MAR IVANIOS COLLEGE (AUTONOMOUS) THIRUVANANTHAPURAM

Reg. No. :......................   Name :......................

Fourth Semester Career Related B.Sc. Degree Examination, June 2016

First Degree Programme under CBCSS

Vocational Course – V: (for Botany and Biotechnology)

AUBB451: Molecular Biology

Time: **3** Hours   Max. Marks: **80**

SECTION – A

*Answer **ALL** the following in a word or one or two sentences.*

1. Codons
2. Intron
3. DNA polymerase
4. Peptidyl transferase
5. Polysomes
6. Promoter
7. Aminoacyl tRNA synthetases.
8. Sigma factor
9. Chargaff's rule
10. Sense strand

(**10 × 1 = 10 Marks**)

SECTION – B

*Answer any **EIGHT** questions, not exceeding a paragraph.*

11. Write notes on RNA localization and RNA decay.
12. What is ubiquitin ?
13. Semiconservative model of DNA replication.
14. Name structural genes in lac operon.

P.T.O.

15. Describe the Structure of tRNA.

16. Identify two promoter regions of a prokaryote.

17. What is wobble hypothesis ?

18. List the start and stop codons.

19. What are regulatory sequences in eukaryotes ?

20. Name any four enzymes involved in DNA replication.

21. What is Klenow fragment ?

22. What are *sn*RNPs ?

(8 × 2 = 16 Marks)

SECTION – C

*Short essay type : Answer any **SIX** questions.*

23. How is replication different in leading and lagging strand ?

24. Explain RNA localization and RNA decay.

25. Elongation process in translation.

26. Write short note on nucleosome.

27. Brief about the various post – transcriptional modifications undergone by mRNA.

28. Explain the genetic code with its properties.

29. Differentiate prokaryotic and eukaryotic transcription.

30. Explain Heterochromatin and euchromatin.

31. Write short notes on mitochondrial DNA with its Genes.

(6 × 4 = 24 Marks)

SECTION – D

*Long essay type : Answer any **TWO** questions.*

32. Detail the regulated functioning of lac operon, with suitable diagrams.

33. Describe the transcription process in prokaryotes.

34. Explain different types of transposable elements and its significance.

35. Explain post – translational modifications of proteins.

(2 × 15 = 30 Marks)

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