AB-3135
Third Year B. Sc. (Sem. V) Examination
March/April – 2015
Microbiology : MB - 11
(Microbial Genetics) (New Course)

Time : Hours] [Total Marks : 50
Instructions :

(1) Fill up strictly the details of signs on your answer book.
Name of the Examination :
Third Year B. Sc. (Sem. 5)
Name of the Subject :
Microbiology : MB - 11 (New)
Subject Code No. : 3 1 3 5
Section No. (1, 2,.....), Nil

(2) Figures to the right indicate full marks.
(3) Draw neat and labelled diagrams wherever necessary.

1 Give specific answers :
(a) Define :
(1) Mutagens
(2) Intercalating agent.
(b) State the role of Helicase and topoisomerase enzyme in DNA replication .
(c) Define RNA polymerase core enzyme and state its function.
(d) Define base analogs with example.
(e) State the importance of plasmids, R-factor and Col-plasmids.
(f) How do the Prokaryotic gene structure differ from that of Eukaryotic gene structure ?

2 Attempt any two of the following :
(a) Explain with experiment that "physical contact is essential between the cells for gene transfer".
(b) Write an account on the process of transcription in bacteria.
(c) Define mutation. Explain causes of spontaneous mutation.
3 Answer any two of the following:
   (a) Explain the excision and recombinational of repair mechanism of DNA.
   (b) Explain the various phases of the elongation of the polypeptide chain.
   (c) Distinguish LFT and HFT Lysates. Discuss the process of Generalised and specialised transduction.

4 Write short note on any two of the following:
   (a) Organisation of DNA in cells
   (b) Mechanism of transformation
   (c) The Replication machinery.