Roll No. | | | | | | | | | | |

ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)

B.E. / B. Tech. / B. Arch (Full Time) - AREAER EXAMINATION, DECEMBER 2024

BE BIOMEDICAL ENGINEERING

BM5401 FUNDAMENTALS OF BIOCHEMISTRY

(Regulation 2019)

Time: 3 hrs | Answer ALL Questions | Max. Marks: 100

CO 1	Describe the surface properties involved in biological systems.
CO 2	Explain about bio molecules such as carbohydrates, lipids, nucleic acid & protein
CO 3	Explain functions of bio molecules
CO 4	Assess the significance of biomolecules in biological systems.
CO 5	Analyze the etiology and biological parameters in metabolic diseases.

PART- A (10 x 2 = 20 Marks)

Q. No	Questions	Marks	CO	BL
1	Write the significance of electrophoretic technique?	2	2	3
2	What is the function of enzyme?	2	2	2
3	Sketch the structure of glucose?	2	2	2
4	What is surfactant? Give example.	2	1	4
5	Define asymmetric carbon atom?	2	3	2
6	Mention the role of SDS?	2	4	3
7	Give brief note on ketogenesis?	2	3	2
8	What is compound lipid? Give example.	2	4	3
9	Differentiate hypertonic and hypotonic solution?	2	1	4
10	Find an ideal enzyme for measuring the severity of alcoholism?	2	5	5

PART- B (5 x 13 = 65 Marks)

Q. No	Questions	Marks	CO	BL
11 (a)	Explain biological buffers in maintaining haemostasis?	13	1	1
	OR			
11 (b)	Describe Henderson-Hasselbalch equation?	13	1	1
12 (a)	Explain Glycolysis?	13	3	4
	OR			
12 (b)	Discuss on TCA cycle?	13	3	4
13 (a)	How fatty acid is oxidized?	13	2	3
	OR			
13 (b)	How lipids are classified?	13	2	3
14 (a)	Explain the structure of deoxyribonucleic acid?	13	3	2
	OR			
14 (b)	Find a technique to separate protein based on its size?	13	3	2
15 (a)	Find the significance of clinical enzymes?	13	5	4
	OR			
15 (b)	Find the impact of competitive inhibitors as therapeutic agents?	13	5	4

PART- C (1 x 15 = 15 Marks)

Q. No	Questions	Marks	CO	BL
16	How insulin and glucagon regulates carbohydrate metabolism?	15	5	5