaCl_2
 - BaSO_4
 - $\text{Ba}(\text{NO}_3)_2$
 - H_2SO_4



4) The drugs used to get relief from pain are _____

- a) Antimalarials
- b) Antipyretics
- c) Analgesics
- d) Antidiabetics

5) Out of the following _____ is an auxochrome.

- a) $-\text{NH}_2$
- b) $-\text{NO}_2$
- c) $-\text{N}=\text{N}-$
- d) $\text{>C}=\text{C}<$

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

10

- i) What are antibiotics ?
- ii) Explain Internal Wurtz reaction.
- iii) What are aromatic and non-aromatic compounds ?
- iv) What is the action of the following on ethylene
 - a) $\text{H}_2/\text{Raney Ni}$ at 250°C
 - b) HBr .
- v) Write the qualities of an ideal drug.
- vi) Explain the term chromophore with examples.
- vii) Define :
 - a) Antipyretics
 - b) Anti-inflammatory agents.

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

10

- i) Mechanism of nitration of benzene.
- ii) Lassagne's test for the detection of nitrogen in an organic compound.
- iii) Classification of dyes on the basis of constitution.

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

10

- i) Define 'dienes'. How are they classified ? Explain the mechanism of free radical halogenation of alkane.
 - ii) Describe carious method for the estimation of halogen in an organic compound. 0.301×10^{-3} kg of an organic compound when subjected to carious method gave 0.282×10^{-3} kg of silver bromide. Calculate the percentage of bromine in the given compound.
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Seat No.	
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B.Sc. – I (Semester – I) (CGPA Pattern) Examination, 2015
ENTREPRENEURSHIP
Industrial Microbiology – I

Day and Date : Thursday, 16-4-2015
Time : 11.00 a.m. to 2.00 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 books.**

SECTION – I
(Fundamentals of Microbiology)

1. Rewrite the sentences by selecting correct answer from the given alternatives. **5**
- I) Structural rigidity to the bacterial is due to _____
a) Flagella
b) Cell membrane
c) Cell Wall
d) Pili
- II) In prokaryotic cell _____ ribosome is present.
a) 90 S
b) 70 S
c) 80 S
d) 100 S
- III) _____ first time observed micro-organism under microscope.
a) Robert Koch
b) Louis Pasteur
c) Antony Van Leewen hoek
d) Joseph Lister
- IV) _____ theory explains mechanism of Gram staining.
a) Lipid content
b) Burnet
c) Koch
d) Protein content
- V) _____ is an example of dry heat sterilization.
a) Autoclave
b) Hot air oven
c) Incubator
d) None of these



2. Answer **any five** of the following : **10**
- i) Applied areas of microbiology.
 - ii) Define growth.
 - iii) Define bacterial taxonomy.
 - iv) Define sterilization.
 - v) Contribution of Winogradsky.
 - vi) Reserve food material in bacteria.
 - vii) Diauxic growth.
3. A) Write short notes on **any two** of the following : **10**
- i) Contribution of Alexander Fleming
 - ii) Structure, chemical composition and functions of cell membrane.
 - iii) Describe in brief synchronous growth.
- B) Answer **any one** of the following : **10**
- i) Explain in detail contributions of :
 - a) Louis Pasteur and
 - b) John Tyndall.
 - ii) Take a detail account of prokaryotic and eucaryotic micro-organisms.

SECTION – II
(Basic Techniques in Microbiology)

1. Rewrite the sentences by selecting correct answer from the given alternatives. **5**
- I) Viruses can be observed only under _____ microscope.
- a) Electron microscope
 - b) Fluorescent microscope
 - c) Phase contrast microscope
 - d) Dark field microscope
- II) _____ is serve as a mordant in Gram staining.
- a) Alcohol
 - b) Crystal violet
 - c) Iodine
 - d) Basic fuchsin
- III) _____ is an example of selective as well as differential media.
- a) Mac-Conkey Agar
 - b) Nutrient agar
 - c) Alkaline peptone water
 - d) Minimal Medium



- IV) _____ is indirect method for cell enumeration.
- | | |
|--------|----------------------|
| a) DMC | b) Neubaur's chamber |
| c) SPC | d) Dilution |
- V) _____ is acts as solidifying agent in culture media.
- | | |
|------------|-----------------|
| a) Peptone | b) Glucose |
| c) Agar | d) Meat extract |

