

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

Answer the following questions: 15X4

3. 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.