Department of Biotechnology

M.Sc. 4th Semester, 2023

Paper XVIII - Practical Examination

Time 7 hrs (10.00 AM to 5.00 PM)   **Total marks 40**

1   Download the following gene sequence from NCBI
Accession number: **XM_003614410.3**
  a. Using BLAST identify the 5 best homologs. Do the multiple alignments with default parameters.
  b. Translate this gene sequence to corresponding protein sequence using any freely available bioinformatic software.
  c. Using appropriate BLAST, identify the 5 best protein homologs. Do the multiple alignments with default parameters.
  a. Find whether this protein has any crystal structure submitted in the PDB.

                           6+2+6+1=15

2. a. Design a pair of primers for the amplification of the given gene sequence using any free primer designing software.
    b. Discuss the important parameters that you should consider while designing the primer pair.   7+3=10

3.   Viva voice (10)

4.   Practical copy (5)