Roll No. ....   **Total No. of Printed Pages : 4**

Code No. : B04-304

Fourth Semester Online Examination, May-June, 2022

M. Sc. BOTANY

Paper III

[Biotechnology and Genetic Engineering of Microbes]

Time : Three Hours]   [Maximum Marks : 80

Note : ● Part A and B of each equation in each unit consist of very short answer type questions which are to be answered in one or two sentences.

● Part C (Short answer type) and D (Long answer type) of each question should be answered within the word limit 200-250 and 400-450 words.

Unit-I

1. (A) What is gene cloning ?   2

   (B) Write the function of Alkaline phosphatase ?   2

   (C) Write a note on construction of genomics ?   4

Or

Write note on plasmid vector ?

(D) Write a detail note on Polymerase chain reactions.   12

Or

Write an essay on DNA sequencing methods.

Unit-II

2. (A) What is database ?   2

   (B) What is genetic markers ?   2

   (C) Explain RFLP markers and its applications.   4

Or

Write a short note on biological database.

(D) Describe genetic and physical mapping of genes.   12

Or

Explain protein profiling techniques and its significance.

Unit-III

3. (A) What is genetic manipulation ?   2

   (B) Define selectable markers.   2

(C) Explain genetic manipulation techniques ?   4

Or

Write a note on bacterial transformation.

(D) Describe various approaches for multiplication expression and integration of DNA insert in host genome.   12

Or

Describe the methods of introduction of the recombinant DNA into a suitable host and identification of recombinant colonies.

Unit-IV

4. (A) What is Tradmark ?   2

(B) What do you mean by Bioethics ?   2

(C) Write a note on uses of microbes in agriculture.   4

Or

Give short account of patent ?

(D) Explain the approaches for genetic improvement of industrial microbes.   12

Or

Discuss the various techniques to cryopreservation used for germplasm conservation.

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