

PE-846-CV-19

M.Sc. BIOTECHNOLOGY (4th Semester)

Examination, June 2022

ADVANCE BIO-TECHNIQUES & NANOTECHNOLOGY

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 short answer questions:

1x10=10

- (a) Name the enzyme employed in thermocycler?
- (b) Name the enzymes used in ELISA.
- (c) What are chemoautotrophs?
- (d) Who invented southern blotting?
- (e) What is Karyotyping?
- (f) What is amniocentesis?
- (g) Name two nanoviruses?
- (h) Define distribution coefficient.
- (i) What is differential media.
- (j) What is western blotting used for?

2. Answer the following short type questions:

2x5=10

- (a) What are the stages operating in PCR?
- (b) Give few applications of Nanobiotechnology.
- (c) Define enrichment culture media with examples.
- (d) Discuss the applications of flow cytometer.
- (e) Define population screening.

Section-B

15x4=60

Answer the following Long-Answer questions:

Unit-I

3. Describe the various forms of chromatography.

OR

Describe in detail various forms of sedimentation.

Unit-II

4. Describe in detail Northern Blotting.

OR

Describe in detail the principle and functioning of NMR

Unit-III

5. Describe in detail the prenatal diagnosis of genetic diseases.

OR

Describe in detail application of Biotechnology in health care.

Unit-IV

6. Discuss the applications of nano-biotechnology in industry and Agriculture.

OR

What are nano-microorganism and explain their importance.