Reg. No. :

Question Paper Code: U3B05

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

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)

2

U3B05