

PD-553
M.Sc. Biotechnology
3rd Semester Examination, Dec 2020
Paper-II
Genetic Engineering

Time: Three Hours]

[Maximum Marks: 80

[Minimum Pass Marks: 29

Note: Answer from **both** the sections as directed. The figures in the right-hand margin indicate marks

Section-A

1. **Answer the following questions:** 1X10
- (a) Write one example for restriction enzyme.
 - (b) Define cloning.
 - (c) Write one example for molecular marker.
 - (d) What is cDNA?
 - (e) What is a primer?
 - (f) What is DNA transfection?
 - (g) What is t-element?
 - (h) What is gene knockout?
 - (i) What is linker?
 - (j) What is a patent?
2. **Answer the following questions:** 2X5
- (a) Write a note on Genetic engineering guidelines.
 - (b) Write about two hybrid systems.
 - (c) Write a note on primer extension.
 - (d) Explain in brief about stabilization of proteins.
 - (e) Write a note on scope of genetic engineering.

Section - B
Unit-I

3. **Answer the following questions:** 15X4
- Explain in detail on PCR and cloning.

OR

Write an essay on molecular tools and their applications.

Unit-II

4. Explain in detail on artificial chromosomes.

OR

Write an essay on restriction mapping of DNA fragments and map construction.

Unit-III

5. Write an essay on host engineering.

OR

Write an essay on site directed mutagenesis.

Unit-IV

6. What is gene therapy? Explain in detail.

OR

Write an essay on processing of recombinant proteins.
