Reg. No. : | | | | | | | | | | |

Question Paper Code: 93B03

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2023

Third Semester

Biomedical Engineering

19UBM303 - BIOCHEMISTRY

(Regulation 2019)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1.	Define Biomolecules.	CO1	U
2.	Draw a diagram of Central dogma of molecular biology.	CO1	U
3.	Is it possible to ensure monosaccharide using barford's solution?	CO3	AN
4.	How much amount of ATP will be produced in single TCA cycle? Explain step by step method.	CO3	AN
5.	List the various formation of proteins.	CO1	U
6.	Draw the overview of amino acid metabolism	CO1	U
7.	Draw the overall steps of Lock and Key model.	CO1	U
8.	List out the chemical properties of fats.	CO1	U
9.	Which steps are doing significant role for nitrogen maintenance in the environment?	CO3	AN
10.	Why DNA is move towards anode during electrophoresis? Justify your answer	CO3	AN

PART – B (5 x 16= 80Marks)

11.	(a)	Write a detailed note on bioorganic chemistry with special example to its features.	CO1-	U	(16)
		Or			
	(b)	Illustrate central dogma of molecular biology with neat diagram.	CO1-	U	(16)
12.	(a)	Classify and define the biological function of carbohydrates with an example. Explain the chemical properties of Carbohydrates.	CO2-	U	(16)
		Or			
	(b)	Describe the steps involved in glycolysis. Write about net yield of ATP and NADH per glucose molecule in glycolysis.	CO2-	U	(16)

13.	(a)	Explain in detail how protein is folding in cell. Justify the interactions between the aminoacids doing significant role in Protein folding.	CO3- Ana	(16)
		Or		
	(b)	Explain in detail of Watson and Crick DNA Model. Is Chargaff's rules helped Watson-Crick model DNA?Justify this statement**.**	CO3- Ana	(16)
14.	(a)	Illustrate Enzyme and investigate its functional mechanism with neat diagram.	CO1- U	(16)
		Or		
	(b)	Give a short notes on Triacylglycerol and investigate its metabolic process with neat diagram	CO1- U	(16)
15.	(a)	How plants are fixing carbon from carbon dioxide and explain with the schematic diagram?	CO1- U	(16)
		Or		
	(b)	Write a detailed note on Nitrogen fixation, nitrogen cycle and Nucleotides cycle in the environment.	CO1- U	(16)