

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION DECEMBER 2018
(First Semester)

Branch - **BIOCHEMISTRY**

STRUCTURAL BIOCHEMISTRY

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks!)

Answer **ALL** questions

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

1 Transfer of one or more electrons from one atom to another is

- (i) Electro covalent bond (ii) Covalent bond
(iii) Co-ordinate bond (iv) Vander-walls force.

Which is shared in H-bond?

- (i) Proton (ii) Electron
(iii) Hydrogen (iv) Charge

Name the components of Lactose.

- (i) Glu+gal (ii) Gal+Fru
(iii) Fru+Glu (iv) Glu+Glu

Which is the branched component of Starch?

- (i) Amylose (ii) amylo pectin
(iii) cellobiose (iv) cellulose

Which one of the following is Hydroxy Aminoacid?

- (i) Methionine (ii) Glycine
(iii) Serine (iv) Histidine

6 How many aminoacids are present in the hemoglobin?

- (i) 541 (ii) 574
(iii) 547 (iv) 526

Which one of the following is a Glycolipid?

- (i) Lecithin (ii) Phospho inositides
(iii) Cephalin (iv) Cerebrosides

Which vitamin deficiency causes pellagra?

- (i) VitC (ii) VitD
(iii) VitB₃ (iv) VitA

Bose pair/tum of helix in B-DNA is _____ .

- (i) 11.1 (ii) 10.4
(iii) 12.3 (iv) 13.2

10 Which RNA exhibit in clover leaf model?

- (i) m-RNA (ii) hn-RNA
(iii) r-RNA (iv) t-RNA

Cont...

SECTION - B (35 Marks)Answer **ALL** Questions**ALL** Questions Carry **EQUAL** Marks (5 x 7 = 35)

- 11 a (i) What is Nucleophile?
 (ii) Write in brief on mechanism of nucleophilic reactions.
 OR
 b Prepare 250ml of (i) 0.1N of oxalic acid
 (ii) 2M solution of Urea.
- 12 a Differentiate starch from Glycogen.
 OR
 b Differentiate Homopoly Saccharide from heteropolysaccharides.
- 13 a (i) What are essential amino acids?
 (ii) Explain the structure of aminoacids based on configuration.
 OR
 b Discuss "Denaturation of proteins.
- 14 a Explain the source, function and deficiency symptoms of calcium.
 OR
 b Explain the following: (i) Hyponatremia
 (ii) Beri Beri
 (iii) Pernicious Anemia
 (iv) Nyctalopia
- 15 a Write short notes on Phosphodiester bond.
 OR
 b Explain the following:
 (i) H-DNA (2m)
 (ii) Circular DNA (2'A)
 (iii) Super coiled DNA (2'A)

SECTION - C (30 Marks)Answer any **THREE** Questions**ALL** Questions Carry **EQUAL** Marks (3 x 10 = 30)

- 16 a) "What is chemical bond?"
 b) Discuss the classification of chemical bonds with suitable examples.
- 17 Describe the classification of carbohydrates with suitable examples for each.
- 18 Explain in detail about structure and functions of protein.
- 19 Describe the sources, RDA, function and deficiency symptoms of Vitamin 'D'
- 20 Elucidate the Watson and crick model of DNA.

Z-Z-Z

END