

**Roll No.**

[illegible]

**Total No. of Questions : 09**

**B.Sc. Agriculture (Sem.-1)**

# BIOCHEMISTRY

**Subject Code : BSAG-103**

**M.Code : 72210**

**Date of Examination : 13-01-23**

**Time : 3 Hrs.**

**Max. Marks : 60**

**INSTRUCTIONS TO CANDIDATES :**

1. **SECTION-A is COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students have to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

## SECTION-A

**1. Define :**

- a) PUFA vs. MUFA
- b) Competitive enzyme inhibition.
- c) Lactose vs. Fructose
- d) Alkaloids vs. phenolics
- e) mRNA
- f) Beta sheets
- g) Gibberellins
- h) Beta Oxidation
- i) Ketogenic Amino Acid
- j) Alpha Helix

### SECTION-B

2. What are nucleic acids? Differentiate between DNA and RNA.
3. Elaborate the steps of palmitic acid oxidation in living organism.
4. Give the general reactions of amino acid degradation.
5. What are vitamins? Give standard classification system of vitamins.
6. What are enzymes? What is enzyme immobilization? Give its advantages.

### SECTION-C

7.
  - a) Discuss the pentose phosphate pathway in detail.
  - b) What are hormones? List various types of plant hormones. Discuss the role of a gaseous hormone.
8.
  - a) Discuss the amino acids biosynthesis pathway in detail with a suitable example.
  - b) Discuss the oxidative phosphorylation in detail with suitable example.
9. What are secondary metabolites? Why they are called so? Give their various applications in food and pharmaceutical industry with suitable examples.

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**