

25122

M.Sc. DEGREE EXAMINATION, APRIL 2018.

Genetics and Genomics

SECOND SEMESTER

Paper II – MOLECULAR BIOLOGY

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

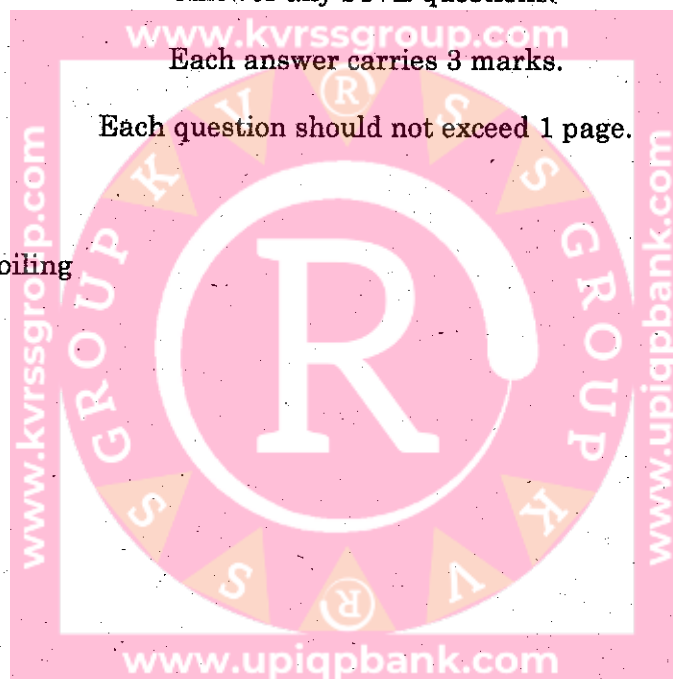
PART A — (5 × 3 = 15 marks)

Answer any FIVE questions.

Each answer carries 3 marks.

Each question should not exceed 1 page.

1. Exonuclease
2. Negative supercoiling
3. Linkers
4. H1 histone
5. CAAT box
6. Transposition
7. Inducer
8. rRNA.



PART B — (4 × 15 = 60 marks)

Answer ALL questions.

Each answer carries 15 marks.

Each question should not exceed 6 pages.

9. Explain the impact of temperature on the conformational stability of DNA.

Or

10. What are the DNA secondary structures and explain the unusual DNA structures.

11. Explain the mechanism of DNA replication in prokaryotes.

Or

12. What are various possibilities of DNA damage and explain how double stranded DNA breaks are repaired?

13. Explain the differences between eukaryotic and prokaryotic transcription mechanism.

Or

14. Explain the mechanism of maturation of mRNA in eukaryotic cell.

15. Describe the salient features of genetic code and explain the deviations.

Or

16. Explain the mechanism for recycling of misfolded proteins.

