

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2022
(First Semester)

Branch – NUTRITION, FOOD SERVICE MANAGEMENT AND DIETETICS

CHEMISTRY-I

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

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

- 1 Which of the following acids cannot be stored in glass bottles?
(i) HNO₃ (ii) H₂SO₄
(iii) HCl (iv) HF
- 2 Which of the following does not exhibit covalent bonding?
(i) CO₂ (ii) CCl₄
(iii) CH₄ (iv) CaCl₂
- 3 Alanine has _____ and _____ number of -NH₂ and -COOH groups respectively.
(i) 0, 1 (ii) 1, 1
(iii) 2, 1 (iv) 1, 2
- 4 Narcotics drugs are called as
(i) analgesis (ii) antibiotics
(iii) antipyretics (iv) tranquilizers
- 5 The reverse of a photochemical reaction is called as
(i) chemiluminescence (ii) fluorescence
(iii) phosphorescence (iv) photosensitization

SECTION - B (15 Marks)

Answer ALL Questions

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

- 6 a Mention any six safety precautions to be followed while handling toxic and poisonous chemicals.
OR
b What are errors? How are they minimized in the laboratory analysis?
- 7 a Distinguish between inter- and intra-molecular hydrogen bonding with suitable examples.
OR
b What are oxidizing agents? Give any two examples.
- 8 a How are heterocyclic compounds classified? Give examples for each classification.
OR
b Describe the important tests which are used to confirm the presence of proteins.
- 9 a Explain the mechanism of action of sulpha drugs.
OR
b Write a note on certified food colorants.

Cont...

10 a Define buffer solution. What are the importance of buffers in the living system?

OR

b Bring out the major differences between physical adsorption and chemisorption.

SECTION -C (30 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

11 a Describe the principle of precipitation and redox titrations by giving suitable examples.

OR

b Explain the following terms and their significance.

i) Precision and accuracy

ii) Classification of errors

12 a Describe the formation of ionic, covalent and co-ordinate covalent bonds with one example each.

OR

b Calculate the oxidation number of carbon in each of the following compounds.

i) CH_4

ii) CHCl_3

iii) CH_3Cl

iv) CCl_4

13 a Explain the preparation, properties and uses of thiophene.

OR

b Give an account on the characteristic properties and mode of action of enzymes.

14 a Write short notes on the following.

i) Antibiotics

ii) Disinfectants

iii) Sulphadiazine

OR

b What are dyes? How are they classified? Explain with examples.

15 a 40 grams of NaOH is present in 400 mL of water. Calculate the normality, molality, molarity and mole fraction of the solution.

OR

b State and explain Freundlich adsorption isotherm. Mention its limitations.

Z-Z-Z

END