(6 pages) **Reg. No. :** .....

Code No. : 10834 E **Sub. Code : SMBO 52**

B.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2020.

Fifth Semester

Botany – Main

BIOCHEMISTRY AND BIOPHYSICS

(For those who joined in July 2017 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Bond formed by the transfer of electrons from one atom to another atom is called

   (a) Hydrogen bond

   (b) Electrovalent bond

   (c) Covalent bond

   (d) Vander Waal's force

2. P^H scale is

(a) Logarithimic (b) Addition

(c) Multiplication (d) Subtraction

3. Ribose and Deoxyriboses are ————.

(a) Pentoses (b) Hexoses

(c) Trioses (d) Tetroses

4. One of the following is a disaccharide

(a) Glucose (b) Fructose

(c) Galactose (d) Sucrose

5. Amino acids are the building blocks of

(a) Carbohydrate (b) Fats

(c) Proteins (d) Oils

6. Protein react with ninhydrin to produce

(a) Lactum

(b) Diamide

(c) Acid

(d) Purple colour complex

7. Esters of glycerol with three fatty acid molecule is _____.

(a) Waxes (b) Triglycerides

(c) Cholesterol (d) Phosphoglycerides

8. Basically enzymes are _____.

(a) Vitamins (b) Fats

(c) Proteins (d) Carbohydrates

9. Enzyme associated with the bioluminescence is _____.

(a) Amylase (b) Gyrase

(c) Luciferase (d) Invertase

10. Light having single wave length is called

(a) Mono chromatic light

(b) Ultraviolet light

(c) Reflected light

(d) Visible light

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Comment on covalent bonds.

Or

(b) Define Beer's law. How will you verify Beer's law?

12. (a) Explain the structure of Glucose in detail.

Or

(b) Explain about the classification of carbohydrates.

13. (a) Describe the structure of Amino acid.

Or

(b) List out the properties of proteins.

14. (a) Describe the biological importance of lipids.

Or

(b) Explain about the nomenclature of Enzymes.

15. (a) Explain on absorption spectrum of chlorophyll.

Or

(b) Describe mitochondrial bioenergetics.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain the principle and strcture of P^H meter.

Or

(b) Write short notes on :

(i) Hydrogen Bond

(ii) Types of centrifuges.

17. (a) Explain the structure and properties of polysaccharides.

Or

(b) Write an essay on Disaccharides.

18. (a) Describe the various levels of structural organization of protein.

Or

(b) Write in detail about various types of bonds seen in a protein.

19. (a) Give an account of the types of properties of lipids.

Or

(b) Explain the mechanism of enzyme action.

20. (a) Explain the structure and role of ATP.

Or

(b) Write short notes on :

(i) Phosphorescence

(ii) Fluorescence.

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