

**PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)**

**BSc DEGREE EXAMINATION MAY 2022
(Second Semester)**

Branch – MICROBIOLOGY

FUNDAMENTALS OF BIOCHEMISTRY

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 1 = 5)

1. What will be the pH of a solution, if it is a buffer?
a) 7
b) 14
c) at its K_a value
d) at its pK_a value
2. Find the number of asymmetric carbon present in Hexoses.
a) 3
b) 4
c) 5
d) 6
3. Identify the location of Cardiolipin.
a) Plasma membrane
b) Nuclear membrane
c) Mitochondrial membrane
d) ER
4. Label the compound which is formed on complete hydrolysis of Protein.
a) Peptides
b) Nucleic acid
c) Uric acid
d) Amino acids
5. Name the Coenzyme of Riboflavin.
a) NAD
b) FAD
c) Coenzyme A
d) TPP

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

- 6 a Analyse Water as a biological solvent.
OR
b Outline the Cellular reactions of Water.
- 7 a Describe the Structure of Sucrose.
OR
b Explain Mutarotation with an example.
- 8 a State the role of Lipids in Bio membrane.
OR
b Narrate the sources and biological functions of Vitamin E.
- 9 a Show the Zwitter ionic nature of amino acid.
OR
b Describe the functions of Vasopressin.
- 10 a Explain the Feedback Inhibition of enzyme with an example.
OR
b Summarise the marker enzymes of Liver function.

Cont...

SECTION -C (30 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

- 11 a Discuss the Buffer system of Blood.
OR
b Elucidate Osmosis in detail.
- 12 a Compare the structure and properties of Reducing and Non-reducing sugars.
OR
b Differentiate the Homopolysaccharides and Heteropolysaccharides with an example.
- 13 a Discuss the Structure and function of Cholesterol.
OR
b Examine the Structure of membrane with Fluid Mosaic Model.
- 14 a Highlight the reactions of Amino acids due to amino group and explain how they are used in analysis.
OR
b Survey the Secondary structure of Protein with an example.
- 15 a Classify the types of Enzymes with suitable examples.
OR
b Summarise the mechanism of action of enzymes with a suitable example.

Z-Z-Z

END