

**SECOND SEMESTER M.Sc. DEGREE EXAMINATION, JUNE 2014**

(CUCSS)

General Biotechnology

GB 2C2—MOLECULAR BIOLOGY

Maximum : 36 Weightage

Time : Three Hours

## Section A

*Very Short Answer.**Answer **all** questions, each with weightage 1.*

1. Chergoff's rule.
2. RB gene.
3. HOX gene.
4. IS element.
5. Catabolic repression.
6. Wobble hypothesis.
7. Spliceosome.
8. Phosphodiester bond.
9. Selfish DNA.
10. Error-Prone repair.

(10 x 1 = 10 weightage)

## Section B

*Short Answer Type Questions.**Answer any seven questions, each with weightage 2.*

11. Describe the replication of genetic material in reteroviruses.
12. What are ribozymes ? Describe their role in the cells.
13. Describe the differences in the prokaryotic and eukaryotic transcription.
14. Give details of various transcriptional factors involved in the transcription of eukaryotes.
15. Genetic code is non-overlapping and degenerate why ?
16. Describe the process of polypeptide elongation.
17. Discuss different prokaryotic transposons.

Turn over

18. Explain with suitable example a repressible operon system.
19. Give an account on cellular and viral oncogenes.
20. Explain how X-ray crystallography helpful for structural elucidation of DNA molecule.

(7 x 2 = 14 weightage)

### Section C

*Essay Type Questions.*

*Answer any two questions, each with a weightage 6.*

21. Explain the mechanism of replication and various enzymes involved in replication.
22. What are the molecular mechanisms responsible for recombination in prokaryotes ?
23. Explain eukaryotic transcription and post transcriptional modifications of mRNA.

(2 x 6 = 12 weightage)