D 103032 **(Pages : 2)** **Name.....**

Reg. No.....

FOURTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION
APRIL 2024

Chemistry

CHE 4C 04—PHYSICAL AND APPLIED CHEMISTRY

(2019 Admission onwards)

Time : Two Hours Maximum : 60 Marks

Section A (Short Answers)

Answer questions up to 20 *marks.*
Each question carries 2 *marks.*

1. Distinguish between true solutions and colloidal solutions.
2. What are lyophilic colloids ? Give an example.
3. Explain 1D nanomaterials with an example.
4. What is R_f value ? How is it used in the identification of a compound ?
5. Name any *one* biodegradable polymer and write its application.
6. Give any *two* applications of nanomaterials in medicine.
7. Which are the monomers of Buna-S and Bakelite.
8. Write any *two* examples each for artificial sweeteners and permitted food colours.
9. Define octane number and cetane number.
10. What is eutrophication ?
11. What are chromophores and auxochromes ?
12. What is greenhouse effect ? Name any *two* greenhouse gases.

[Ceiling of marks : 20]

Turn over

Section B (Paragraph)

Answer questions up to 30 *marks.*
Each question carries 5 *marks*

13. Explain briefly the cleaning action of soap.

14. Differentiate between thermoplastics and thermosetting plastics.

15. What is meant by green chemistry ? Describe the principles of green chemistry.

16. Describe the principle and applications of gas chromatography.

17. Briefly explain UV-Visible spectroscopy.

18. Write a short note on the causes and effects of water pollution.

19. Explain any two methods for purification of colloids.

[Ceiling of marks : 30]

Section C (Essay)

Answer any **one** *question.*
The question carries 10 *marks.*

20. (i) Discuss the principle of NMR spectroscopy.

    (ii) Draw the NMR spectrum of ethanol and explain.

21. Briefly explain the manufacture of cement.

(1 × 10 = 10 marks)

C 3519 (Pages : 2) Name.....

Reg. No.....

FOURTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION
APRIL 2021

Chemistry

CHE 4C 04—PHYSICAL AND APPLIED CHEMISTRY

Time : Two Hours Maximum : 60 Marks

Section A (Short Answers)

Answer at least **eight** *questions.*
Each question carries 3 *marks.*
All questions can be attended.
Overall Ceiling 24.

1. Why are lyophilic sols more stable than lyophobic sols ?
2. Define Gold number.
3. Write note on green solvent.
4. What is the significance of surface to volume ratio ?
5. What is meant by elution ?
6. Discuss the principle of IR spectroscopy.
7. What is bathochromic shift ?
8. What is COD ?
9. What is greenhouse effect ?
10. What is octane number ?
11. Compare LPG and CNG.
12. How are dyes classified ?

(8 × 3 = 24 marks)

Section B (Paragraph)

Answer at least **five** *questions.*
Each question carries 5 *marks.*
All questions can be attended.
Overall Ceiling 25.

13. Explain different purification techniques of colloids.
14. What is the principle of UV spectroscopy ?
15. Explain application of nanomaterial's in electronics and robotics.
16. Explain briefly TLC.
17. What are Pollutants ? How are they classified ?
18. Explain briefly different theories of dyes.
19. Define and give an example of antipyretics, analgesics, antibiotics, antacids and antiseptics.

(5 × 5 = 25 marks)

Section C (Essay)

Answer any **one** *question.*
The question carries 11 *marks.*

20. Discuss briefly different spectroscopic techniques used in the structural determination of organic molecules.
21. What are biodegradable polymers ? Explain application of biodegradable polymers.

(1 × 11 = 11 marks)

C 21517 **(Pages : 2)** **Name.....**

Reg. No.....

FOURTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION, APRIL 2022

Chemistry

CHE 4C 04—PHYSICAL AND APPLIED CHEMISTRY

(2019 Admission onwards)

Time : Two Hours Maximum : 60 Marks

Section A (Short Answer)

Answer at least **eight** *questions.*
Each question carries 3 *marks.*
All questions can be attended.
Overall Ceiling 24.

1. Define Hardy-Schulz law.
2. What is critical micelle temperature ?
3. Define green chemistry.
4. Give two applications of nanomaterial in catalysis.
5. What is the principle of chromatography ?
6. Give the structure and monomer unit of neoprene.
7. What is the condition for a molecule to be microwave active ?
8. Define finger print region.
9. How is water purified for drinking purpose ?
10. Define pollutant and pollution.
11. What is Buna-N ?
12. Give any *two* examples of natural food preservatives and artificial sweeteners.

(8 × 3 = 24 marks)

Turn over

Section B (Paragraph)

Answer at least **five** *questions.*
Each question carries 5 *marks.*
All questions can be attended.
Overall Ceiling 25.

13. Give an account of applications of colloids.
14. Explain the preparation of nanoparticles in detail.
15. Mention advantages and limitations of adsorption chromatography.
16. Give an account on biodegradable polymers.
17. What is greenhouse effect ? Explain its consequences and control measures.
18. Define and give an example of antibiotics, antipyretics and analgesics.
19. Calculate following for radiation of wavelength 200 nm : wavenumber. frequency, energy per photon and energy per mol.

(5 × 5 = 25 marks)

Section C (Essay)

Answer any **one** *question.*
The question carries 11 *marks.*

20. (a) What is the principle of NMR spectroscopy ?

    (b) How will you differentiate the two isomers C_2H_6O using NMR spectroscopy ?

21. (a) Explain terms (a) Chromophore ; and (b) Auxochrome.

