This question paper contains 2 printed pages.

Roll No. .....

S.No.

B.Sc. (Part.-II)

8006-II

B.Sc. (Part-II) Examination, 2021
(Faculty of Science)
(Common to Three and Five Year Integrated Course)
BIO-TECHNOLOGY
(Recombinant DNA Technology)
Paper : BT-602

Time Allowed : Three Hours **Maximum Marks : 50**

No supplementary answer book will be given to any candidate. Hence the candidates should write the answers precisely in the main answer book only.

All the parts of one question should be answered at one place in the answer book. One complete question should not be answered at different places in the answer book.

Note: (i) Question paper will be divided into two Parts A and B. **Part-A** of question paper shall be compulsory and contain 10 (Ten) very short answer type questions of 20 words covering entire syllabus. Each carrying 1 (One) mark, with a total of **10** marks.

(ii) **Part- B** of question paper will have 4 questions one question with internal choice from each Unit/section. Students are required to attempt four questions in all from Part-B, selecting not more than one question from each section. Each question will carry 10 marks, with a total of 40 marks.

Write your roll number on question paper before start writing answer of questions.

PART-A

1. Answer in very short : 1×10=10

(a) What is Phagemid?

(b) Which enzyme is known as Molecular Scissor?

(c) Write the names of any two transposons found in eukaryotic organisms.

(d) What is flavr savr Tomato?

(e) What is the role of a promoter in a vector?

(f) Which tag is used for the purification of the recombinant protein?

(g) What is Ti Plasmid?

(h) Write the name of any two recombinant molecules having pharmaceutical applications.

(i) Write a difference between cDNA and genomic DNA.

(j) What is an Inclusion Body?

PART-B

SECTION-A

2. What is rDNA Technology? Describe the application of terminal transferase, DNA ligase, reverse transcriptase and polynucleotide kinase in this Technology. 2+8

Or

Give a detailed account of the method of *Agrobacterium*-mediated gene transfer in plants. 10

SECTION-B

3. Describe yeast as an experimental model system along with its application. 10

Or

What is Genomic DNA Library? Give a detailed account of its making, screening and application. 2+8

SECTION-C

4. Write a detailed note on the production and application of transgenic microbes giving suitable examples. 10

Or

What are Recombinant Molecules? Describe their applications in Agriculture and Industrial Sectors giving suitable examples. 2+8

SECTION-D

5. Illustrate the Design of a suitable vector used for the over-expression of recombinant proteins. Also write the importance of crucial sequences/sites that should exist in the vector for the successful production and purification of recombinant proteins. 10

Or

Write short notes on the following : 5+5=10

(a) Purification protocol of over expressed proteins.

(b) Solubilization of insoluble proteins.

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