2. Answer **any five** of the following : **10**
- i) Define stain.
 - ii) Define living culture media.
 - iii) Define resolving power of microscope.
 - iv) Define acid fast staining.
 - v) Give use of Neubaur's chamber.
 - vi) Membrane filter technique.
 - vii) Use of immersion oil in microscope.
3. A) Write short notes on **any two** of the following : **10**
- i) Negative staining.
 - ii) Techniques used for isolation of micro-organisms.
 - iii) Brigh field microscopy.
- B) Answer **any one** of the following : **10**
- i) Take a detail account of procedure and mechanism of Gram Staining.
 - ii) Describe in detail different culture media used for cultivation of micro-organisms.
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**B.Sc. – II (Entrepreneurship) (Semester – IV) Examination, 2015
CORPORATE ACCOUNTING AND PROFESSIONAL ETHICS (New)
(Paper – VII)**

Day and Date : Saturday, 9-5-2015
Time : 11.00 a.m. to 1.00 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 not one the underlying principles of the Corporate Governance combined code of practice.
A) Acceptability B) Integrity C) Openness D) Accountability
- 2) External audit of the account of a limited company is required _____
A) By the Company Act, 2006
B) To detect fraud
C) At the direction of the shareholders
D) Because it is demanded by the company bankers
- 3) Government can make globalisation more fair by _____
A) Increasing competition
B) Increasing employment
C) Implementing the labour laws
D) Imposing trade barriers
- 4) Globalisation opportunities for paid work for women has denied them
A) Good health B) Good education
C) Permanent job D) None of these
- 5) The value of _____ is determined, by capitalising the dividend stream at an appropriate rate of interest.
A) Deferred share B) Bonus share
C) Equity share D) Preference share

P.T.O.



- 6) _____ is the price at which the bond is traded in the stock exchange.
- A) Redemption value B) Face value
C) Market value D) Maturity value
- 7) 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 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/-
- 8) The discount allowed on re-issue of forfeited shares is debited to _____
- A) PL A/c B) Share Premium A/c
C) Forfeited Share A/c D) Re-issue of Share A/c
- 9) 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%
- 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) Morality
- 2) Corporate culture
- 3) Meaning and definition of MNC
- 4) Code of conduct
- 5) Use of final account
- 6) Shares
- 7) Meaning and definition and ethics.

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

6

- 1) Financial Management
- 2) Ethics in HRM
- 3) Creating ethical organization.



B) Smita Company Limited balance sheet as on 31-12-2000.

4

Liability	Rs.	Assets	Rs.
Equity share capital (1000 sh. of Rs. 100 each)	1,00,000	Goodwill	30,000
12% preference share capital	50,000	Machinery	70,000
Debentures	30,000	Stock	65,000
Reserves	20,000	P & L A/c	28,000
Sundry creditors	25,000	Sundry Debtors	35,000
Bills payable	15,000	Preliminary expenses	12,000
Total	2,40,000	Total	2,40,000

Additional information :

- 1) The market values of shares and liabilities are as under :
 - a) Goodwill Rs. 45,000/-
 - b) Machinery Rs. 1,20,000/-
 - c) Sundry debtors Rs. 30,000/-
 - d) Stock Rs. 90,000/-
 - e) Sundry creditors Rs. 31,000/-
 - f) Bills payable Rs. 18,000/-
- 2) The net profit as under 1998 Rs. 36,000, 1999 Rs. 42,000, 2000 Rs. 45,000.
- 3) The normal rate of return in the industry is 8%. Find
 - a) Intrinsic value
 - b) Market value
 - c) Fair value of equity share.

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

10

- 1) Indian Companies Act, 1956.
- 2) Concept and theories of ethics.
- 3) A Ltd., purchases 3,000/- equity shares of B Ltd., on 1-4-2000 for Rs. 4,50,000/- B Ltd., provides you following information as on 31-03-2001.
 - a) Equity shares capital 4,000/- equity shares of Rs. 100 each
 - b) General Reserve Rs. 48,000 (On 01-04-2000 Rs. 12,000)
 - c) Profit and Loss A/c Rs. 80,000 (On 01-04-2000 Rs. 30,000)

Prepare statement showing capital profit, revenue profit and minority interest and goodwill.



