OR

(p) Genome sequencing methods. 4

(q) Translational factors in eukaryotes. 4

(r) Importance of Genome analysis. 4

4. Explain :—

(a) Process of termination in eukaryotes. 4

(b) Regulation of translation in prokaryotes. 4

(c) Structure of eukaryotic Ribosomes. 4

OR

(p) Structure of prokaryotic ribosomes. 4

(q) Process of initiation of translation in eukaryotes. 4

(r) Process of termination of translation in prokaryotes. 4

5. Describe the antigen–antibody rection also explain Haptens.

AR – 577

Fourth Semester B. Sc. (Part - II) Examination

4S – BIOINFORMATICS

(Fundamentals of Molecular Biology and Immune System)

Paper - IV

P. Pages : 5

Time : Three Hours] [Max. Marks : 80

Note : (1) All questions are compulsory.
(2) Draw well labelled diagram wherever necessary.

1. (I) Fill in the blanks :—

(a) ——— Protein is responsible for packing of DNA molecule and form chromosomes in eukaryotic cell.

(b) DNA polymerase involved in DNA—————.

(c) The Semi–conservative mode of DNA Replication was proved by ————.

(d) The initiatian codon is ————. 2

(II) Choose correct alternative

(1) t–RNA appears like

(a) Sheet (b) Coil

(c) Cloverleaf (d) Zigzag

(2) Synthesis of mRNA from DNA means:

(a) Translation

(b) Transcription

(c) Duplication

(d) Replication.

(3) Which of the following is the basic unit of genetic information ?

(a) Gene (b) Genome

(c) Nucleolus (d) Nucleus.

(4) The complement system can be activated by

(a) Antigen alone

(b) Antibody alone

(c) Antigen–antibody complex

(d) None of above. 2

(III) Answer in **one** sentence :

(a) Which of the antibodies contain J chain. 1

(b) CD4 are expressed on which cells. 1

(c) What are lymphokines ? 1

(d) Different types of antibodies. 1

2. Explain :—

(a) Transposable genetic elements in prokaryotes, discuss one example. 4

(b) Structure of B–DNA. 4

(c) Structure of m–RNA. 4

OR

(p) Structure of Z–DNA. 4

(q) Structural organization of eukaryotic genome. 4

(r) Replication in prokaryotes. 4

4. Explain :—

(a) Structural organization of eukaryotic gene. 4

(b) Application of functional genomics. 4

(c) Prokaryotic gene regulation. 4

OR

Describe different organs involved in immune system along with their functions. 12

6. Describe the cell mediated immunity.

OR

Describe the T–lymphocytes and B–lymphocytes with functions. 12

7. Discuss :—

(a) Different immunoglobulins. 4

(b) Interferons and its applications. 4

(c) T–lymphocytes. 4

OR

(p) Antibody Antigen reaction. 4

(q) Interleukins and its applications. 4

(r) B–lymphocytes. 4