    (b) Discuss various theories of colour and constitution.

(1 × 11 = 11 marks)

C 41201 (Pages : 2) Name.....

Reg. No.....

FOURTH SEMESTER (CBCSS-UG) DEGREE EXAMINATION, APRIL 2023

Chemistry

CHE 4C04—PHYSICAL AND APPLIED CHEMISTRY

(2019 Admission onwards)

Time : Two Hours Maximum : 60 Marks

Section A (Short Answers)

Answer questions up to 20 *marks.*
Each question carries 2 *marks.*

1. What are associated colloids ?
2. What is peptization ? Give an example.
3. What is atom economy in green chemistry ?
4. Give any two applications of nanomaterial in medicine.
5. Define R_f value in chromatography.
6. Arrange different electronic transitions in the order of increasing energy levels.
7. What is meant by finger print region ?
8. What are thermoplastics ? Give an example.
9. How is nylon-66 prepared ?
10. What is BOD ?
11. How ozone layer depletion does increases temperature of atmosphere ?
12. What is antibiotics ? Give an example.

[Ceiling of marks : 20]

Section B (Paragraph)

Answer questions up to 30 *marks.*
Each question carries 5 *marks.*

13. Write notes on electrophoresis.
14. Explain the properties of nanoparticles.
15. Mention advantages and limitations of TLC.
16. How are following prepared (a) PVC ; (b) PTFE ; (c) Polythene ?

Turn over

17. How is acid rain produced ?

18. Explain terms (a) chromophores ; (b) auxochrome. With examples.

19. How will you differentiate the following pairs of compounds by IR spectroscopy, (i) acetophenone and benzaldehyde ; (ii) ethanol and ether.

[Ceiling of marks : 30]

Section C (Essay)

Answer any **one**.

The question carries 10 *marks.*

20. (a) What is meant by chemical shift ?

    (b) Draw NMR spectrum of 1,3-dibromopropane and explain it.

    (c) What are the applications of UV spectroscopy ?

21. Write a note about manufacture of cement and glass.

(1 × 10 = 10 marks)

C 61257 (Pages : 2) Name.....

Reg. No.....

FOURTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL/MAY 2018

(CUCBCSS—UG)

Chemistry

CHE 4C 04—PHYSICAL AND APPLIED CHEMISTRY–I

Time : Three Hours Maximum : 64 Marks

Section A

Answer **all** *questions.*
Each question carries 1 *mark.*

1. The nuclear fission reactions follow ———— order.
2. The stationary phase in thin layer chromatography is ————.
3. ———— is the electronic transition in unsaturated compounds.
4. What is the monomer of neoprene ?
5. Draw the structure of indigo.
6. Write any *two* greenhouse gases.
7. Colloid with liquid dispersed phaseand solid dispersion medium is called ————.
8. Write the selection rule for infrareds pectroscopy.
9. Write the unit of rate constant of a second order reaction.
10. The process of settling down of colloids by losing charge is called ————.

(10 × 1 = 10 marks)

Section B

Answer any **seven** *questions.*
Each question carries 2 *marks.*

11. Give the structure of BHT and BHA.
12. Define gold number.
13. What is greenhouse effect ?
14. Write the structure and any *two* applications of Buns-S.
15. What is Tyndall effect ?
16. What are inorganic fertilizers ?

Turn over

17. Differentiate between adsorption and partition chromatography.
18. What are biodegradable polymers ?
19. Derive the half life period of a first order reaction.
20. Draw the NMR spectrum of acetone.

(7 × 2 = 14 marks)

Section C

Answer any **four** *questions.*
Each question carries 5 *marks.*

21. Write a note on water pollution.
22. Explain the theories of colour and constitution of dyes.
23. What is chemical shift ? What are the factors affecting chemical shift values ?
24. Distinguish between thermoplastics and thermosetting plastics.
25. Briefly explain the applications of colloids.
26. What are the theories of catalysis ?

(4 × 5 = 20 marks)

Section D

Answer any **two** *questions.*
Each question carries 10 *marks.*

27. (i) Explain the cleansing action of soap. What are the advantages and disadvantages of soaps and detergents ?

    (ii) Write a note on the manufacture of cement.
28. Give brief account on the origin of charge and electrical properties of colloids.
29. Explain the principle and applications of column and gas chromatography.
30. Write a note on the classification of polymers.

(2 × 10 = 20 marks)

C 4000 (Pages : 2) Name.....

Reg. No.....

FOURTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2016

(CUCBCSS-UG)

Complementary Course

CHE 4C 04—PHYSICAL AND APPLIED CHEMISTRY

Time : Three Hours Maximum : 64 Marks

Section A (One Word)

Answer **all** *questions.*
Each question carries 1 *mark.*

1. When light is passed through a colloidal dispersion it become visible as a bright streak. This phenomenon is known as ————.
2. The rate constant of a reaction is $1.23 \times 10^{-4}\ s^{-1}$. The order of the reaction is ————.
3. In ———— chromatographic technique the mobile phase as well as stationary phase are in liquid state.
4. Absorption spectrum in uv region results from ————.
5. In rotational spectrum transitions are only observed between rotational energy levels with ΔJ = ————.
6. The main reason for algal blooming is the nourishment of water with ————.
7. Chlorofluro carbon is considered to be the major destroyer of ———— in the atmosphere.
8. The drug which can reduce the body temperature is generally called ————.
9. The shelf life of food materials is increased by the addition of ————.
10. The monomer of natural rubber is ————.

