25081

M.Sc DEGREE EXAMINATION, APRIL 2015.

SECOND SEMESTER

Biotechnology

Paper I – MOLECULAR BIOLOGY

Time : Three hours Maximum : 75 marks

(No additional sheet will be supplied)

PART A — (5 × 3 = 15 marks)

Answer any FIVE questions

Each question carries 3 marks.

Each answer should not exceed 1 page.

1. Central dogma theory

2. DNA and Histone proteins

3. RNA polymerases

4. Mechanism of RNA editing

5. Wobble hypothesis

6. Molecular chaperons

7. Repressor and co-repressor

8. Transcriptional factors

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PART B — (4 × 15 = 60 marks)

Answer ALL question.

Each question carries 15 marks.

Each answer should not exceed 6 pages.

9. Give the mechanism of DNA replication in E.coli. In what respects does it differ from that in eukaryotes?

Or

10. Write an essay on different DNA repair mechanisms.

11. Explain the following

(a) Capping

(b) Polyadenylation

(c) RNA splicing

Or

12. Explain the mechanism of transcription in eukaryotes.

13. Describe different events involved in protein synthesis in eukaryotes.

Or

14. Give the sequence of events in post-translation modification of proteins.

15. Write an essay on positive and negative gene regulation.

Or

16. Explain the following

(a) Lac operon

(b) Trp operon

(c) Gal operon

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