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 autoimmunity.

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)

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