

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

**BSc DEGREE EXAMINATION DECEMBER 2018
(First Semester)**

Branch - **BIOTECHNOLOGY**

CHEMISTRY OF BIOMOLECULES

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks (10x1 = 10)

- 1 Which of the following is not a macromolecule?
(i) Carbohydrate (ii) Water
(iii) Lipid (iv) Protein
- 2 Which of the following is called as law of conservation of energy?
(i) First (ii) Second
(iii) Third (iv) All
- 3 Find the other name/s of maltose from the following.
(i) Maltobiose (ii) Malt sugar
(iii) Both a & b (iv) None of the above
- 4 - Find the odd are out.
(i) Cellulose (ii) Chitin
(iii) Hyaluronic acid (iv) Glywgen
- 5 Name, who formulated the structure of DNA.
(i) Singer & Nicolson (ii) Basda & Zupa
(iii) Watson & Crick (iv) Voet&voet
- 6 - Choose the constituent/s of nucleic acids.
(i) N- base (ii) Ribose
(iii) Phosphate (iv) All the above
- 7 Indicate the number of polypeptide chains in hemoglobin.
(i) 2 (ii) 3
(iii) 4 (iv) 5
- 8 . HCG is an example of
(i) Glycoprotein (ii) Glycolipid
(iii) P lipid (iv) Nucleoprotein
- 9 Find the odd one out
(i) Dopamine (ii) Seratonin
(iii) GABA (iv) Cortisol
- 10 Name the vitamin, who's deficiency causes scurry
(i) Vit A (ii) Vit B5
(iii) Vit C (iv) Vit D

SECTION - B (35 Marks)

Answer **ALL** Questions

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

- 11 a Compare ionic and covalent bonds.

OR

- 12 a Compare homo and heteropolysaccharides.
OR
b Classify the monosaccharides.
- 13 a Explain the functions of cholesterol.
OR
b Compare prostoglandins and leukotrines in terms of structure.
- 14 a What are peptides ? outline the structure of peptide bond and the biological importance of peptides.
OR
b Explain the reactions of the side chains of aminoacids.
- 15 a Explain the chemistry and functions of alkaloids.
OR
b Explain the chemistry and function of insulin.

SECTION - C (30 Marks)

Answer any **THREE** Questions

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

- 16 Summarize the buffer systems of biological fluid.
- 17 Enumerate the chemistry and properties of any two polysaccharides.
- 18 Discuss the types and functions of RNA.
- 19 Discuss the tertiary and quaternary structures of proteins.
- 20 Out line the sources, biological functions and deficiency manifestations of vitamin A.

Z-Z-Z

END