(10 × 1 = 10 marks)

Section B (Short Answers)

Answer any **seven** *questions.*
Each question carries 2 *marks.*

11. What do you mean by delta formation ?
12. Distinguish lyophilic and lyophobic colloids
13. In a first order reaction, the reactant takes 40.5 minutes to have 25% decomposition. Calculate the rate constant of the reaction.
14. How will you identify dimethyl ether and ethanol from the NMR spectra ?
15. State Beer Lamberts law and mention its application.

Turn over

16. With suitable examples classify the polymers based on the method of their formation.
17. Comment on the statement – Taj Mahal is losing its beauty due to atmospheric pollution.
18. Draw the structures of antioxidants BHA and BHT.
19. Write the important requirement of a dye.
20. Define cetane number.

(7 × 2 = 14 marks)

Section C (Paragraph)

Answer any **four** *questions.*
Each question carries 5 *marks.*

21. Write the important steps involved in the manufacture of cement.
22. Write the characteristics of a first order reaction.
23. Explain any two methods used for the purification of colloids.
24. Pesticides are essential for increasing the agricultural production but their use should be controlled. Why ?
25. Distinguish between homogeneous and h~terogeneous catalysis with suitable examples. How will you explain the heterogeneous catalysis using adsorption theory ?
26. Draw the different modes of vibrations of carbon dioxide and explain why some vibrations are unobserved in IR spectrum.

(4 × 5 = 20 marks)

Section D (Essay)

Answer any **two** *questions.*
Each question carries 10 *marks.*

27. (a) Explain the influence of temperature on the rate of a chemical reaction.
    (b) Write notes on chemical Shift and spin-spin coupling.
28. Describe the different chromatographic methods used for the separation of organic mixtures.
29. Why biodegradable polymers are preferred over non-biodegradable polymers. Describe the manufacture and applications of any three biodegradable polymers.
30. What are drugs ? Write the important classes of drugs with suitable examples.

(2 × 10 = 20 marks)

C 80865 (Pages : 2) Name.....

Reg. No.....

FOURTH SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION APRIL 2020

Chemistry

CHE 4C 04—PHYSICAL AND APPLIED CHEMISTRY

Time : Three Hours Maximum : 64 Marks

Section A

Answer **all** *questions.*

Each question carries 1 *mark.*

1. Example for a lyophilic colloid is ————.
2. Name one method of purification of colloids.
3. Unit of rate constant for a zero order reaction is ————.
4. Write the equation relating the rate constant, energy of activation and temperature.
5. Write an example for a heterogeneous catalytic reaction.
6. Name one application of gas chromatography.
7. Example for a thermosetting plastic is ————
8. Name any *two* water quality parameters.
9. Example for a food preservative is ————.
10. Name an artificial sweetener.

(10 × 1 = 10 marks)

Section B

Answer any **seven** *questions.*

Each question carries 2 *marks.*

11. What is meant by electrophoresis ?
12. A first order reaction occurs with the half-life time of 2 min. Calculate the rate constant for this reaction.
13. Define gold number.
14. Define rate of a reaction and rate constant.

15. Distinguish between adsorption chromatography and partition chromatography.
16. Differentiate between a chromophore and auxochrome.
17. Draw a schematic diagram of the NMR spectrum of pure ethanol.
18. What is fast food ? Mention its health effects.
19. What is meant by thermal pollution ?
20. Distinguish between hard and soft soap.

(7 × 2 = 14 marks)

Section C

Answer any **four** *questions.*
Each question carries 5 *marks.*

21. What are the factors influencing the rate of reactions ?
22. Derive the rate equation for a first order reaction.
23. State Beer-Lambert's law and explain its application.
24. Discuss the kinetic and electrical properties of colloids.
25. What are biodegradable plastics? Give examples and its application.
26. Write important steps involved in the manufacture of cement.

(4 × 5 = 20 marks)

Section D

Answer any **two** *questions.*
Each question carries 10 *marks.*

27. Explain the following :
    (a) Rf value.
    (b) Protective colloid.
    (c) Chemical shift.
28. Describe the different chromatographic methods used for the separation of mixtures.
29. Explain the effects of air pollution.
30. Write notes on : (a) Synthetic fibres ; (b) Glass.

(2 × 10 = 20 marks)

C 23330

(Pages : 2)

Name.....

Reg. No.....

FOURTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2017

(CUCBCSS–UG)

Complementary Course

CHE 4C 04—PHYSICAL AND APPLIED CHEMISTRY

Time : Three Hours

Maximum : 64 Marks

Section A (One Word)

Answer **all** *questions.*

Each question carries 1 *mark.*

1. The property of shrinkage of gels when allowed to stand is called ———.
2. The unit of rate constant for a second order reaction is ———.
3. The vibrational rotational spectrum is obtained in ——— region.
4. Vibrational transitions are accompanied by ——— transition.
5. The mina mata episode is due to ——— metal pollution.
6. The main causative agent of global warming is ———.
7. The compound used to fix a dye to the fabric is known as ———.
8. The hardness of water is due to the presence of ——— and ——— ions in water.
9. Substances which lower the surface tension of water are called ———.
10. ——— is effective in separating and identifying small amount of substances.

(10 × 1 = 10 marks)

Section B (Short Answers)

Answer any **seven** *questions.*

Each question carries 2 *marks.*

11. What do you mean by zeta potential ? How is it developed ?
12. Colligative properties of colloidal solutions are comparatively smaller than solutions. Why ?
13. The half life period of first order reaction is 20 seconds. Calculate the time required for 99.9% completion of the reaction.
14. What are zero order reactions ? Give example.
15. What is the importance of R_f values in thin layer chromatography ?
16. Briefly explain the instrumentation of gas chromatography.
17. Distinguish thermoplastics and thermosetting plastics.
18. What do you mean by eutrophication ?

