

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2023
(Second Semester)

Branch – NUTRITION, FOOD SERVICE MANAGEMENT & DIETETICS

CHEMISTRY - II

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (5 x 1 = 5)

- In column chromatography, the stationary phase is made of ----- and mobile phase is made of -----
(i) Solid, liquid (ii) Liquid, liquid
(iii) Liquid, gas (iv) Solid, gas
- Which of the following is an example of non-ionic detergent?
(i) Alkyltrimethyl ammonium chloride
(ii) Sodium salts of alkyl sulphates
(iii) Sodium salts of alkyl benzene sulphonic acids
(iv) Polyethers
- The terpenoid responsible for the smell of rose is _____.
(i) Camphor (ii) Citral
(iii) Menthol (iv) Geraniol
- For first-order reactions the rate constant, k, has the unit(s)
(i) $l\ mol^{-1}$ (ii) $time^{-1}$
(iii) $(mol/l)^{-1}\ time^{-1}$ (iv) $time\ mol^{-1}$
- Which of the following are the primary causes of water pollution?
(i) Plants (ii) Animals
(iii) Human activities (iv) None of these

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 3 = 15)

- a Bring out the applications of thin layer chromatography
OR
b Explain the principle involved in fractional crystallization. Give an example of sample separated using this method.
- a Show with neat diagram the cleaning action of soap.
OR
b Explain the various principle groups present in synthetic detergents.
- a Apply Huckel's rule of aromaticity to benzene molecule.
OR
b Classify terpenoids. Give an example for each case.
- a Compare first order and pseudo first reactions.
OR
b Explain i) Catalytic poisoning ii) Promoters with suitable example.

Cont...

- 10 a Explain the terms DO, BOD and COD. Give its significances
OR
b Show the various sources of soil pollution.

SECTION -C (30 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks (5 x 6 = 30)

- 11 a Describe the principle and techniques of paper chromatography. Explain how does this useful in analytical applications?
OR
b Explain the principle involved in steam distillation. Give an example of sample separated using this method .
- 12 a Outline the cold process of manufacture of soaps.
OR
b Discuss the Alfol process of producing anionic detergents.
- 13 a Outline the preparation of following compounds from benzene (2+2+2 Marks)
i) 2,4,6-trinitrobenzene ii) Toluene iii) Maleic anhydride
OR
b What is green chemistry? Discuss two green synthetic reactions (2+4 Marks)
- 14 a Examine the mechanism of enzyme catalysis reaction
OR
b Point out the definition of following reaction with example (2+2+2 Marks)
i) Consecutive ii) Parallel iii) Chain reactions
- 15 a Point out the source and effects of soil pollution.
OR
b Discuss effects of global warming and acid rain.

Z-Z-Z

END