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BTH 451

II Semester M.Sc. Degree Examination, September/October 2022

BIOTECHNOLOGY

Molecular Biology

Time : 3 Hours

Max. Marks : 70

PART – A

1. Write short notes on **any ten** of the following (**not** exceeding **1** page **each**). (10×2=20)

- a) Okazaki fragments
- b) Sigma factors
- c) Protein splicing
- d) Stop codons
- e) Maternal genes
- f) p53 gene
- g) Tight junction
- h) Autocrine cell signaling
- i) Acetylcholine
- j) Benzopyrene
- k) Monospermy
- l) cGMP.

PART – B

Write explanatory notes on **any five** of the following (**not** exceeding **3** pages). (5×6=30)

- 2. Nuclear export of mRNA.
- 3. Catabolic repression.

P.T.O.



4. Gene action during oogenesis.
5. cAMP-mediated signal transduction.
6. Radiations-induced cancers.
7. Central Dogma of molecular biology and its modifications.
8. Organization of prokaryotic genomes.

PART – C

Write long answers on **any two** of the following (**not** exceeding **7** pages). **(2×10=20)**

9. Explain with diagram gene transcription in eukaryotes.
 10. Discuss post-translational modifications and the involvement of different translational factors at different stages of the process.
 11. Give a detailed account of the genetic basis of cancer.
 12. Describe nuclear-cytoplasmic interactions during embryonic development.
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