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NY—140—2023

FACULTY OF SCIENCE

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

NOVEMBER/DECEMBER, 2023

(CBCS/New Pattern)

BOTANY

Paper XVII

(Biotechnology and Genetic Engineering)

(Friday, 8-12-2023)

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

Time—Three Hours

Maximum Marks—75

N.B. :— (i) All questions are compulsory.

(ii) All questions carry equal marks.

(iii) Draw well labelled diagrams wherever necessary.

1. Explain in detail scope and importance of Biotechnology. 15

Or

Describe in detail steps in tissue culture.

2. Elucidate protoplast fusion and its application. 15

Or

Explain in detail methods for making artificial seeds and their applications.

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(2)

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3. Describe in detail techniques involved in production of recombinant DNA molecules. 15

Or

Describe the steps in construction of genomic libraries.

4. Elucidate genomic sequencing strategies and programs. 15

Or

Explain in detail vectors in gene cloning and their choice.

5. Write short notes on : 15

- (a) Aseptic culture technique
- (b) Ovule culture
- (c) Microarrays
- (d) Knock out and knock down mutants.