Turn over

19. How will you explain the production of acid rain ?

20. What are the main components of shaving soap ?

(7 × 2 = 14 marks)

Section C (Paragraphs)

Answer any **four** *questions.*
Each question carries 5 *marks.*

21. What are the different methods of preparation of colloids ? Explain any *two*.

22. Discuss the collision theory of bimolecular reaction.

23. Why thin layer chromatography is considered complementary to column chromatography ?

24. How is the information from the rotational spectral lines used in the calculation of bond length of a molecule ?

25. Write briefly on the important water quality parameters.

26. All coloured substances are not dyes. What are the essential requirements of a dye ?

(4 × 5 = 20 marks)

Section D (Essays)

Answer any **two** *questions.*
Each question carries 10 *marks.*

27. (a) Explain the effect of temperature on reaction rates.

    (b) How can we calculate the Arrhenius parameters ?

28. Explain the term nuclear magnetic resonance. Given an account of the use of NMR spectroscopy in obtaining structural information of simple organic compounds.

29. Explain the different classifications of polymers.

30. Describe the manufacture, composition and setting of cement.

(2 × 10 = 20 marks)

C 81851 (Pages : 3) Name.....

Reg. No.....

FOURTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL/MAY 2015

(UG—CCSS)

Complementary Course

Chemistry

CH 4C 07—PHYSICAL CHEMISTRY—II

Time : Three Hours Maximum : 30 Weightage

I. Answer all the *twelve* questions. Each question carries a weightage of ¼.

1. For a chemical reaction to proceed in a particular direction, at a given temperature :

   (a) ΔH should be positive.

   (b) ΔS should be negative.

   (c) Both ΔH and ΔS should be negative.

   (d) ΔG should be negative.

2. Aqueous solution of which of the following salts will have lowest pH ?

   (a) CH_3 CooNa. (b) NH_4 Cl.

   (c) Na_2Co_3. (d) NaCl.

3. A primary reference electrode among the following is :

   (a) Calomel electrode. (b) SHE.

   (c) Quinhydron electrode. (d) Silver-Silverchloride eletrode.

4. Which among the following property of a liquid is related to its intermolecular force ?

   (a) Surface tension. (b) Viscosity .

   (c) Vapour pressure. (d) All these.

5. Which is not a colligative property ?

   (a) Osmotic pressure. (b) Elevation of B.P.

   (c) Depression of FP. (d) Vapour pressure.

6. At a particular temperature, osmotic pressure is maximum for an aqueous solution of :

   (a) .1M glucose. (b) .01M sucrose.

   (c) .1M NaCl. (d) 0.12M urea.

7. A macromolecular colloid among the following is :

(a) Starch. (b) Soap.

(c) Gold sol. (d) Sulphur sol.

8. Which among the following is a lyophobic colloid ?

(a) Gelatin. (b) Starch.

(c) Gold sol. (d) Glue.

9. Work done is maximum in a ———— process.

10. The surface tension of a liquid ———— with increase in temperature.

11. The maximum number of phases that can exist in equilibrium, in an one component system is ————.

12. Give one example for an one component system.

(12 × ¼ = 3 weightage)

II. Answer all the *nine* questions. Each question carries a weightage of 1.

13. When a real gas is subjected to adiabatic expansion below a particular temperature, the gas gets cooled. Why ?

14. One mole of water at $100^{\circ}C$ changes to steam by absorbing 40.9 kJ of heat. If the work done by the system is 3.5 kJ, calculate the increase in internal energy.

15. What are the factors that affect the electrode potential of a half cell ?

16. The equivalent conductance of a $1\times10^{-2}N$ solution of CH_3COOH is found to be $100\ ohm^{-1}\ cm^2\ eq^{-1}$. If the ionic conductance values of H^+ and CH_3COO^- ions are 350 and $40\ ohm^{-1}\ cm^2\ eq^{-1}$, respectively, calculate the degree of dissociation of CH_3COOH at this concentration.

17. Explain the effect of dissolved solutes in the surfacetension of a liquid.

18. Define osmotic pressure of a liquid.

19. The osmotic pressure of a 5% solution of an unknown solute in water is 3.6 atm at 300K. Calculate the molar mass of the solute.

20. Write any two mechanisms by which a colloid attains charge.

21. What is Hardy and Schulz rule ?

(9 × 1 = 9 weightage)

III. Answer any *five* questions. Each question carries a weightage of 2.

22. The heat of formation of (H_4cg) at constant volume is $-73.3kJ$ at 300K. Calculate the heat of formation at constant pressure, at 300K.

23. Explain the working of a calomel electrode.

24. The refractive index of CH_3COOH is 1.371 at a temperature at which its density is 1.046g cm^{-3}. Calculate the molar refraction of CH_3COOH.

25. Derive the general solution equation from the laws of osmotic pressure.

26. What are protective colloids ? Give examples. How is the efficiency of a protective colloid expressed ?

27. Explain the Donnan membrane equilibrium.

28. Explain the terms phase, components and degree of freedom, as used in phase rule.

(5 × 2 = 10 weightage)

IV. Answer any *two* questions. Each question carries a weightage of 4.

29. Derive the Clausius-Clapeyron equation for liquid-vapour equilibria.

30. What is meant by corrosion of metals ? Explain the methods suggested for the prevention of corrosion.

31. (i) Write the thermodynamic derivation of phase rule.