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

10

- 1) I) Find fair value of equity shares market values of assets :
 - a) Investment Rs. 1,50,000/-
 - b) Furniture Rs. 60,000/-
 - c) Plant and Machinery Rs. 2,50,000/-
 - d) Building Rs. 1,40,000/-
 - e) Sundry debtors Rs. 50,000/-
 - f) Stock Rs. 40,000/-
 - II) Market values of liability (find)
 - a) Debentures Rs. 60,000/-
 - b) Sundry creditors Rs. 50,000/-
 - c) Bank over draft Rs. 30,000/-
 - III) Calculate profit for last 4 years : Rs. 24,000, Rs. 36,000, Rs. 40,000 and Rs. 44,000.
 - IV) Number of equity shares : 1000 shares of Rs. 100 each.
 - V) Income tax = 30% and Normal rate = 12%
 - VI) 4% preference shares of Rs. 1,50,000
 - VII) Transfer to reserve = 10%.
- 2) Explain in detail factors facilitating globalization and role of MNC.
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Seat No.	
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B.Sc. – II (Semester – IV) Examination, 2015
ENTREPRENEURSHIP (Paper – VIII)
International Marketing and Marketing Decisions (New)

Day and Date : Monday, 11-5-2015
Time : 11.00 a.m. to 1.00 p.m.

Max. Marks : 50

- N. B. :** 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) IM means _____
A) Industrial Management
B) International Marketing
C) All above
- 2) Attitudes, beliefs, values, personalities are life-styles of the _____
A) Customers B) Managers C) Labours
- 3) A _____ as anything that can be offered to a market for attention use or consumption that might satisfied a want or need.
A) Commodity B) Goods C) Product
- 4) _____ consist of all the individual product available through the organization.
A) Product line B) Product mix C) None of these
- 5) _____ may have several _____ and each product line several model, sizes and prizes.
A) Product classification, product mix
B) Product mix, product classification
C) Product mix, product line
- 6) _____ is the identification of particular product or services.
A) Branding B) Packaging C) Goodwill



- 7) _____ is the first link in the chain of distribution. Which is linked between manufacturer and retailer.
 A) Manager B) Wholesaler C) Owner
- 8) _____ can also broken-down into more specialized areas such as web marketing, E-mail, social web etc., marketing.
 A) Marketing B) E-marketing C) All above
- 9) Consumer make may _____ every day and there are reasons behind their buying action.
 A) Purchasing decision
 B) Buying decision
 C) Buying behaviour
- 10) PLC means _____
 A) Private Limited Company
 B) Product Life Cycle
 C) None of these

2. Answer **any five** from the following : **10**
- 1) What is meant by product ?
 - 2) Meaning of Brand.
 - 3) Define wholesaler and Retailer.
 - 4) Concept of competitor.
 - 5) Define global marketing.
 - 6) Meaning of consumer behaviour.
 - 7) What is meant by E-marketing ?
3. A) Write short note on **any two** : **6**
- 1) Types of wholesalers.
 - 2) Multinational company.
 - 3) Use of website in marketing.
- B) Forms supermarket and hyper market. **4**
4. Answer **any two** from the following : **10**
- 1) Emergence of global marketing.
 - 2) Types of distribution channel.
 - 3) Types of product.
5. Product life cycle and product idea and its process. Discuss. **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 : Tuesday, 12-5-2015
Time : 11.00 a.m. to 1.00 p.m.

Max. Marks : 50

- 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) Unit of cell constant is _____
 - a) $S\text{ cm}^{-1}$
 - b) cm^{-1}
 - c) cm^2
 - d) ohm cm^{-1}
 - 2) $\Lambda_0 = \Lambda_0^+ + \Lambda_0^-$ is called as _____ law.
 - a) Kohlrausch's
 - b) Hittorf's
 - c) Faraday's
 - d) All of these
 - 3) In equation $A = \epsilon Cx$, ϵ is _____
 - a) Absorbance
 - b) Transmittance
 - c) Molar extinction coefficient
 - d) None of these
 - 4) Reciprocal of transmittance is called as _____
 - a) Capacity
 - b) Absorbance
 - c) Reflectance
 - d) None of these
 - 5) _____ element is used as internal standard in flame photometry.
 - a) Na
 - b) Li
 - c) Cu
 - d) Zn



