

**PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION MAY 2018
(Fourth Semester)**

Branch- **ZOOLOGY**

BIOCHEMISTRY

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks)

Answer **ALL** questions

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

- 1 Give the structure of lactose.
- 2 What happens when glucose reacts with phenyl hydrazine?
- 3 Give the significance of water.
- 4 What are neutral fats?
- 5 Define essential amino acids. List out their names.
- 6 Role of cofactors. Give example.
- 7 Define nucleosides.
- 8 Give the principle of colorimetry.
- 9 What is redox reactions?
- 10 How many ATPs are formed in glycolysis?

SECTION - B (25 Marks)

Answer **ALL** Questions

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

- 11 a Write briefly on the classification of monosaccharides.
OR
b Write short notes on starch.
- 12 a Explain briefly the structure and biological role of cholesterol.
OR
b What are buffers? Explain biological buffer systems.
- 13 a Write briefly on the structure of proteins.
OR
b Explain the mechanism of enzyme action.
- 14 a Explain DNA structure with a neat labeled diagram.
OR
b Write a short note on electrophoresis.
- 15 a What is urea cycle? Explain.
OR
b Explain (3 - oxidation of fatty⁷ acids.

SECTION - C (30 Marks)

Answer any **THREE** Questions

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

- 16 What are disaccharides? Explain the structure and significance of Maltose and sucrose.
- 17 Explain the structure, properties and functions of phospholipids and sphingolipids..
- 18 Elaborate the factors that affecting enzyme activity.
- 19 Explain chromatography in detail.
- 20 Explain TCA cycle in detail. Add a note on the energetics of the pathway.