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**VA—52—2024**

**FACULTY OF SCIENCE AND TECHNOLOGY**

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

**NOVEMBER/DECEMBER, 2024**

**(New Course)**

**BOTANY**

**Paper—IX**

**(Plant Metabolism and Biotechnology)**

**(Monday, 9-12-2024)**

**Time : 2.00 p.m. to 4.00 p.m.**

*Time—2 Hours*

*Maximum Marks—40*

**N.B.** :— (i) Attempt *all* questions.

(ii) Figures to the right indicate full marks.

(iii) Illustrate your answer with suitable diagrams.

1. Describe in detail non-cyclic photophosphorylation process in photosynthesis.

15

*Or*

(a) Explain the mechanism of enzyme action.

8

(b) Nitrogen cycle.

7

2. What are cybrids ? Describe in detail somatic hybridization in plants. 15

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Or

- (a) Explain PCR and its applications. 8
- (b) cDNA Library. 7
3. Write short notes on any *two* of the following : 10
- (a) CAM
- (b) Holoenzyme
- (c) Synthetic seeds
- (d) NCBI.

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