(ii) Discuss the Pattinson's process for the desilverisation of lead.

(2 × 4 = 8 weightage)

C 23287 (Pages : 2) Name.....

Reg. No.....

FOURTH SEMESTER B.Sc. (L.R.P.) DEGREE EXAMINATION, APRIL 2017

(CUCBCSS—UG)

Common Course

A 13—ENTREPRENEURSHIP DEVELOPMENT

Time : Three Hours Maximum : 80 Marks

Part I

Answer **all** *questions.*
Each question carries 1 *mark.*

1. ——— applied the term entrepreneur to business for the first time.
   (a) Richard Cantillon. (b) Joseph Schumpeter.
   (c) A. H. Cole. (d) Clarence Danhof.
2. A small service enterprise is one in which the investment in plant and machinery does not exceed :
   (a) Rs. 2 crores. (b) Rs.1 crore.
   (c) Rs. 50 lakhs. (d) Rs. 25 lakhs.
3. According to Schumpeter, Is the most important function of a modern entrepreneur ?
   (a) Innovation. (b) Invention.
   (c) Skill. (d) Creativity.
4. Person who works within an organization and having entrepreneurial capabilities is :
   (a) Entrepreneur. (b) Intrapreneur.
   (c) Promoters. (d) None of these.
5. The MSME Development Act came into force in the year ———.
   (a) 2006. (b) 2005.
   (c) 2007. (d) None of these.
6. ——— is the first phase in the life cycle of a project.
7. ——— entrepreneurs neither introduce new changes nor adopt new methods innovated by others.
8. PERT means ———.
9. DIC means ———.
10. KITCO means ———.

(10 × 1 = 10 marks)

Turn over

Part II (Short Answer Questions)

Answer any **eight** *questions.*
Each question carries 2 *marks.*

11. Define entrepreneur.
12. What is techno-economic analysis ?
13. What is pay back method ?
14. What is working capital ?
15. What is project appraisal ?
16. What do you mean by business incubation ?
17. What do you mean by 'copreneurs' ?
18. Define women entrepreneurship.
19. What is "Subsidy" ?
20. Discuss any *four* functions of DIC.

(8 × 2 = 16 marks)

Part III (Short Essays)

Answer any **six** *questions.*
Each question carries 4 *marks.*

21. What are the characteristics of an entrepreneur ?
22. What are the objectives of network analysis ?
23. What are the problems faced by MSME in India ?
24. What is project management ?
25. What are the advantages of incentives and subsidies ?
26. What are the functions of KINFRA ?
27. What are the elements of project formulation ?
28. State the objectives and importance of ED Clubs in Kerala.

(6 × 4 = 24 marks)

Part IV (Long Essays)

Answer any **two** *questions.*
Each question carries 15 *marks.*

29. What are the factors affecting entrepreneurial growth ?
30. Define a project report. What are the contents required for a good project report ?
31. Define MSME ? Discuss the role and importance of MSME in developing countries.

(2 × 15 = 30 marks)

C 81791 (Pages : 3) Name.....

Reg. No.....

FOURTH SEMESTER B.Com./B.B.A. DEGREE EXAMINATION MARCH/APRIL 2015

(U.G.–CCSS)

Common Course

A14—ENTREPRENEURSHIP DEVELOPMENT

Time : Three Hours Maximum : 30 Weightage

Part A

This part contains three bunches of questions carrying equal weightage.
Each bunch has four questions.
Answer all the **twelve** *questions.*

A. Fill up the blanks :

1 The scheme of E.D. club is implemented by ————————.

2 ———————— is the difference between present value of cash inflows and present value of cash outflows.

3 Under ———————— layout system men and equipments are moved to the material which remains in one place.

4 ———————— entrepreneurs are those who refuse to adopt and use opportunities to make changes in production.

B. Choose the correct answer from brackets :

5 The ability to develop new ideas, concepts and process is known as :

(a) Performance. (b) Invention.

(c) Innovation. (d) Skill.

6 Single window scheme is instituted through :

(a) SIDCO. (b) KSFE.

(c) DIC. (d) SBT.

7 Which of the following is not a technique of financial analysis ?

(a) Ratio analysis. (b) Cash flow analysis.

(c) Risk analysis. (d) Fund flow analysis.

8 It is one of the sunrise industries of Kerala State :

(a) Food processing. (b) Transport.

(c) Mining. (d) Handloom.

Turn over

C. Answer in *one word* :

9 Women who organise, manage, and assumes the risk of a business are called as :

10 Couples who work together as co-owners of their business are termed as :

11 The point at which total cost equals the total revenue (sales) is technically termed as :

12 Kerala Industrial Infrastructure Development Corporation is abbreviated as :

(12 × ¼ = 3 weightage)

Part B

Answer all **nine** *questions in* **one** *or* **two** *sentences each.*
Each question carries a weightage of 1.

13 Differentiate between Entrepreneur and Entrepreneurship.

14 What are the chief characteristics of an entrepreneur ?

15 What is MSME ?

16 What are Industrial Estates ?

17 What are Tax holidays ?

18 What is meant by Bridge capital ?

19 Give any two important functions of KFC.

20 State the meaning of feasibility study.

21 What is meant by combined layout ?

(9 × 1 = 9 weightage)

Part C

Answer any **five** *questions.*
Answers not to exceed **one page.**
Each question carries a weightage of 2.

