

**C 61215**

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Name.....

Reg. No.....

**FOURTH SEMESTER B.A./B.Sc. DEGREE EXAMINATION, APRIL 2019**

(CUCBCSS—UG)

Common Course for LRP

**MBY 4A 08—MOLECULAR BIOLOGY AND BIOINFORMATICS**

Time : Three Hours

Maximum : 80 Marks

**Section A**

*Answer all questions.*

*Each question carries ½ marks.*

1. The binding site for RNA polymerase is known as \_\_\_\_\_.
2. The method for aligning closely related sequence is \_\_\_\_\_.
3. Translation occurs in \_\_\_\_\_ site.
4. DNA repair mechanism is absent in \_\_\_\_\_ genome.
5. The information retrieval tool of NCBI gene bank is \_\_\_\_\_.
6. The enzyme that synthesise RNA from RNA template is \_\_\_\_\_.
7. The term used to refer something performed using computer or computer simulation is \_\_\_\_\_.
8. BankIt and Sequin is used to submit data's in \_\_\_\_\_.
9. \_\_\_\_\_ increases positive supercoiling of DNA.
10. The expansion of KEGG is \_\_\_\_\_.
11. Sigma factor is a component of \_\_\_\_\_ enzyme.
12. The distortion of DNA helix due to pyrimidine dimer formation is known as \_\_\_\_\_.

(12 × ½ = 6 marks)

**Section B**

*Write short notes on all the questions.*

*Each question carries 2 marks.*

13. Phylogenetic analysis.
14. Pribnow sequence.

**Turn over**

15. BLAST.
16. Reverse transcriptase.
17. Okazaki fragments.
18. PDB.
19. RNA priming.
20. Base excision repair mechanism.
21. Helicase enzyme.
22. Dispersive mode of Replication.

(10 × 2 = 20 marks)

### Section C

*Write short notes on any **six** questions.*

*Each question carries 5 marks.*

23. Write notes on different forms of DNA.
24. Structure of tRNA.
25. Experimental evidence for DNA as genetic material.
26. Explain the Characteristics of genetic code.
27. Structure and homology based drug designing.
28. What is m RNA splicing.
29. Describe the protein composition of nucleosome. Mention important of H1 histone.
30. Explain post transcriptional modification in prokaryotes.

(6 × 5 = 30 marks)

### Section D

*Answer any **two** questions.*

*Each question carries 12 marks.*

31. Discuss the different types of sequence alignments in Bioinformatics.
32. Explain the semi conservative model of DNA replication. List the enzymes and proteins Involved in the process.
33. Describe briefly on gene regulation in tryptophan operon.

(2 × 12 = 24 marks)