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

Question Paper Code: U3B05

B.E./B.Tech. DEGREE EXAMINATION, APRIL 2024

Third Semester

Biotechnology

21UBT305- BIOCHEMICAL METABOLISM

(Regulations 2021)

Duration: Three hours Maximum: 100 Marks

Answer All Questions

PART A - (10x 2 = 20 Marks)

1.	Draw the structure of Mitochondria and label it	CO1- U	
2.	Write a short note on oxysomes of mitochondria	CO1- U	
3.	Is photorespiration a useful process? Justify your answer	CO3- Ana	
4.	If the temperature is high which photosynthetic pathway will occur? Write a short note on that pathway.	CO3- Ana	
5.	List the amino acids which helps as precursors in neurotransmitter formation	CO1- U	
6.	Draw the overview of protein metabolism	CO1- U	
7.	Draw the overall metabolism how ketone bodies are formed and utilized.	CO1- U	
8.	Write a short note on CTP synthesis.	CO1- U	
9.	Write a short note on system biology.	CO1- U	
10.	List some tools for Holistic approaches.	CO1- U	

PART – B (5 x 16= 80Marks)

11.	(a)	Explain in detail how ATP synthesis occurs in ETC	CO1- U	(16)
		Or		
	(b)	Explain in detail different types of energy reactions occurs during metabolism.	CO1- U	(16)

12.	(a)	Write a detailed note on glucose oxidation	CO1- U	(16)
		Or		
	(b)	Explain in detail Blackman's reaction in photosynthesis and differentiate it from Hatch and Slack pathway.	CO1- U	(16)
13.	(a)	Explain in detail how protein obtained by diet is absorbed the body and give an overview of its metabolism.	CO1- U	(16)
		Or		
	(b)	How amino acids are metabolized and used for first line of defence by immune system and neurotransmitter formation. Explain in detail	CO1- U	(16)
14.	(a)	Write a detailed note on lipid metabolism disorders.	CO1- U	(16)
		Or		
	(b)	Write a detailed note on nucleic acid metabolism disorders.	CO1- U	(16)
15.	(a)	Explain in detail how a problem raised in a biological system could be sort by a system developed model with an example and write its advantages.	CO2- App	(16)
		Or		
	(b)	Explain in detail how a data acquired from various results were correlated by designed system model to analyze the problem with an example and write its advantages of integrated data.	CO2- App	(16)