22 What is meant by network analysis ? Discuss the importance of network technique in project management.

23 What are the major sources of Project Finance ? Explain briefly.

24 What is pay-back period ? List the merits and demerits of pay-back method.

25 Explain briefly the incentives and supports offered by Government of Kerala for promoting entrepreneurial development.

26 What are the skills required by entrepreneurs ? How are they developed ?

27 Discuss the problems faced by women entrepreneurs.

28 Explain the functions performed by DIC.

(5 × 2 = 10 weightage)

Part D

Answer any **two** *questions.*
Each question carries a weightage of 4.

29 **Define Entrepreneur. Explain the different types of entrepreneurs.**

30 **Define project report. What is its importance ? Enumerate the contents of a project report.**

31 **Explain briefly the procedure of setting up a small scale industrial unit.**

(2 × 4 = 8 weightage)

C 23287 (Pages : 2) Name.....

Reg. No.....

FOURTH SEMESTER B.Sc. (L.R.P.) DEGREE EXAMINATION, APRIL 2017

(CUCBCSS—UG)

Common Course

A 13—ENTREPRENEURSHIP DEVELOPMENT

Time : Three Hours Maximum : 80 Marks

Part I

Answer **all** *questions.*
Each question carries 1 *mark.*

1. ——— applied the term entrepreneur to business for the first time.
   (a) Richard Cantillon. (b) Joseph Schumpeter.
   (c) A. H. Cole. (d) Clarence Danhof.
2. A small service enterprise is one in which the investment in plant and machinery does not exceed :
   (a) Rs. 2 crores. (b) Rs.1 crore.
   (c) Rs. 50 lakhs. (d) Rs. 25 lakhs.
3. According to Schumpeter, Is the most important function of a modern entrepreneur ?
   (a) Innovation. (b) Invention.
   (c) Skill. (d) Creativity.
4. Person who works within an organization and having entrepreneurial capabilities is :
   (a) Entrepreneur. (b) Intrapreneur.
   (c) Promoters. (d) None of these.
5. The MSME Development Act came into force in the year ———.
   (a) 2006. (b) 2005.
   (c) 2007. (d) None of these.
6. ——— is the first phase in the life cycle of a project.
7. ——— entrepreneurs neither introduce new changes nor adopt new methods innovated by others.
8. PERT means ———.
9. DIC means ———.
10. KITCO means ———.

(10 × 1 = 10 marks)

Turn over

Part II (Short Answer Questions)

Answer any **eight** *questions.*
Each question carries 2 *marks.*

11. Define entrepreneur.
12. What is techno-economic analysis ?
13. What is pay back method ?
14. What is working capital ?
15. What is project appraisal ?
16. What do you mean by business incubation ?
17. What do you mean by 'copreneurs' ?
18. Define women entrepreneurship.
19. What is "Subsidy" ?
20. Discuss any *four* functions of DIC.

(8 × 2 = 16 marks)

Part III (Short Essays)

Answer any **six** *questions.*
Each question carries 4 *marks.*

21. What are the characteristics of an entrepreneur ?
22. What are the objectives of network analysis ?
23. What are the problems faced by MSME in India ?
24. What is project management ?
25. What are the advantages of incentives and subsidies ?
26. What are the functions of KINFRA ?
27. What are the elements of project formulation ?
28. State the objectives and importance of ED Clubs in Kerala.

(6 × 4 = 24 marks)

Part IV (Long Essays)

Answer any **two** *questions.*
Each question carries 15 *marks.*

29. What are the factors affecting entrepreneurial growth ?
30. Define a project report. What are the contents required for a good project report ?
31. Define MSME ? Discuss the role and importance of MSME in developing countries.

(2 × 15 = 30 marks)

C 23289 (Pages : 3) Name.....

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FOURTH SEMESTER B.Sc. (L.R.P.) DEGREE EXAMINATION, APRIL 2017

(CUCBCSS—UG)

Common Course

A14—NUTRITION AND HEALTH

Time : Three Hours Maximum : 80 Marks

Part A

Answer **all** *the questions.*

Multiple Choice :

1 Sucrose belongs to ————————.

(a) Polysaccharide. (b) Disaccharide.

(c) Monosaccharide. (d) Oligosaccharide.

2 Nutrition includes the study of ————————.

(a) The way an organism obtains food.

(b) Process of digestion.

(c) The organism's food.

(d) All of the above.

3 Deficiency of Vitamin C leads to ————————.

(a) Night blindness. (b) Skin Rashes.

(c) Scurvy. (d) Impairs clotting of blood.

4 Deficiency of niacin leads to ————————.

(a) Beriberi. (b) Sour throat.

(c) Pellagra. (d) Goitre.

5 Deficiency of iodine leads to ————————.

(a) Beriberi. (b) Sour throat.

(c) Pellagra. (d) Goitre.

Fill in the blanks :

6 PUFA stands for ——————.

7 The linkage between fatty acid and glycerol ——————.

8 Oleic acid is —————— fatty acid

Give very short answer :

9 Give one example of essential amino acid.

10 What is the energy value of protein ?

(10 × 1 = 10 marks)

Part B

Answer any **five** *questions.*

11 Define malnutrition.

12 Define physical health.

13 Write briefly about water classification.

14 Two important factors affecting BMR.

15 What is monounsaturated fatty acid and give one example.

16 Provide brief details of sources of carbohydrates.

17 Define basal metabolism.

(5 × 2 = 10 marks)

Part C

Answer any **six** *questions.*

18 Classify the proteins and give one example each.

19 Explain specific dynamic actions of food.

20 Write a note on digestion and absorption of proteins.

21 What are the sources and functions of proteins ?

22 Write a note on the dietary fibre.

23 Explain the sources and functions of calcium and effects of its deficiency.

24 Discuss the sources and functions of copper and effects of its deficiency.

25 Write the names of digestive enzymes present in gastrointestinal tract.

(2 × 15 = 30 marks)

Part D

Answer any **two** *questions.*

26 Explain the role of water soluble vitamins in human body and provide any four deficiency diseases.

27 Nutrients are important to human health - explain in detail.

28 Describe the role of carbohydrates in health and nutrition with reference to digestion, absorption, transportation and utilisation.