- 6) In simple flame photometer, the monochromator is _____
- a) Prism
b) Slit
c) Filter
d) None of these
- 7) Standard electrode potential of metal is denoted by _____
- a) E_M
b) E_M^0
c) E_{cell}
d) E_{cell}^0
- 8) Emf of cell is given by _____
- a) $E_{cell} = E_R - E_L$
b) $E_{cell} = E_R + E_L$
c) $E_{cell} = E_R/R_L$
d) None of these
- 9) Example of strong acid versus strong base titration is _____
- a) NH_4OH versus CH_3COOH
b) CH_3COOH versus $NaOH$
c) HCl versus $NaOH$
d) None of these
- 10) Reciprocal of resistance is _____
- a) Potential
b) Conductance
c) Absorbance
d) None of these

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

10

1) Define :

- a) Metallic conductor
b) Electrolytic conductor.

2) Define buffer solution and give its types.

3) Define :

- a) Equivalent conductance
b) Molar conductance.

4) Give the statement of Lambert's law.

5) Advantages of potentiometric titration.

6) Sketch the block diagram of flame photometer.



3. A) At 291 K the mobility of silver ion is 0.000577 cm/sec and that of nitrate ion is 0.000633 cm/sec, calculate the transport number of Ag^+ and NO_3^- ions. **4**
- B) Attempt **any two** : **6**
- 1) Sketch and explain quinhydrone electrode
 - 2) Deviations from Beer's law
 - 3) Sketch and explain total consumption burner.
4. Attempt **any two** : **10**
- 1) Single cell photoelectric colorimeter
 - 2) Redox titration in potentiometry
 - 3) Moving boundary method.
5. Attempt **any two** : **10**
- 1) Qualitative and quantitative applications of flame photometry.
 - 2) Experimental determination of specific conductance, equivalent conductance and molar conductance.
 - 3) Strong acid versus weak base conductometric titration.
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B.Sc. – II (Semester – IV) (New) (Entrepreneurship) Examination, 2015
INDUSTRIAL CHEMISTRY
Industrial Aspects of Applied Chemistry (Paper – VIII)

Day and Date : Wednesday, 13-5-2015
Time : 11.00 a.m. to 1.00 p.m.

Max. Marks : 50

- 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) Products of blast furnace are _____
a) pig iron b) furnace gas c) slag d) all of these
- ii) In the extraction of iron by blast furnace _____ acts as flux.
a) coke b) limestone c) carbon d) hot air
- iii) In Bessemer process _____ is used for oxidation.
a) pure and dry oxygen b) hot blast of air
c) nitrogen gas d) none of the above
- iv) In electroplating _____ plays an important role.
a) electrolysis b) electro-osmosis
c) osmosis d) none of these
- v) If cathode efficiency is greater than anode efficiency, the both becomes _____ in metal content.
a) rich b) poor c) both a) and b) d) none of these
- vi) Triple super phosphate generally contains 44 to 47% _____ content.
a) N_2O_5 b) K_2O c) P_2O_5 d) None of the above
- vii) The mixed fertilizers that contain nitrogen, phosphorous and potash are called _____ fertilizers.
a) Potassium b) Nitrogen c) Phosphorous d) NPK
- viii) Glass is amorphous, transparent and translucent mixture of _____
a) Silicates b) Carbonates
c) Sulphate d) None of the above

P.T.O.



- ix) Lime, soda and silica are the main raw materials for _____
a) lead glass b) lime glass c) potash glass d) coloured glass
- x) The cement which contains essentially calcium aluminate and prepared by heating a mixture of limestone and bauxite at 1600°C is called _____ cement.
a) High alumina b) Low alumina c) Portland d) Sorel's

2. Answer **any five** of the following : **10**
- i) Define : a) mineral b) ore.
 - ii) Draw a neat labelled diagram of L.D. process.
 - iii) Give only applications of anodising.
 - iv) What are direct and indirect fertilizers ?
 - v) What are coloured glasses ?
 - vi) What is portland cement ? Give its general chemical composition.
3. A) Answer **any two** of the following : **6**
- i) Explain in brief the use of brighteners in electroplating.
 - ii) Write a note on special glass.
 - iii) Give the general properties of ceramics.
- B) Write a note on pollution caused by fertilizers. **4**
4. Answer **any two** of the following : **10**
- i) What is steel ? Give the types of steel with metal content.
 - ii) Explain electroplating of nickel.
 - iii) Give the manufacturing process and mode of action of urea as fertilizer.
5. Write a short note on **any two** of the following : **10**
- i) Magnetic separation method of concentration of ore.
 - ii) Tank furnace used in manufacture of glass.
 - iii) Classification of ceramic materials.
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Seat No.	
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B.Sc. – II (Sem. – IV) (Entrepreneurship) (New) Examination, 2015
MICROBIOLOGY BIOTECHNOLOGY
Molecular Biology (Paper – VII)

Day and Date : Thursday, 14-5-2015
Time : 11.00 a.m. to 1.00 p.m.

