

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2019  
(Second Semester)

Branch - MICROBIOLOGY

**FUNDAMENTALS OF BIOCHEMISTRY/BIOCHEMISTRY**

T Three Hours Maximum: 75 Marks

**SECTION-A (10 Marks)**

Answer ALL questions

ALL questions carry EQUAL marks (10 x 1 = 10)

- 1 Phosphate buffer saline maintains pH of \_\_\_\_\_ .  
(i) 7 (ii) 7.2  
(iii) 7.4 (iv) 7.6
  - 2 The water hydrogen bond is a \_\_\_\_\_ bond.  
(i) weak (ii) strong  
(iii) covalent (iv) van der waals
  - 3 \_\_\_\_\_ is a reducing sugar composed of one molecule of D-galactose and one molecule of D-glucose joined by a (3-1, 4-glycosidic bond).  
(i) sucrose (ii) maltose  
(iii) lactose (iv) fructose
  - 4 \_\_\_\_\_ is a non-reducing sugar.  
(i) glucose (ii) fructose  
(iii) lactose (iv) sucrose
  - 5 Membranes have \_\_\_\_\_ .  
(i) glycerophospholipids (ii) neutral lipids  
(iii) sphingolipids (iv) lipoproteins
  - 6 Scurvy is caused by \_\_\_\_\_ vitamin deficiency.  
(i) A (ii) C  
(iii) B (iv) K
  - 7 \_\_\_\_\_ is zwitter ion.  
(i) glycine (ii) bicine  
(iii) tricine (iv) All of the above
  - 8 Hormones like adrenaline, thyroxin and triiodothyronine are derived from  
(i) tyrosine (ii) tryptophan  
(iii) histidine (iv) phenylalanine
  - 9 Aspartate carbamoyl transferase is involved in \_\_\_\_\_ enzyme inhibition.  
(i) covalent (ii) allosteric  
(iii) feedback (iv) end product
- In Myocardial infarction \_\_\_\_\_ levels increases in 4 hrs.  
(i) ALT (ii) AST  
(iii) ACP (iv) CPK

Cont...

**SECTION - B (35 Marks)**

Answer **ALL** Questions

**ALL** Questions Carry **EQUAL** Marks (5 x 7 = 35)

- 11 a "Water as biological solvent" - Explain.  
OR  
b What is osmosis? Give the significance of osmosis in biological system.
- 12 a Write a short note on i) Mutarotation (3  $\bar{V}$ )  
ii) Inversion (3  $\bar{V}$ )  
OR  
b Explain, why sucrose is non - reducing sugar?
- 13 a Explain the "fluid mosaic model of lipid bilayer" with a neat sketch.  
OR  
b Give an account on structure and function of phospholipids.
- 14 a Write notes on Biological function of proteins.  
OR  
b Discuss the following : i) Zwitter ion ii) Marasmus
- 15 a Write a brief notes on mechanism of action of enzymes.  
OR  
b Write an account on i) Specificity of enzyme action ii) Multienzyme system.

**SECTION - C (30 Marks)**

Answer any **THREE** Questions

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

- 16 Describe the various clinical elements in Biological macromolecules.
- 17 Write in detail on the classification of polysaccharide.
- 18 Describe the sources and biological functions of 'B' complex vitamin(B] & B<sub>2</sub>).
- 19 Explain the classification and functions of hormones.
- 20 Describe the various types of enzyme inhibition with suitable examples.

**Z-Z-Z**

END