29 Describe the sources and functions of iodine as well as absorption and factors affecting its utilization along with effects of its deficiency.

(2 × 15 = 30 marks)

C 23296 (Pages : 2) Name.....

Reg. No.....

FOURTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2017

(CUCBCSS–UG)

Chemistry

CHE 4B 04—ORGANIC CHEMISTRY—I

Time : Three Hours Maximum : 80 Marks

Section A (One Word)

Answer **all** *questions.*
Each question carries 1 *mark.*

1. The next member in the homologues series of Propanone is ———.
2. Draw the structure of functional isomer of $CH_3—O—CH_3$.
3. Out of maleic acid and fumaric acid which will give its own anhydride on heating.
4. The mono ester of one of the tartaric acids is optically active but give inactive product when hydrolysed. The tartaric acid isomer is ———.
5. The major product formed by treating 2-Bromobutane with alcoholic KOH is ———.
6. The more basic amine among aniline and p-anisicine is ———.
7. An example for a conjugated diene is ———.
8. An alkyne with molecular formula C_4H_6 give a red precipitate with ammonical cuprous chloride solution. The alkyne is ———.
9. One unique property of Carbon which accounts for the occurrence of so many organic compounds is ———.
10. In the dehydrohalogenation reaction of $CH_3—CH_2—CH_2—CH_2Cl$ and $CH_3—CH_2—CHCl—CH_3$, Saytzeff's rule is applicable only to ———.

(10 × 1 = 10 marks)

Section B (Short Answers)

Answer any **ten** *questions.*
Each question carries 2 *marks.*

11. Draw the structural isomers of monochloropropane. What is the name given for this type of isomers ?
12. 1-Bromopropane and 2-Bromopropane are warmed with metallic sodium in dry ether. What are the products formed ?
13. Give a short account of Keto-enol tautomerism by selecting a suitable example.
14. Which isomeric alkene is formed when 2-Butyne is reduced with Sodium in liquid ammonia ? Write the reaction.
15. Compare the acidity of fumaric acid and acetic acid. Justify your answer.
16. Which is more basic Pyrrole or Pyridine ? Why ?

Turn over

17. Give two examples each for activating and deactivating groups.
18. Predict the structure of alkyne which would give Dimethyl glyoxal on ozonolysis.
19. Give a test for unsaturation of an organic compound. Explain the chemistry.
20. Cyclopentadienyl anion is aromatic. Why ?
21. What are Anti aromatic compounds ? Give one example.
22. What is meant by free radical substitution ? Give one example.

(10 × 2 = 20 marks)

Section C (Paragraphs)

Answer any **five** *questions.*
Each question carries 6 *marks.*

23. Explain the mechanism of halogenation in benzene.
24. Give an account of ozonolysis of alkenes. How ozonolysis helps in determining the position of double bond in alkenes ? Illustrate with example.
25. Discuss the mechanism of dehydration of alcohols.
26. Explain why α substitution in naphthalene is more favourable than β substitution.
27. Discuss with suitable example, the E and Z system of nomenclature of geometrical isomers.
28. What are Carbenes ? Give its hybridization and structure. Write two reactions in which they are formed.
29. Give a short account of optical isomerism of compounds lacking asymmetric carbon atoms.
30. Explain hyperconjugative effect and compare the stabilities of 1-Butene and 2-Butene, with this effect.

(5 × 6 = 30 marks)

Section D (Essays)

Answer any **two** *questions.*
Each question carries 10 *marks.*

31. (a) What do you understand by Chair and Boat conformations of cyclohexane ? Why chair form is more stable than boat form ?

    (b) Write a short note on asymmetric synthesis.

(5 + 5 = 10 marks)

32. What are Carbanions ? Discuss the formation, hybridization, structure and stability of Carbanions.
33. (a) Discuss the cis and trans hydroxylation of alkenes.

    (b) Give a brief account of Diels Alder reaction.

(6 + 4 = 10 marks)

34. (a) Taking suitable examples illustrate different rules followed to assign R and S notation to optical isomers.

    (b) Suggest two methods to resolve racemic Lactic acid into optically active forms.

(5 + 5 = 10 marks)

(2 × 10 = 20 marks)

C 25577 (Pages : 3) Name.....

Reg. No.....

FOURTH SEMESTER B.Com./B.B.A. DEGREE (SUPPLEMENTARY) EXAMINATION, APRIL 2017

(UG–CCSS)

Common Course

A 14—ENTREPRENEURSHIP DEVELOPMENT

Time : Three Hours Maximum : 30 Weightage

Part A

This part consists of three bunches of questions carrying equal weightage.
Each bunch has four questions.
Attempt all **twelve** *questions.*

A. Fill in the blanks :

1. A ——— looks at determining whether the project idea is a realistic or not.
2. The initial capital used to start a business is called ———.
3. The NPV approach recommends a project if the difference between the present value of cash inflows and the initial investment is ———.
4. ——— has been established as the apex institution for financing the MSME.

