PB-003-001623 Seat No. _____

B. Sc. (Sem. VI) (CBCS) Examination

March / April - 2020

BT-603 : Advance Molecular Techniques & Bioinformatics

(Old Course)

Faculty Code : 003
Subject Code : 001623

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

Instructions : (1) All questions are compulsory.
(2) The right side figure indicates total marks of the question.

1 Answer the following question in one word : **20**

(1) Karry Mullis discovered which technique?

(2) Chain termination is used for DNA _____

(3) The full form of RFLP is

(4) Name the probe used for RT-PCR

(5) DNA foot printing is used for the study of

(6) Minisatellite contain repeated sequences composed of _____ to _____ base pairs.

(7) Southern blotting technique is used for

(8) CATH stands for

(9) Human genome project completed in the year _____

(10) Pyrosequencing is based on the generation of light signal through release of _____ on addition of nucleotide.

(11) BLAST is _____ search tool.

(12) T_m stands for

(13) Name the database of protein structure

(14) _____ membrane is generally used for blotting technique.

(15) Restriction mapping is prepared by using _____ enzyme.

(16) NCBI is located at

(17) Chromosome walking is a molecular technique used for_____

(18) ExPASy is

(19) _____ funded the human genome project.

(20) ClustalW is _____ tool.

2 (a) Write any three out of six : **6**

(1) Define bioinformatics?

(2) What is primer?

(3) Define genomics and proteomics

(4) What is chromosome walking and chromosome jumping?

(5) What is microarray?

(6) Name primary database of DNA and protein.

(b) Write any three out of six : **9**

(1) What are the types of BLAST?

(2) Explain the Maxam-Gilbert method of DNA sequencing.

(3) Application of PCR

(4) Write a note on RSCB-PDB

(5) What are the benefits of comparative genomics?

(6) Application of western blotting technique.

(c) Write any two out of five : **10**

(1) Enlist and explain any one Sanger methods of DNA sequencing technique.

(2) Explain chemical synthesis of DNA by phosphoramidite method.

(3) Explain the mechanism of RT-PCR and its application.

(4) Explain in detail the classification and importance of biological database.

(5) Define molecular marker. Explain in detail RFLP and RAPD.

3 (a) Write any three out of six : **6**

(1) What is universal primer?

(2) What is RefSeq?

(3) What are redundant datas?

(4) What is global and local alignment?

(5) What is E-Value?

(6) What is VNTRs?

(b) Write any three out of six **9**

(1) Explain the types of Uniprot

(2) Steps of southern blotting technique

(3) Write a note on PubMed

(4) Write in detail the classification of protein by SCOP.

(5) Explain the methods of preparing restriction map

(6) Goals of Human Genome project

(c) Write any two out of five : **10**

(1) Explain the mechanism and application of DNA foot printing.

(2) Write a note Comparative Genomics

(3) Write a note on autoradiography

(4) Explain the role of Bioinformatics in biotechnology

(5) Write a note on BLAST and FASTA.