Max. Marks : 50

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

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

- 1) _____ is responsible for joining DNA fragment.
a) Nuclease b) Ligase c) Replicase d) Kinase
- 2) The gene which is not expressing any protein is known as _____ gene.
a) pseudogene b) epistatic gene
c) hypostatic d) nano
- 3) Eukaryotic ribosome are of _____ type.
a) 60 S b) 80 S c) 70 S d) 90 S
- 4) RNA polymerase doesnot require _____
a) Template b) Enzyme c) Primer d) Gene
- 5) _____ enzyme is required for poly adenylation.
a) Polymerase b) Capase
c) Poly-A polymerase d) Adenylase
- 6) _____ is used as a inducer in trp- operon.
a) Lactose b) Arabinose c) Tryptophan d) Glucose
- 7) DNA replication in procaryotes is _____
a) Unidirectional b) Bidirectional
c) Multidirectional d) Random
- 8) The strands where okazaki fragments are formed is known as _____ strand.
a) Template b) Nuclease c) Lagging d) Antisense



- 9) _____ is responsible for removal of primer after DNA replication.
- a) DNA polymerase – II b) Ligase
c) Replicase d) Primase
- 10) Southern blotting and Northern blotting are used to separate _____ and _____ respectively.
- a) DNA, RNA b) RNA, DNA
c) Protein and Lipid d) Lipid and carbohydrates

2. Answer **any five** of the following : **10**
- a) RFPD
b) Function of promoter gene in operon
c) Split gene
d) Excision DNA repair mechanism
e) Define – enhancer
f) Restriction endonucleases.
3. A) Answer **any two** of the following : **6**
- a) Define “Polymerases” with suitable examples.
b) Elaborate in detail nucleic acid hybridization.
c) Explain RNA editing.
3. B) Write note on : **4**
- What is promoter ? Write in detail prokaryotic promoters.
4. Answer **any two** of the following : **10**
- a) Write in detail Lac operon.
b) List the different enzymes and their functions in DNA replication.
c) Explain transcription in eukaryotes with respect to RNA polymerase – II.
5. Answer **any two** of the following : **10**
- a) Explain in detail constitutive and inducible genes in regulation of prokaryotes.
b) Explain post transcriptional modification of m-RNA.
c) Explain in detail DNA replication with reference to Rolling Circle Model.
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B.Sc. – II (Entrepreneurship) (Semester – IV) Examination, 2015
INDUSTRIAL CHEMISTRY (Paper – VII) (Old)
Techniques in Industrial Chemistry

Day and Date : Tuesday, 12-5-2015
Time : 11.00 a.m. to 1.00 p.m.

Max. Marks : 50

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

1. Select most correct alternative for **each** of the followings : **10**

- 1) Fundamental equation of spectroscopy is _____
- a) $\Delta E = hv$ b) $E = mc^2$ c) $\lambda = \frac{1}{\nu}$ d) None of these
- 2) The unit cell of NaCl lattice is _____
- a) Face centred cubic b) Body centred cubic
c) Simple cubic d) None of these
- 3) Air-acetylene is widely used in _____
- a) Atomic absorption spectroscopy b) Molecular spectroscopy
c) IR spectroscopy d) NMR spectroscopy
- 4) In paper chromatography the aqueous medium acts as _____ phase.
- a) stationary b) mobile c) organic d) all of these
- 5) _____ element is used as internal standard in flame photometry.
- a) Na b) Li c) Cu d) Zn
- 6) The number of atom/s in simple cubic unit cell is/are _____
- a) 1 b) 2 c) 4 d) 8
- 7) Flame photometry is also called as _____ spectroscopy.
- a) Flame emission b) Absorption
c) IR d) None of these



- 8) In column chromatography the alumina acts as _____
 a) organic phase b) aqueous phase
 c) adsorbent d) all of these
- 9) $n\lambda = 2d \sin \theta$ is called as _____ equation.
 a) Bragg's b) Boltzmann c) Spectroscopic d) All of these
- 10) _____ technique is used to separate the proteins using electrophoresis.
 a) Distillation b) Centrifugation
 c) SDS-PAGE d) None of these

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

- 1) Define elastic scattering.
- 2) Define nebulization process.
- 3) Give limitations of flame photometry.
- 4) Define chromatography and give its types.
- 5) Define electrophoresis and give its types.
- 6) Give the requirements of gel filtration medium.

