

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2019
(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 (10 x 1 = 10)

- 1 What is the value of boiling point (K) of water?
(i) 432 (ii) 512 .
(iii) 312 (iv) 373
- 2 Find the odd one out.
(i) Proteins (ii) Lipids
(iii) Water (iv) Nucleic acids
- 3 Which of the following suits for sucrose?
(i) disaccharides (ii) sugar cane sugar
(iii) a - D - glucopyranosyl-f-D fructofuranoside (iv) all the above
- 4 Find out the functional group of monosaccharides for their reactions,
(i) aldehyde group (ii) keto group
(iii) hydroxyl group (iv) all the above
- 5 Which one is not a product of fatty acids?
(i) prostaglandins (ii) terpenes
(iii) waxes (iv) urease
- 6 Choose the one which acts as a vasodilator.
(i) PGI₂ (ii) PGD₂
(iii) PGE₂ (iv) PGF_{2a}
- 7 Which one is primarily present in connective tissues?
(i) myosin (ii) collagen
(iii) actin (iv) none
- 8 Find the odd one out.
(i) albumin (ii) collagen
(iii)-keratin (iv) glycoporphin
- 9 Name the deficiency disease related to Vit. A.
(i) Scurvy (ii) Berry-Berry
(iii) Night blindness (iv) None
- 10 Which of the following is a primary constituent of essential oils?
(i) Terpenes (ii) Alkaloids
(iii) Flavanoids (iv) None

SECTION - B (35 Marks)

Answer **ALL** Questions

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

11 a State the law of thermodynamics.

OR

b Explain briefly about covalent bonds.

12 a Explain the properties of cellulose.

OR

b Narrate the properties of maltose.

13 a Describe the structure of DNA.

OR

b How can you classify lipids?

14 a Describe the structure of Hemoglobin.

OR

b Outline the biological importance of peptides.

15 a Explain the chemistry and functions of flavanoids.

OR

b Explain the chemistry and functions of cortisol.

SECTION - C (30 Marks)

Answer any **THREE** Questions

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

16 Summarise the biochemistry of water.

17 Enumerate the structure and chemical properties of monosaccharides.

18 Discuss about the structure and functions of phospholipids.

19 Discuss about the definition and functions of glycoproteins.

20 Outline the sources, biological function and deficiency manifestations of Vit. B

Z-Z-Z

END