

This question paper contains 2 printed pages]

**NY—61—2023**

**FACULTY OF SCIENCE AND TECHNOLOGY**

**M.Sc. (Second Year) (Fourth Semester) EXAMINATION**

**NOVEMBER/DECEMBER, 2023**

**(New/CBCS Pattern)**

**BOTANY**

**Paper-XIV**

**(Biochemistry and Plant Metabolism)**

**(Wednesday, 6-12-2023)**

**Time : 2.00 p.m. to 5.00 p.m.**

*Time—3 Hours*

*Maximum Marks—75*

*N.B. :— (i) Attempt all questions.*

*(ii) All questions carry equal marks*

*(iii) Draw well labelled diagrams wherever necessary.*

1. Give a detailed account on different forces involved in stabilization of protein molecule. 15

*Or*

Describe in detail the process of protein translation.

2. What are co-enzymes ? Give an account on relation between vitamins and co-enzymes. 15

*Or*

Derive Michaelis-Menten equation for determination of enzyme kinetics 15

3. Describe in detail mechanism of biological nitrogen fixation. 15

*Or*

Give an account on role, sources and mechanism of sulphur metabolism in plants.

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NY—61—2023

4. Describe in detail mechanism of  $\beta$ -oxidation of fatty acid. 15

Or

What is meant by Gluconeogenesis ? Describe in detail its mechanism with biological significances.

5. Write short notes on (any *three*) : 15

(a) Transamination

(b) Active sites

(c) Leghaemoglobin

(d) Role of carbohydrates in cell wall synthesis.

NY—61—2023

2