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

- 1) Give the applications of atomic absorption spectroscopy.
- 2) Give the brief account of processes in flame photometry.
- 3) Explain R_f value.

B) Give an account of agarose gel electrophoresis. 4

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

- 1) Write short note on Compton effect.
- 2) Sketch and explain Laminar flow burner.
- 3) Explain the process of preparation of gel column.

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

- 1) Give the qualitative and quantitative applications of flame photometry.
- 2) Derive the Bragg's equation.
- 3) Explain the theory of electrophoresis.



Seat No.	
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B.Sc. – I (Sem. – I) (CGPA Pattern) Examination, 2015
ENTREPRENEURSHIP
Industrial Biotechnology (Paper – I)

Day and Date : Saturday, 18-4-2015
Time : 11.00 a.m. to 2.00 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 alternative : 5
- 1) _____ is a characteristic unique chemical component of bacterial cell wall.
a) Cellulose b) Glycogen c) Starch d) Peptidoglycan
 - 2) Extrachromosomal DNA present in bacteria _____
a) Exmid b) Plasmid c) Periplasm d) Plastid
 - 3) The transport proteins that transport a substance in a single direction across the membrane are _____
a) Symporters b) Uniporters c) Antiporters d) Metaporters
 - 4) Division of one nucleus into two is known as _____
a) Cytokinesis b) Cell division
c) Cytodivision d) Karyokinesis
 - 5) Endoplasmic reticulum that bear ribosomes is called _____
a) granular ER b) agranular ER
c) smooth ER d) cytoplasmic ER



2. Answer **any five** of the following : 10
- i) Write any two functions of chloroplast.
 - ii) Differentiate between plant and animal cells (any two differences).
 - iii) Define types of chromosome based on the location of centromere.
 - iv) Define simple diffusion and give an example of it.
 - v) Draw a well labelled diagram of chloroplast.
 - vi) Draw a well labelled diagram of Golgi complex.
 - vii) Define mitosis and enlist the stages of mitosis.
3. Write a short note on **any two** of the following : 10
- i) Ribosomes
 - ii) Differentiate between prokaryotic and eukaryotic cell
 - iii) Phagocytosis.
4. Answer **any one** of the following : 10
- i) Describe the bacterial cell wall with reference to structure, chemical composition and function.
 - ii) Give a detailed account on mitosis.

SECTION – II
(Animal and Plant Physiology)

35

1. Rewrite the answer by choosing one of the correct alternatives : 5
- 1) Non-medulated neurons are found in _____ nervous system.
a) Central b) Peripheral c) Autonomous d) All
 - 2) _____ is a basic element for growth.
a) Helium b) Iron c) Calcium d) Carbon
 - 3) Muscles involved in heart are _____
a) Striated b) Non striated c) Cardiac d) Simple
 - 4) _____ is not a photosynthetic pigment.
a) Chlorophyll b) Xanthophyll c) Carotenoids d) Lipids
 - 5) Rubisco enzyme plays important role in _____
a) photosynthesis b) respiration
c) phosphorylation d) transpiration



2. Answer **any five** of the following : **10**
- i) Write the functional types of neuron.
 - ii) Explain in brief the deficiency caused by Vitamin A.
 - iii) Draw a neat labelled diagram of tongue showing different taste zones.
 - iv) What are the functions of muscular tissue ? (any two)
 - v) Differentiate between light and dark reactions. (any 2 differences)
 - vi) Define plant tissue culture and mention an application of it.
 - vii) What are CAM plant ? Give one example.
3. Write short notes on **any two** of the following : **10**
- i) Explain the glandular epithelial tissue.
 - ii) Explain the salivary gland with a well labelled neat diagram.
 - iii) Photosystems and photophosphorylation.
4. Answer **any one** of the following : **10**
- i) Describe the structure and functions of different types of binding and connective tissue.
 - ii) Give a detailed account on Calvin cycle.
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SLR-N – 51

Seat No.	
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B.Sc. – II (Semester – IV) Examination, 2015
Entrepreneurship
MICROBIOLOGY AND BIOTECHNOLOGY (Old)
Molecular Biology (Paper – VII)

Day and Date : Thursday, 14-5-2015
Time : 11.00 a.m. to 1.00 p.m.

