Seat No. : _____

JB-108

July-2021

B.Sc., Sem.-VI

307 : Microbiology

Time : 2 Hours] **[Max. Marks : 50**

Instructions : (1) **All** questions in **Section – I** carry equal marks.
(2) Attempt any **Three** questions in **Section – I**.
(3) Section – **II** is **COMPULSORY**.

SECTION – I

1.	(A)	Give an outline of gene cloning.	**7**
	(B)	Describe phage vectors.	**7**
2.	(A)	Write a note on plasmid vectors.	**7**
	(B)	Write a note on: Restriction endonucleases.	**7**
3.	(A)	Describe PCR.	**7**
	(B)	Write a note on: Southern blotting.	**7**
4.	(A)	Describe Sanger's Dideoxy chain termination method.	**7**
	(B)	Describe Site-directed mutagenesis.	**7**
5.	(A)	Write note on: Genomic library construction	**7**
	(B)	Describe Gene gun and its applications.	**7**
6.	(A)	Describe briefly Colony hybridization technique.	**7**
	(B)	Explain: Joining of Blunt ends.	**7**
7.	(A)	Explain the development of recombinant vaccine(s).	**7**
	(B)	Write a note on : ELSI	**7**
8.	(A)	Describe metagenomics.	**7**
	(B)	Write a note on: recombinant insulin.	**7**

Section – II

9. Answer in **1-2** lines : (Any **8**) **8**

(A) Give the use of Alkaline phosphatase.

(B) What is a cosmid ?

(C) Ti-plasmid is found in which organism ?

(D) What is GFP ? Give its source.

(E) What is the application of Site-directed mutagenesis ?

(F) Which membrane is used in Southern blotting ?

(G) Give the principle of Sanger's sequencing method.

(H) Give applications of DNA microarray.

(I) What is a cDNA library ?

(J) Which vectors are commonly used for construction of genomic library from humans ?

(K) Give the principle of Electroporation.

(L) Give the principle of Blue-white screening.

(M) What is insulin ?

(N) Give applications of metagenomics ?

(O) What are the disadvantages of GMF ?

(P) Given an example of how a transgenic plant resistant to insects is obtained.