B. Choose the correct answer from the alternatives given :

5. Which is an economic factor that affects entrepreneurship ?

   (a) Raw materials. (b) Innovation.

   (c) Government policies. (d) Mobility.

6. A person owning and running a small firm, is known as :

   (a) A manager-owner. (b) An owner-manager.

   (c) A professional adapter. (d) An enterprise worker.

7. The payback period of three projects A, B and C are 5 years, 3 years and 7 years respectively. Its ranking would be :

   (a) A, B and C. (b) B, C and A.

   (c) A, C and B. (d) B, A and C.

Turn over

8. A micro manufacturing enterprise's investment in plant and machinery should be up to :

(a) 10 lakhs rupees. (b) 25 lakhs rupees.

(c) 50 lakhs rupees. (d) 60 lakhs rupees.

C. Answer in *one word* :

9. Imitative entrepreneurs are also called :

10. The cash equivalent now of a sum receivable at a later date is called :

11. The first stage in the project cycle is :

12. The excess of the maximum available time over the activity duration is termed as :

(12 × ¼ = 3 weightage)

Part B

Answer all **nine** *questions in one* **or two** *sentences each.*
Each question carries a weightage of 1.

13. Define a project report.

14. What are the functions of entrepreneur ?

15. What is a payback period ?

16. What is project management ?

17. What is cash flow analysis ?

18. What is Working Capital ?

19. What is Intrapreneurship ?

20. Who is a Drone entrepreneur ?

21. Write a short note on SIDO.

(9 × 1 = 9 weightage)

Part C

Answer any **five** *questions.*
Each answer not to exceed **one page.**
Each question carries a weightage of 2.

22. What is break-even analysis ? State its merits.

23. What are the remedies to solve the problems of women entrepreneurs ?

24. What are Industrial estates ? State its advantages.

25. State the functions of SIDBI.

26. What is a project cycle ? Explain the different phases of a project cycle.

27. "An entrepreneur has to obtain several clearances or permissions before starting MSME"—What are they ?

28. Describe the steps in Project Management.

(5 × 2 = 10 weightage)

Part D (Essay type)

Attempt any **two** *questions.*
Each question carries a weightage of 4.

29. Economic development is the effect for which entrepreneurship is a cause"—Do you agree ? Give reasons.

30. Explain the different types of project.

31. What are the different types of entrepreneurs ? Explain briefly the features of each type.

(2 × 4 = 8 weightage)

C 5106 (Pages : 3) Name.....

Reg. No.....

FOURTH SEMESTER B.Com./B.B.A. DEGREE (SUPPLEMENTARY/ IMPROVEMENT) EXAMINATION, MAY 2016

(UG—CCSS)

Common Course

A 14—ENTREPRENEURSHIP DEVELOPMENT

Time : Three Hours Maximum : 30 weightage

Part A

This part consist of **three** *bundles of questions carrying equal weightage.*
Each bunch has **four** *questions.*
Answer all **twelve** *questions.*

I. Fill in the blanks by choosing the appropriate word from those given in the brackets :

1 Introducing something new to the economy is called :

(a) Entrepreneurship. (b) Risk bearing.

(c) Innovation. (d) Organising.

2 An entrepreneur who starts business with the help of natural talent is called :

(a) Pure entrepreneur. (b) Induced entrepreneur.

(c) Spontaneous entrepreneur. (d) Motivated entrepreneur.

3 Under the payback period we select the project which has the :

(a) Shortest period. (b) Longest period.

(c) Medium period. (d) Two year period.

4 Clearance given for small scale enterprises to promote the growth is :

(a) Green Channel. (b) Value added tax.

(c) Critical path method. (d) Net worth.

II. Choose the correct answer :

5 The first stage of project cycle is :

(a) Project evaluation. (b) Project identification.

(c) Project appraisal. (d) Project preparation.

Turn over

6 MSME development institute was formally known as :

(a) SIDBI. (b) SISI.

(c) SIDCO. (d) SJSRY.

7 The MSME Development Act was introduced in :

(a) 2006. (b) 2005.

(c) 2008. (d) 2007.

8 Which method is also known as Benefit cost ratio method ?

(a) Average Rate of Return. (b) Present value Index method.

(c) Discounted cash flow method. (d) Net present value method.

III. Answer in *one word* :

9 No profit no loss is denoted by :

10 The term 'entrepreneur' was first introduced by :

11 The initial capital used to start a business is called :

12 Minimum amount of capital required for carrying out day to day operations of an enterprise is referred to as :

(12 × ¼ = 3 weightage)

Part B

Answer all **nine** *questions.*
Each question carries a weightage of 1.

13 Explain innovative entrepreneur.

14 What is achievement motivation ?

15 What is desk research ?

16 State the objectives of network analysis.

17 What is target group ?

18 What is a quantifiable project ?

19 What is bridge finance ?

20 What is NIESBUD ?

21 Define entrepreneur.

(9 × 1 = 9 weightage)

Part C

Answer any **five** *questions.*
Each question carries a weightage of 2.

22 Explain features of a project.

23 State the difference between entrepreneur and Intrapreneur.

24 What are the functions of DICs ?

25 Describe PLC.

26 What are the reasons for industrial sickness ?

27 What are the sources of project idea ?

28 State the difference between PERT and CPM.

(5 × 2 = 10 weightage)

Part D

Answer any **two** *questions,.*
Each question carries a weightage of 4.

29 What is project formulation ? What are the elements involved in it ?

30 Describe the steps involved in setting up MSME.

31 What is the role of entrepreneur in economic development ?

(2 × 4 = 8 weightage)