

**Exam. Code : 206601**  
**Subject Code : 4758**

**M.Sc. Bio-Informatics 1<sup>st</sup> Semester (Batch 2021-23)**  
**INTRODUCTION TO MOLECULAR BIOLOGY,**  
**BIOINFORMATICS & BIOLOGICAL DATABASES**

**Paper : BI-515**

Time Allowed—3 Hours] [Maximum Marks—75

**Note :—** Attempt **FIVE** questions in all, selecting at least **ONE** question from each section. The **FIFTH** question may be attempted from any section. All questions carry equal marks.

**SECTION—A**

1. Explain central dogma. Discuss mechanism of DNA replication in eukaryotes.
2. What are transcription activators and repressor ? Discuss important steps involved in transcription.

**SECTION—B**

3. (a) What is tRNA ? Discuss structure of tRNA and its role in translation.  
(b) What is Bioinformatics ? Discuss any two important milestones of Bioinformatics.
4. Explain the following and mention its role in translation :  
(a) Ribosome  
(b) Initiation factors  
(c) Elongation factors.

**SECTION—C**

5. What is database retrieval and deposition system ? Discuss SRS, Entrez and Seqin.
6. What is EST and SNP ? Discuss significance of EST and SNP database.

**SECTION—D**

7. What is taxonomy ? Discuss how databases can be used for species identification and classification.
8. Explain file formats. Discuss FASTA and SDF file format.