

Examination : End Semester Examination – May 2022
Name of the Course : B.Tech. (Information Technology and Mathematical Innovations)
Name of the Paper : Flow of Information in Living Systems
Paper Code : 32864408
Semester : IV
Duration : 2 Hours+ 30 minutes
Maximum Marks : 40

Instructions:

This question paper contains six questions, out of which any four are to be attempted. Each question carries equal marks.

Ques. 1. What are mutations ? How are they developed ? Discuss about the various types of mutations giving examples. [10]

✓ Ques. 2. Discuss about **replication or transcription** in detail by giving a neatly labelled diagram. Also mention the roles of all the enzymes used during the whole process. [10] ✓

✓ Ques. 3. What is equivalence rule ? Discuss about the main features of double helical model of DNA. What are the differences between DNA and RNA ? [10] ✓

Ques. 4. Write short notes on any two of the following: [10]
(a). Genetic Code (b). Polymerase Chain reaction (c). Gel Electrophoresis

✓ Ques. 5 What is DNA condensation ? Discuss in detail with a neatly labelled diagram. What is the need of DNA condensation ? [10] ✓

Ques. 6. What do you understand by DNA damage ? How is it caused ? Discuss about any one DNA repair mechanism. [10]