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NA—52—2023

FACULTY OF SCIENCE

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

NOVEMBER/DECEMBER, 2023

(New Pattern)

BOTANY

Paper–IX

(Plant Metabolism and Biotechnology)

(Tuesday, 12-12-2023)

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 answers with suitable diagrams.

1. Define photosynthesis. Describe Calvin cycle (C_3) in photosynthesis. 15

Or

(i) Explain in detail mechanism of enzyme action. 8

(ii) Describe symbiotic nitrogen fixation in plants. 7

2. Describe in detail Agrobacterium mediated gene transfer in plants. 15

Or

(i) What are Cybrids ? Describe somatic hybridization in plants. 8

(ii) Synthetic seeds. 7

P.T.O.

WT

(2)

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3. Write notes on any *two* of the following :

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- (i) Fermentation
- (ii) Nitrification and denitrification
- (iii) Nutrient media in plant tissue culture
- (iv) NCBI.

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