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Question Paper Code: 53B03

B.E./B.Tech. DEGREE EXAMINATION, MAY 2018

Fifth Semester

Biomedical Engineering

15UBM303 - BIOCHEMISTRY

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

PART A - (10 x 1 = 10 Marks)

1. Starch is CO1- R
(a) Disaccharide (b) Oligosaccharide (c) Polysaccharide (d) None of these
2. Each reaction in a metabolic pathway is CO1- R
(a) controlled by the end product (b) catalyzed by a specific enzyme
(c) irreversible (d) reversible
3. ATP is CO2- R
(a) vitamin (b) Enzyme (c) Nucleic acid (d) Nucleotide
4. Nucleotides consists of CO2- R
(a) Nitrogenous base (b) pentose sugar (c) phosphate group (d) All the above
5. Carbohydrates are CO3- R
(a) polyhydroxy aldehydes and phenols (b) polyhydroxy aldehydes and ketones
(c) polyhydroxy ketones and phenols (d) polyhydroxy phenols and alcohols

6. Linkage which joins two amino acid units is called CO3- R
 (a) peptide bond (b) covalent bond (c) ionic bond (d) hydrogen bond
7. Nucleic acids are polymers of CO4- R
 (a) Nucleotides (b) Nucleosides (c) Nuclei of heavy metals (d) Proteins
8. Invert sugar is CO4- R
 (a) A variety of cane sugar (b) Optically inactive form of sugar
 (c) Mixture of glucose and fructose (d) Mixture of Glucose and Galactose
9. Enzymes are protein in nature and are used as CO5 R
 (a) biological catalyst (b) chemical catalyst
 (c) reaction inhibitor (d) reaction stopper
10. Which of following is not a glyceride? CO5 R
 (a) Lipids (b) Fats (c) Phospholipids (d) Soaps

PART – B (5 x 2= 10Marks)

11. Justify chromatography is a popular tools of Biochemistry? CO1- R
12. What is the process of Calvin cycle? CO2- R
13. What is the biological function of carbohydrates? CO3- R
14. What are α -amino acids? How do they build proteins? CO4- R
15. Comment on the factors affecting Enzyme activity CO5- R

PART – C (5 x 16= 80Marks)

16. (a) (i) Explain in detail the Chemical reactions in metabolic processes. CO1 -U (8)
 (ii) Write short notes on Bio-organic Chemistry CO1 -U (8)

Or

- (b) Describe the covalent and non covalent forces involved in biomolecules CO1 -U (16)
17. (a) Explain in detail the principle and application of gel electrophoresis CO2 -U (16)
- Or
- (b) Describe the Metabolism of Nitrogen containing compounds CO2 -U (16)
18. (a) Explain the Glycogenesis pathway and its regulation CO3 -U (16)
- Or
- (b) Explain the classification of carbohydrates CO3 -U (16)
19. (a) Account on structure and function of nucleotides CO4 U (16)
- Or
- (b) Review the Watson and Crick model of DNA and how it applies to our understanding of genetic material. CO4 Ana (16)
20. (a) Explain in detail the Chemical Nature and Properties of Enzymes CO5 U (16)
- Or
- (b) Discuss the saturated and unsaturated fatty acids of biological importance along with their structures. CO5 U (16)

