

FACULTY OF SCIENCE**B.Sc. III – Year Examination, March / April 2015****Subject : Bio-Technology (General)****Paper – III****Molecular Biology, Genetic Engineering and Immunology****Time : 3 hours****Max. Marks : 100*****Note : Answer all questions. All questions carry equal marks.***

- 1 a) Describe about mitochondrial genome organization in higher plants.
OR
b) Explain in detail about reaction kinetics of DNA.
- 2 a) Write in detail about post - transcriptional modifications.
OR
b) What is genetic code? Write about the methods used for deciphering the genetic code?
- 3 a) Discuss various cloning vectors.
OR
b) Explain about Northern blotting technique along with applications.
- 4 a) Describe in detail about major histocompatibility complex (MHC).
OR
b) Write about autoimmune diseases and explain the mechanism of auto immunity.
- 5 Write short notes on any **Three** of the following :
 - a) Satellite DNA
 - b) Promoters and Enhancers
 - c) Blue-white selection of colonies
 - d) Haptens
 - e) Polymerase Chain Reaction (PCR)
