

Roll No.....

Total No. of Sections : 03

Total No. of Printed Pages : 03

Code No. : 04/304(B)

Fourth Semester Examination, May-2018

M.Sc. BOTANY

Paper - III

**BIOTECHNOLOGY AND GENETIC
ENGINEERING OF MICROBES**

Time : 3 Hrs.

Max.Marks : 80

Note : Section 'A' consists of 10 very short answer type questions, all of which are compulsory and should be attempted first. Section 'B' consists of four short answer type questions with internal options. Section 'C' consists of four long answer type questions with internal choice.

Section - 'A'

Answer the following very short-answer-type questions in one or two sentences : (2×10=20)

- Q.1 Define gene cloning.
- Q.2 What are clones?
- Q.3 What is genetic marker?
- Q.4 Define protein profiling.
- Q.5 Write the name of tools of recombinant DNA technology.
- Q.6 What do you mean by bacterial transformation?
- Q.7 Write two benefits cryopreservation.
- Q.8 What do you mean by variable number tandem repeats?
- Q.9 Give two examples of symbiotic nitrogen fixing microbes.
- Q.10 What do you mean by PCR?

P.T.O.

(2) Code No. : 04/304(B)

Section - 'B'

Answer the following short-answer-type questions with word limit 200-250 : (5 4=20)

Q.1 What are restriction endonucleases? Give types and applications of restriction endonucleases.

OR

Explain the technique of molecular probing.

Q.2 What is artificial chromosome? How they are produced?

OR

Explain Human Genome Project in brief.

Q.3 Explain methods of introduction of the recombinant DNA into suitable host.

OR

Write a note on gene manipulation.

Q.4 Explain the use of microbes in industry and agriculture.

OR

Write short note on germplasm storage.

Section - 'C'

Answer the following long-answer-type questions with word limit 400-450 : (10 4=40)

Q.1 Give detailed account of DNA finger printing and its applications.

(3) Code No. : 04/304(B)

OR

Write note on PCR.

Q.2 Briefly describe protein profiling and its significance.

OR

Write a note on bioinformatics and its applications.

Q.3 Describe the technique of bacterial transformation in detail.

OR

Briefly describe expression of DNA insert in host genome.

Q.4 What is intellectual property right? Write the objective and various forms of protection of intellectual property.

OR

Write a brief account of cryopreservation along with its technique and utility.

---X---