PG Even Semester Exam, 2024

Biotechnology

2nd Semester

COURSE NO. BTYCC - 552

[Molecular Biology]

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer five questions, taking one from each Unit

UNIT-I

1. Write notes on following:
   a. Microsatellite DNA and their application in DNA fingerprinting. 4
   b. Organization of human nuclear genome. 5
   c. Characteristics features of viral genome. 5
2. Explain how DNA rearrangement and amplification have contributed to genome evolution. 14

UNIT-II

3. Describe the process of eukaryotic DNA replication with special reference to end replication problem. 14

Turn over

4. Describe different types of enzymes involved in prokaryotic DNA replication with their specified functions. 14

UNIT-III

5. Discuss the structure of chromatin. How does histone acetylation and deacetylation influence chromation organization? 14
6. Discuss the characteristics of eukaryotic RNA polymerases. Write briefly about the process of transcription in eukaryotes. 4+10=14

UNIT-IV

7. Explain the structure and functions of ribomicleoproteins with three examples. 3.5x4=14
8. Write the mechanism of protein synthesis. 14

UNIT-V

9. Write the process of post-translational modification of proteins. Add a short note on protein degradation.

   10+4=14
10. Write the process of breakdown of mRNA through interference by small non-coding RNAs. 14

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