Exam. Code : 206601

Subject Code : 3636

M.Sc. Bio-Informatics 1st Semester

BASIC CONCEPT IN BIOLOGY

Paper–BI–511

Time Allowed—3 Hours]   [Maximum Marks—75

Note :— Attempt any **five** questions, selecting at least **one** from each Section.

SECTION–A

1. (a) Make a well labelled diagram of cilium and highlight function of each part.

 (b) How is a prokaryotic cell different from a eukaryotic cell ?

 (c) What is the role of Mitochondria in the cell ?

                $5 \times 3 = 15$

2. (a) Explain fluid mosaic model of plasma membrane.

 (b) What is the role of chloroplast in the cell ?

                $7.5 \times 2 = 15$

SECTION–B

3. Write a note on the nucleic acids and the double helical structure of DNA.   15

4. What are lipids ? Give their classification and biological importance.   15

SECTION–C

5. What is meant by substrate specificity ? Explain the factors affecting enzyme activity.   15

6. (a) What is meant by enzyme inhibition ?

 (b) Describe Kinetics of a single substrate reaction.

                $7.5 \times 2 = 15$

SECTION–D

7. (a) Differentiate between innate and adaptive immunity.

 (b) What is meant by MHC I and II polymorphism ?

 (c) How is antibody diversity generated in organisms ?

                $5 \times 3 = 15$

8. Write notes on :

 (a) ELISA

 (b) Immunofluorescence. $7.5 \times 2 = 15$