4. What is DNA damage and repair? Write causes of DNA damage. Explain the process of DNA mismatch repair in E.coli. 2+4+8=14

5. Discuss the mechanisms of transcription in prokaryotes. How does it differ from that of eukaryotes? 10+4=14

Or

6. Discuss chromatin structure and its remodeling in relation to gene expression. 14

7. Write the structures and functions of ribonucleoproteins. Add a note on components of protein synthesis. 7+7=14

Or

8. Describe the mechanism of protein synthesis. 14

9. Write the process of post transtational modification of proteins. 14

Or

10. Discuss the mechanism of protein turnover and degradation. 14

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PG Even Semester Examination, September, 2023

BIOTECHNOLOGY

(2nd Semester)

Course No: BT-552 (CC)
(Molecular Biology)

FM: 70
Pass Marks : 28
Time: 3 Hours

The figures in the right margin indicate full marks for the question

1. What are gene families? Discuss the different types of gene families. Describe the arrangement of gene families. 2+8+4=14

Or

2. (a) Discuss the salient features of eukaryotic genome. 6

   (b) What is the C-value paradox? How can it be explained? 2+2=4

   (c) Draw and explain the cot-curve for a prokaryotic genome. 4

3. Describe the mechanisms of Eukaryotic DNA replication. Highlight the difference between eukaryotic and prokaryotic DNA replication. 10+4=14

Or