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GIET UNIVERSITY, GUNUPUR – 765022
M. Sc. (First Semester) Examinations, March – 2023
22BTPC101 – Biochemistry
(Biotechnology)

Time: 3 hrs

Maximum: 70 Marks

(The figures in the right hand margin indicate marks.)

PART – A**(2 x 10 = 20 Marks)**

Q1. Answer all questions

- What is buffer? What is its function?
- Define isoelectric pH and write its significance.
- What is coenzyme, apoenzyme and holoenzyme?
- What is turnover number?
- Why sucrose is called non reducing sugar?
- What is fluid mosaic model?
- What are chaperons?
- What are membrane proteins? Give example.
- Differentiate between nucleoside and nucleotide?
- Calculate the number of net gain of ATP in beta-oxidation of palmitic acid?

PART – B**(10 x 5 = 50 Marks)**Answer ANY FIVE questions

- | | Marks |
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| 2. a. Discuss how kidney helps in maintaining pH and its importance. | 5 |
| b. Write in details about the emergent properties of water. | 5 |
| 3.a. Explain the structures of proteins with figures. | 5 |
| b. Discuss the mechanism of protein folding. | 5 |
| 4. a. Derive the Michaelis-Menten equation? | 5 |
| b. Discuss the mechanism of enzyme action? | 5 |
| 5.a. Explain briefly about storage polysaccharides and their importance. | 5 |
| b. Write briefly about lipoproteins and their function. | 5 |
| 6. a. Discuss active transport of solute across the membrane. | 5 |
| b. Write the difference between RNA and DNA and its importance in evolution. | 5 |
| 7.a. Write down the reaction and steps of Glycolysis. | 5 |
| b. What is Oxidative phosphorylation? Explain details about ETS? | 5 |
| 8. a. Illustrate the role of epinephrin and glucagon in glycogen metabolism. | 5 |
| b. Write down the steps involved in C3 cycle. | 5 |

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