Max. Marks : 50

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

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

I) The enzymes joins DNA fragment is _____
a) Restriction endonuclease b) Lipase
c) Ligase d) Polymerase

II) Okazaki fragments are formed in _____
a) The synthesis of the lagging strand of DNA
b) The splicing of m-RNA
c) The neurons of vertebrates
d) The oocytes of amphibians

III) There are _____codons which specify 20 amino acids.
a) 25 b) 50 c) 61 d) 16

IV) The smallest segment of DNA which help in the synthesis of one polypeptide is called as _____
a) Gene b) Muton c) Cistron d) Recon

V) The operator gene of lac operon is 'turned on' when lactose molecules binds to _____
a) Operator gene b) Repressor gene
c) Promotor site d) m-RNA

P.T.O.



VI) _____enzyme is responsible for synthesis of DNA from RNA.

- a) DNA polymerase
- b) RNA polymerase
- c) Ligase
- d) Reverse transcriptase

VII) “Gene battery model” of gene regulation in eukaryotes is proposed by _____

- a) Britten and Davidson
- b) Jacob and Monod
- c) Beadle and Tatum
- d) Kornberg and Ochoa

VIII) t-RNA is also known as _____

- a) Microsomal RNA
- b) Soluble RNA
- c) r-RNA
- d) m-RNA

IX) In cytoplasm m-RNA becomes attached to _____

- a) Mitochondria
- b) Centrosomes
- c) Chloroplast
- d) Ribosomes

X) Nucleic acid was first discovered as nuclein by _____

- a) Griffith
- b) Khorana
- c) Meischer
- d) Kornberg

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

10

- 1) Enlist the enzyme involved in DNA replication.
- 2) Define direct repair.
- 3) Define role of sigma factor.
- 4) Define activator and give its role.
- 5) Sketch a neat labelled diagram of Eukaryotic cell.
- 6) Define translation.



3. A) Answer **any two** of the following : **6**
- 1) Define DNA sequencing and give their methods.
 - 2) Explain SOS repair mechanism.
 - 3) Write a note on RFLP.
- B) Explain in detail rolling circle model. **4**
4. Answer **any two** of the following : **10**
- 1) Describe in detail methods for isolation of nucleic acids.
 - 2) Write in detail account on Lac operon.
 - 3) Explain in detail post transcriptional modifications.
5. Answer **any one** of the following : **10**
- 1) Write an essay one gene regulation in prokaryotic organism with suitable example.
 - 2) Write an essay on enzyme involved in DNA replication.
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**B.Sc. – II (Semester – IV) (Entrepreneurship) Examination, 2015
MICROBIOLOGY AND BIOTECHNOLOGY (Paper – VIII) (Old)
Food and Dairy Technology**

Day and Date : Friday, 15-5-2015
Time : 11.00 a.m. to 1.00 p.m.

Max. Marks : 50

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

1. Rewrite the sentences by selecting correct answer from the given alternatives : **10**
- 1) Bacteria growing at high temperature are known as _____
a) Barophiles b) Psychrophiles c) Mesophiles d) Thermophiles
 - 2) _____ protein present in the milk.
a) Casein b) Albumin c) Star d) Lactose
 - 3) HACCP means _____
a) Hazard Automatic Concept Control Point
b) Hazard Analysis Critical Control Point
c) High Automatic Concept Consist Pressure
d) Hazard Access Control Consist Point
 - 4) Microbial growth is controlled by factor related to food itself as _____ factor.
a) Extrinsic b) Intrinsic
c) Food spoilage d) Food preservation
 - 5) Bacterial soft rot primarily caused by _____
a) Botrytis cinera b) Penicillium species
c) Erwinia caratovora d) None of above
 - 6) High Temp. Short Time (HTST) pasteurization which consist of quick heating to about _____
a) 62°C for 30 min. b) 71.1°C for 15 sec.
c) 90°C for 30 min. d) 20°C for 30 min.



