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T – 6402

Reg. No. :

Name :

Second Semester M.Sc. Degree Examination, September 2024

Biotechnology

BT 202 : MOLECULAR BIOLOGY

(2018 Admission Onwards)

Time : 3 Hours

Max. Marks : 75

I. Answer any **two** of the following :

1. Explain the steps involved in DNA synthesis at the replication fork.
2. Briefly describe the organization of tRNA and rRNA genes.
3. Describe the steps involved in prokaryotic gene regulation. And explain the roles of activators, inducers and repressors.

(2 × 15 = 30 Marks)

II. Answer any **nine** of the following :

4. What are the various DNA repair mechanisms in eukaryotes?
5. What is the SOS response to DNA damage?
6. What is DNA gyrase?
7. What are molecular chaperones? Give an example.
8. Explain DNA recombination.

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9. What are the different forms of DNA?
10. What are transposable elements in DNA?
11. What are oncogenes? What are their functions?
12. What is DNA polymerase in DNA?
13. What is genetic linkage?
14. What is the functions of topoisomerase II?
15. Give two examples of application of PCR.

(9 × 5 = 45 Marks)

