Q.P. Code – 56742

Previous M.Sc. Degree Examination

OCTOBER/NOVEMBER 2014

(Directorate of Distance Education)

Biotechnology

(DPA 520) : CELL AND MOLECULAR BIOLOGY

Time : 3 Hours] *[Max. Marks : 75/85*

Instructions to Candidates :

1) *Students who have attended **25** marks **I-A** scheme will have to answer for total of **75** marks.*

2) *Students who have attended **15** marks **I-A** scheme will have to answer for total of **85** marks.*

3) *Section-**B** is compulsory for **85**-marks scheme.*

SECTION – A

1. Write briefly on : **4 × 3 = 12**

   (a) Nuclear matrix

   (b) tRNA

   (c) DNA polymerase

   (d) Co-repressor

2. Write short notes on any **THREE** of the following : **3 × 5 = 15**

   (a) Mycoplasma

   (b) Lysosomes

   (c) Polytene chromosomes

   (d) Central dogma of molecular biology

3. Write a detailed note on any **TWO** of the following : **2 × 9 = 18**

   (a) Meiosis

   (b) DNA repair

   (c) RNA splicing

4. (a) Describe the structure and functions of Endoplasmic reticulum and Golgi complex. **15**

Or

(b) Write a detailed account on DNA replication.

5. (a) Explain the steps involved in protein synthesis. **15**

Or

(b) Explain the tryptophan operon with a note on attenuation control.

SECTION – B

(Compulsory for 85 marks scheme only)

6. (a) Explain the molecular structure of an eukaryotic chromosome. **10**

Or

(b) Describe the role of RNA polymerase in the synthesis of mRNA in prokaryotes.
