SUB.CODE: 18UMB6M2C

REG.NO:

DHANALAKSHMI SRINIVASAN COLLEGE
OF ARTS & SCIENCE FOR WOMEN
(AUTONOMOUS)
(For Candidates admitted from 2018-2019 onwards)

UG DEGREE EXAMINATIONS APRIL – 2021
B.SC - MICROBIOLOGY
RECOMBINANT DNA TECHNOLOGY

Time: 3 Hrs **Max.Marks: 75**

PART – A

CHOOSE THE CORRECT ANSWER. **(10x1=10)**

1. A restriction enzyme breaks bonds between the
   a) Base pairs of a DNA molecule.
   b) Sugar and Phosphate components of a nucleic acid molecule.
   c) Base pairs of a DNA-RNA hybrid molecule.
   d) Exons and introns of a DNA molecule.
2. Restriction enzymes are isolated from
   a) Virus b) Fungi c) Protozoa d) Bacteria.
3. Genomic library construction is concerned with _____
   a) Gene isolation. b) Protein production. c) Antibiotics. d) Regeneration.
4. _____ are organic molecules that have the function of starting and regulating chemical reactions.
   a) Carbohydrates. b) Lipids. c) Enzymes. d) Endoplasmic reticula.
5. Find the incorrect statement about plasmids
   a) they are circular. b) they replicate independently.
   c) they are transferrable. d) they are single stranded.
6. Which size of the insert is accepted by the cosmids?
   a) 10-20 kbp. b) 35-45 kbp c) 50-60 kbp. d) 100-120 kbp.
7. Biolistic technique is used in
   a) tissue culture process. b) gene transfer process.
   c) hybridization process. d) germplasm conversion process.
8. Which of the following techniques is used in recombinant identification?
   a) Ligation b) Isolation c) Replica plating. d) Restriction digestion.

9. What is the main enzyme component of Sanger sequencing?

a) Helicase. b) Polymerase c) Nuclease d) Gyrase.

10. Nucleic acid hybridization is used to identify _____

a) RNAs b) DNAs c) Complementary base sequences d) Proteins.

PART – B

ANSWER ALL THE QUESTIONS **(5x7=35)**

11. a) Explain about the Modifying enzymes-Alkaline Phosphatase in detail.

(OR)

b) Write about Ligases in detail.

12. a) Explain about the genetically modified mouse.

(OR)

b) Write about the Genomic Library in detail.

13. a) Write about the Cosmids.

(OR)

b) Describe about the pBR322 vector.

14. a) Write about Microinjection in detail.

(OR)

b) Explain any one Chemical Gene Transfer Techniques.

15. a) Describe about the applications of PCR.

(OR)

b) Describe about the Western Blotting Techniques.

PART – C

ANSWER ANY THREE QUESTIONS **(3x10=30)**

16. Describe the about the Restriction Enzymes and its Types.
17. Explain about the cDNA Library construction.
18. Describe the about the PSC101 vector.
19. Explain about the direct method of Selection of recombinants.
20. Describe the Sanger's method used for DNA sequencing.