

M.Sc. DEGREE EXAMINATION, NOVEMBER 2016.

THIRD SEMESTER

Zoology

Paper II — MOLECULAR BIOLOGY

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

PART A — ($5 \times 3 = 15$ marks)

Answer any FIVE questions.

Each question carries 3 marks.

Each answer should not exceed 1 page.

1. Central dogma of Molecular Biology.
2. One gene - one enzyme hypothesis.
3. Reverse Transcriptase.
4. DNA Polymerase - I.
5. Ribozymes.
6. Inhibitors of translation.
7. Tryptophan operon.
8. Sanger dideoxy method of sequencing.

PART B — ($4 \times 15 = 60$ marks)

Answer ALL questions.

Each question carries 15 marks.

Each answer should not exceed 6 pages.

9. Give a detailed account of Watson and Crick model of DNA and properties of DNA.

Or

10. Write a note on :

- (a) Nuclear organisation and
- (b) Mitochondrial Genome.

11. Write in detail about different DNA repair mechanisms and add a note on their significance in maintaining DNA integrity.

Or

12. Write a detail note on various enzymes involved in DNA replication with special emphasis on their function.
13. Write a note on different types of RNA and their functions.

Or

14. Write a detailed note on :
- (a) Transcription and
 - (b) Post transcriptional modifications.
15. Write detail note on gene regulation with special reference to Lac operon.

16. Write a detailed note on construction of cDNA libraries.