- 7) For the preservation of vegetables food additives added are _____
a) Benzoate b) Sorbitol c) NaOH d) Ammonia
- 8) Souring of milk is the principle involved in the formation of _____
a) milk b) starch c) butter d) ghee
- 9) Water activity is defined as vapour pressure of solution upon vapour pressure of _____
a) solute b) solution c) salt d) sugar
- 10) In cheese production coagulation of milk is cause due to _____ enzyme.
a) Cellulose b) Amylase c) Papain d) Rennin

2. Answer **any five** of the following : **10**
- 1) Define pasteurisation and Enlist types.
 - 2) Explain composition of milk.
 - 3) Write note on MBRT.
 - 4) Define milk and enlist two names of contaminating bacteria.
 - 5) Explain canning.
 - 6) Explain homogenized milk.
3. A) Answer **any two** of the following : **6**
- 1) Explain Ice-cream preparation.
 - 2) Describe in detail microbial spoilage of vegetable and fruits.
 - 3) Write a note on composition factor affecting on milk.
- B) Explain in detail butter production. **4**
4. Answer **any two** of the following : **10**
- 1) Describe microbial spoilage of meat and fish products.
 - 2) Describe in detail cheese production.
 - 3) Write an essay on microbial examination of milk and food.
5. Answer **any one** of the following : **10**
- 1) Explain in detail food preservation methods.
 - 2) Describe in detail factors affecting on microbial spoilage.
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**B.Sc. – I (Semester – I) (Entrepreneurship) Examination, 2015
MANAGERIAL ECONOMICS AND MANAGERIAL ACCOUNTING
(Old Pattern)**

Day and Date :
Time :

Total Marks : 50

- Instructions:** 1) *All questions carry equal marks.*
2) *Figures to right indicates marks.*
3) *Scientific calculator is allowed.*
4) *Draw figures where it is necessary.*

1. Explain in detail Individual Demand and Market Demand. 10
2. What is Accounting and explain classification of Accounts. 10
3. Write in brief (**any 2**) : 10

1) Journalize following transaction in the books of Mr. Bipin :

Sr. No.	Date	Particulars	Amt.
1.	1 July 2011	Started Business with cash	2,25,000
2.	3 July 2011	Deposited in to Dena Bank	1,50,000
3.	7 July 2011	Brought goods on credit from Manish	10,000 @ 10% T.D.
4.	11 July 2011	Paid House Rent	2,500
5.	13 July 2011	Wages Paid	6,000

- 2) Criteria of good forecasting methods.
- 3) Preparation of final A/c.
- 4) Function of Business Finance.



4. Write short notes on **(any 2)** : **10**
- 1) Types of demand.
 - 2) What is production ?
 - 3) What is book-keeping ?
 - 4) What is Journal ?
 - 5) What is Trial Balance ?
5. Complete the statement choosing correct alternative : **10**
- 1) Financial statement is a part of _____
 - a) Book keeping
 - b) Debit
 - c) Accounting
 - d) None of these
 - 2) Managerial economics aims at providing help in the firms is _____
 - a) Decision making
 - b) Supply
 - c) Production
 - d) Demand
 - 3) 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
 - 4) Machinery A/c shows _____ balance.
 - a) Debit
 - b) Credit
 - c) Positive
 - d) Negative
 - 5) Debtors A/c shows _____ balance.
 - a) Debit
 - b) Credit
 - c) Nominal
 - d) Real
 - 6) Profit is measured by
 - a) Revenue – fixed costs
 - b) Fixed cost + revenue
 - c) Revenue – sales
 - d) Revenue – total costs



- 7) Production cost is concerned with _____ to produce a given quantity of output.
- a) Demand forecast
 - b) Estimation of Costs
 - c) Profit Management
 - d) Pricing Policies
- 8) Trial balance is a list of _____ A/c.
- a) Personal
 - b) Real
 - c) Nominal
 - d) Ledger
- 9) Goodwill A/c appears on _____ side of Trial Balance.
- a) Debit
 - b) Credit
 - c) Both sides
 - d) None of these
- 10) Open-Stock is entered in a Trading A/c on the _____ side.
- a) Credit
 - b) Debit
 - c) Asset
 - d) Liability
-