

C

Reg. No. :

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Question Paper Code: U2D05

B.E./B.Tech. DEGREE EXAMINATION, NOV 2022

Second Semester

Biotechnology

21UBT205- Biochemistry

(Regulations 2021)

Duration: Three hours

Maximum: 100 Marks

Answer All Questions

PART A - (5x 1 = 5 Marks)

1. The cellular organelles called “suicide bags” are CO1- U
(a) Lysosomes (b) Ribosomes (c) Nucleolus (d) Golgi’s bodies
2. α -D-glucose and β -D-glucose are CO2- App
(a) Stereoisomers (b) Epimers (c) Anomers (d) keto-aldo pairs
3. Which one of the following amino acids may be considered a hydrophobic amino acid at physiological p H of 7.4? CO2- App
(a) Isoleucine (b) Aspartic acid (c) Threonine (d) Arginine
4. Which one of the following protein transports oxygen in blood stream CO1- U
(a) Myoglobin (b) Albumin (c) Insulin (d) Haemoglobin
5. Tricarboxylic acid cycle to be continuous requires the regeneration of CO1- U
(a) Pyruvic acid (b) Oxaloacetic acid (c) oxoglutaric acid (d) Malic acid

PART – B (5 x 3= 15 Marks)

6. Define covalent bond. CO1- U
7. What are enantiomers is give examples? CO2- U
8. What bonds are involved in stabilizing the structure of proteins? CO2- App
9. Distinguish apoenzyme and holoenzyme. CO3- Ana
10. What is the coenzyme role of NAD⁺ in metabolic pathways? CO2- App

PART – C (5 x 16= 80Marks)

11. (a) Illustrate and explain the composition and functions of plasma membrane. CO1- U (16)
- Or
- (b) Write in detail about the structure and components of the cell. How animal cell is different from plant cell? CO1- U (16)
12. (a) Explain the process of cyclization of monosaccharides. CO2-App (16)
- Or
- (b) How lipids are classified based on its properties? Explain with specific examples of lipids that you use in day to day life. CO2-App (16)
13. (a) Compare and contrast different hierarchy of proteins based on their structure? Applying some examples, mention their properties and functions. CO2-App (16)
- Or
- (b) Discuss in detail about biosynthetic pathways of purine, pyrimidine and nucleotides and their regulation in the formation of deoxy nucleotides. CO2-App (16)
14. (a) Classify the enzymes and distinguish the co-enzymes from cofactor with example. CO3-Ana (16)
- Or
- (b) Write in details about fat soluble vitamins and the disorders due to insufficiency of particular vitamins CO3-Ana (16)
15. (a) Explain the energetics of glucose pathway. Mention its importance in biological system. CO2- App (16)
- Or
- (b) Discuss the conversion of amino acids into specialized products. CO2- App (16)