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**B.M.S COLLEGE FOR WOMEN AUTONOMOUS
BENGALURU – 560004
SEMESTER END EXAMINATION – SEPTEMBER - 2023**

B.Sc in Zoology – 2nd Semester

**BIOCHEMISTRY AND PHYSIOLOGY
(NEP Scheme 2021-22 onwards)**

Course Code: ZOO2DSC02

Duration: 2 ½ Hours

QP Code: 2017

Max. Marks: 60

Instruction: All parts are compulsory

PART-A

I. Answer the following in one word or one sentence (5X1=5)

1. PUFA rich oils are preferred over saturated fats. Why?
2. What is oxidative phosphorylation.
3. Generally digestive enzymes are produced as Zymogens. Give reason
4. Name two brush border carbohydrases.
5. Why is cAMP called a second messenger?

PART-B

II. Answer any FIVE of the following. (5X3=15)

1. List three biological roles of proteins.
2. While shopping grocery, how would you distinguish a saturated fat or oil from an unsaturated one?
3. Why is starch regarded as a homopolysaccharide.
4. Give the molecular formula of the palmitic acid and mention one food source.
5. Mention three conditions that define human dentition
6. The rate of glomerular filtration is influenced by the interplay of several important forces – Substantiate.
7. Draw a neat labelled diagram of a motor unit.

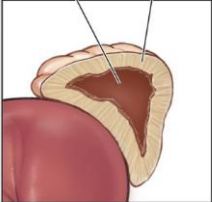
PART- C

III. Answer any FOUR of the following. (4X5=20)

1. Explain the induced-fit model is a model for enzyme action.
2. Explain the steps involved in beta oxidation pathway.
3. Write short notes on the following: b) Deamination b) Ketogenesis

4. Discuss the origin and conduction of heart beat in human.

5. With reference to the diagram answer the questions

	<p>5.1. Identify the gland. (1 M)</p> <p>5.2. Name the hormones secreted by 'B'. (3 M)</p> <p>5.3. Why are hormone(s) secreted by 'A' referred as emergency hormones? (1 M)</p>
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6. Draw a neat labelled diagram depicting the structure of a sarcomere of a skeletal muscle.

PART- D

IV. Answer any TWO of the following. (2X10=20)

1. a. Describe the levels of protein organisation. (6 M)
b. How does temperature and pH affect enzyme action? (4 M)
2. Give the sequence of Glycolysis and discuss the energetics involved.
3. Schematically explain Hamburgers phenomenon and add a note on Bohr's Effect.
4. Propagation of nerve impulse across myelinated nerve fibre is unidirectional and saltatory - Explain with illustrations.
