

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION MAY 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 (10x2 = 20)

- 1 Write any one industrial importance of chelation.
- 2 How is perdisulphuric acid prepared? Give its uses.
- 3 Outline any one preparation of alanine.
- 4 Give any one electrophilic substitution reaction of thiophene.
- 5 Calculate the normality of the solution prepared by dissolving 6.3 g of oxalic acid in water and made up to 200 ml SMF. (Equivalent weight of oxalic acid = 63)
- 6 Differentiate between mass percentage and volume percentage.
- 7 What is meant by 'Quantum yield'?
- 8 State Lambert's law of photochemistry.
- 9 Write the functions of iron-sulphur proteins.
- 10 Enumerate the functions of haemoglobin.

SECTION - B (25 Marks)

Answer **ALL** Questions

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

- 11 a Explain the salient features of Werner's coordination theory.
OR
b Discuss the biological role of chlorophyll.
- 12 a What are proteins? How are they classified on their physical and chemical properties?
OR
b Write any one preparation of pyridine. Outline its electrophilic and nucleophilic substitution reactions.
- 13 a Discuss the principle and process involved in fractional crystallization.
OR
b Outline the principle of steam distillation. With a neat diagram, explain the process of steam distillation.
- 14 a What are buffer solutions? Explain the importance of pH and buffers in living system.
OR
b Define the term 'Equivalent conductance'. Illustrate the effect of dilution on equivalent conductance.
- 15 a Mention the toxicity of Mercury and fluoride.
OR
b Give an example of green synthesis. Mention its advantages.

SECTION - C (30 Marks)

Answer any **THREE** Questions

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

- 16 a Outline any one method of preparing sodium hydrosulphite. Give any two chemical properties and uses of sodium hydrosulphite.
b What are fertilizers? How are they classified? Mention the need for fertilizers.
- 17 a Explain the characteristics and mechanism of enzyme action.
b Outline any one preparation of glycine.
- 18 Describe the principle and applications of paper chromatography and column chromatography.
- 19 a Write short notes on 'Photosensitization'.
b State and explain Faraday's law of electrolysis.