Fourth Semester B.Sc. Degree Examination, April/May 2019

(CBCS Scheme)

Biotechnology

Paper IV – MOLECULAR BIOLOGY AND BIOINFORMATICS

Time : 3 Hours]   *[Max. Marks : 90*

Instructions to Candidates : Draw labelled diagrams wherever necessary.

PART – A

I.   Answer any **TEN** of the following :   **(10 × 2 = 20)**

1.   Nucleoside

2.   ECO-RI

3.   r-RAN

4.   Lagging strand

5.   Terminator codon

6.   Hogness box

7.   Elongation factor

8.   Ribosomes in eukaryotes

9.   Si RNA

10.   Plasmid

11.   Polysistronic gene

12.   Gene bank

PART – B

II. Answer any **SIX** of the following :   (6 × 5 = 30)

13. Base pairing and base stacking

14. 5'–3' Exonuclease activity

15. Base excision repair

16. Post transcriptional modifications

17. Explain the role of t-RNA in translation.

18. Transposable elements

19. Protein data bank

20. Human genome project

PART – C

III. Answer any **FOUR** of the following :   (4 × 10 = 40)

21. Explain the process of replication in eukaryotes.

22. What is transcription? Explain the process in prokaryotes.

23. What is translation? Explain the process in eukaryotes.

24. Explain tryptophan operon in detail.

25. What is transduction? Explain the types.

26. Define Bioinformatics. Explain its importance in biology.

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