SUB.CODE: 18UMB6C14

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
MOLECULAR BIOLOGY

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

PART – A

CHOOSE THE CORRECT ANSWER **(10*1=10)**

1. Chromatin is composed of _____
   a) DNA b) DNA and proteins c) DNA, RNA and proteins d) None
2. Which is known to be methylated in eukaryotic cells?
   a) Adenine b) Guanine c) Cytosine d) Thymine
3. Restriction endonucleases can recognize_____
   a) Tandem repeats b) Pallindromic sequences c) GATC d) No sequence specificity
4. Semi-conservative DNA replication was first demonstrated in _____
   a) Drosophila melanogaster b) Escherichia coli
   c) Streptococcus pneumonae d) Klebsiella pneumoniae
5. What is the intermediate between a gene and its polypeptide?
   a) mRNA b) Trna c) rRNA d) siRNA
6. The process of formation of RNA is known as_____
   a) Replication b) DNA repair c) Translation d) Transcription
7. Which of the following is not involved in the post transcriptional processing of t-RNA?
   a) Base modulation b) Attachment of CCA arm
   c) Splicing d) Attachment of poly-A tail
8. The process of modification of pre mRNA is known as_____
   a) Replication b) DNA repair c) Translation d) RNA processing
9. The lactose repressor is encoded by _____
   a) Lac-l b) Lac-A c) Lac-Y d) Lac-Z
10. Where does a repressor bind an operon?
    a) Operator b) Promoter c) Inducer d) Catabolite activator site

PART – B

ANSWER ALL THE QUESTIONS **(5*7=35)**

11. a) Give a note on Satellite DNA.

(OR)

b) Comment on DNA methylation and Imprinting.

12. a) Write short notes on rolling circle mode of replication.

(OR)

b) Outline in brief on the enzyme and its function in DNA replication.

13. a) Brief out the One gene one enzyme concept.

(OR)

b) Write notes on transcription process in prokaryotes.

14. a) Comment on RNA splicing.

(OR)

b) Write notes on post translational protein sequence.

15. a) Write the difference between the Inducible and Repressible operon.

(OR)

b) Write a note on Lactose operon.

PART – C

ANSWER ANY THREE QUESTIONS. **(3*10=30)**

16. Discuss in detail on structure of eukaryotic chromosomes.
17. Write an elaborate note on Meselson-Stahl experiment.
18. Give a detailed account on Translational process.
19. Discuss in detail on the structure and organization of eukaryotic genome.
20. Write a detailed note on Tryptophan operon.