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**DHANALAKSHMI SRINIVASAN COLLEGE  
OF ARTS & SCIENCE FOR WOMEN  
(AUTONOMOUS)**

(For Candidates admitted from 2020-2021 onwards)

**PG DEGREE EXAMINATIONS APRIL - 2021**

**M.Sc., - BIOTECHNOLOGY**

**RECOMBINANT DNA TECHNOLOGY**



**Time: 3 Hrs**

**Max.Marks: 75**

**PART - A**

**CHOOSE THE CORRECT ANSWER**

**(10X1=10)**

1. There is a restriction endonuclease called EcoRI. What does co part in it stand for?
  - a) coli
  - b) coelom
  - c) coenzyme
  - d) colon
2. Intervening sequences are
  - a) Muton
  - b) Recon
  - c) Exon
  - d) Intron
3. Nucleosome is seen in
  - a)Yeast
  - b) Ecoli
  - c) S.typhimurium
  - d) H. influenza
4. In pBR,B and R stands for
  - a) Burrage and Russel
  - b) Boliver and Rodriuez
  - b) Boteler and Reeves
  - d)Brew and Rodrick
5. Transfer of DNA in to bacteria by phage is called as
  - a) Transduction
  - b) Hybridization
  - c) Conjugation
  - d) Transformation
6. Odd one out
  - a) Electroporation
  - b) Microinjection
  - c) Particle bombardment
  - d) PEG method
7. Southern blotting technique is used for the separation of
  - a) DNA
  - b) RNA
  - c) Protein
  - d) Peptides
8. RNA interference involves
  - a)Synthesis of mRNA from DNA
  - b) Synthesis of c DNA from RNA using Reverse transcriptase
  - c) Silencing of specific mRNA due to complementary RNA
  - d)Interference of RNA in synthesis of DNA
9. *In vitro* propagation of in plants is characterized by
  - a) PCR and RAPD
  - b) Northern blotting
  - c) Electrophoresis and HPLC
  - d) Microscopy
10. c DNA produced from m RNA by
  - a) Exonuclease
  - b) Endonuclease
  - c) Reverse transcriptase
  - d) Transferase

**PART- B**

**ANSWER ALL THE QUESTIONS**

**(5X7=35)**

11. a) Give short note on Homopolymers

**(OR)**

b) Write about DNA- Protein Interaction.

12. a) Write an account on Cosmids.

**(OR)**

b) Explain the any Plant viral vectors.

13. a) Narrate the role of calcium phosphate in gene transfer method.

**(OR)**

b) Write a short note on yeast as gene expression system.

14. a) Brief discuss about gene silencing.

**(OR)**

b) Write a short note on Antisense therapy.

15. a) Brief note on principle and technique of DNA finger printing

**(OR)**

b) Give a brief account on Genomic library.

**PART-C**

**ANSWER ANY THREE QUESTIONS**

**(3X10=30)**

16. Describe the enzymes involved in r-DNA technology.

17. Explain the construction of pBR 322 plasmid vector.

18. Give a detailed account on physical methods of gene transfer.

19. Describe about the selection and screening of r-DNA by radioactive probe.

20. Explain about the application of genetic engineering in agriculture and medicine