

B.Sc Sem.-6 (Rep) Examination

CC 307

Microbiology

September-2024

Time : 2-30 Hours]

[Max. Marks : 70]

Instructions:

1. All questions are compulsory.
2. Figures on the right indicates marks.
3. Mention correct question number against the answer.
4. Draw figures wherever necessary.

Q.1 Enlist different criteria for selection of cloning vector and explain cosmid vector in detail. (14)

OR

Q.1 (A) Discuss Fundamental steps of rDNA technology. (07)

(B) Describe the major function of enzymes terminal transferase and alkaline Phosphatase in genetic engineering. (07)

Q.2 Describe Principle, method and applications of Southern blotting technique. (14)

OR

Q.2 (A) Write a Short note on Sanger's dideoxy chain termination method. (07)

(B) Discuss method and applications of Site directed Mutagenesis. (07)

Q.3 Describe the construction of cDNA library and their applications in rDNA technology. (14)

OR

Q.3 (A) Discuss the role of reporter genes in selection of recombinant clone. (07)

(B) Write a Short note on "Linkers and Adaptors". (07)

Q.4 Transgenic plants resistant to insect pests can be developed with the help of rDNA technology-explain. (14)

OR

Q.4 (A) Describe the application of rDNA technology in production of recombinant Insulin. (07)

(B) Metagenomics provides access to uncultured microbes-elaborate. (07)

Q.5 Give short and specific answers in 1-2 lines only (any seven). (14)

- 1 Give any two examples of selectable marker genes.
- 2 Define shuttle vector give suitable examples.
- 3 Write down the applications of Green Fluorescent Protein in genetic engineering.
- 4 What is an Oligonucleotide probe?
- 5 Enlist any two enzymes used in Polymerase Chain Reaction.
- 6 Define DNA microarray.
- 7 What is phosphoramidite?
- 8 How homopolymer tailing method works during cloning.
- 9 Give any two applications of protoplast Fusion technique in genetic engineering.
- 10 Define ELSI.
- 11 What is Bt toxin?
- 12 Define satellite RNA.

