

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2019
(Fourth Semester)

Branch - ZOOLOGY

CHEMISTRY - II

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (10 x 2 = 20)

- 1 Bring out the biological role of chlorophyll.
- 2 Give the uses of sodium metabisulphite and sodium hydro sulphite.
- 3 How does pyridine react with sodamide?
- 4 Distinguish between enzymes and co-ENZYMES.
- 5 Calculate the molarity of solution prepared by dissolving 4g of sodium hydroxide in 100 mL of water. (Molecular weight of NaOH = 40).
- 6 Define the term mole fraction.
- 7 What is the relationship between specific conductance and equivalent conductance?
- 8 State Kohlrausch's law.
- 9 What are the biological functions of myoglobin?
- 10 Give any one example for green synthesis.

SECTION - B 125 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 5 = 25)

- 11 a Discuss the preparation, properties and uses of permonosulphuric acid.
OR
b Write short notes on "Nitrogenous fertilizers" and "Phosphorous fertilizers".
- 12 a How is furan prepared? Outline its chemical properties.
OR
b Explain the manufacturing process of ethyl alcohol from molasses.
- 13 a Describe the principle and applications of thin layer chromatography.
OR
b Outline the principle of ion-exchange chromatography and give its applications.
- 14 a What are buffer solution? Explain the mechanism of buffer action.
OR
b Write short notes on photo sensitization.
- 15 a Discuss the role of trace elements of biological systems.
OR
b Give a brief account on iron-sulphur proteins.

SECTION - C (30 Marks)

Answer any THREE Questions

ALL Questions Carry EQUAL Marks (3 x 10 = 30)

- 16 a) Explain the salient features of Werner's coordination theory,
b) Describe the applications of EDTA.
- 17 What are proteins? Explain the primary, secondary and tertiary structure of proteins.
- 18 Discuss the principle and process involved in the following purification techniques (a) Sublimation (b) Fractional distillation.
- 19 (a) Define the term "molar conductance". What is the effect of dilution on molar conductance?
(b) State the following laws: (i) Oswald's law (ii) Beer's law.