MAO-003-001623 Seat No. _____

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

March / April - 2018

BT-603 : Advance Molecular Techniques & Bioinformatics

Faculty Code : 003
Subject Code : 001623

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

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

(1) Southern blotting technique was invented by _____.
(2) _____ is used as capping in phosphoramidite method.
(3) BLAST was developed by _____.
(4) _____ enzyme used for the conversion of luciferin into oxyluciferin
(5) Northern hybridization technique is used to identify specific _____.
(6) The database containing the information of genetic and genomic disorders of man is _____.
(7) What is the full form of CDD.
(8) What does Tr means in TrEMBL.
(9) PubMed has been functioning as a part of _____ information retrieval system.
(10) The structure in PDB is mainly determined by _____.
(11) Full form of MIPS.
(12) CATH stands for
(13) Chemical used for the cleavage of DNA fragment in the Maxam-Gilbert method is
(14) Name the technique primarily used for amplify DNA.
(15) Minisatellites are also refereed as
(16) Non-PCR based molecular marker is
(17) Automated DNA sequencing requires _____ gel electrophoresis.
(18) UniProtKB/Swiss-Prot is an _____ annotated database.
(19) Protein structure is mainly found in _____ database.
(20) _____ membrane is, commonly used, in blotting techniques.

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

(1) Name two software used for primer design ?
(2) Define probe.
(3) Define genomics
(4) What are the major function of NCBI.
(5) What is restriction mapping ?
(6) What is ExPASY ?

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

(1) Write a note on functional genomics.
(2) Types of BLAST
(3) Write down the steps of southern blotting technique?
(4) Write in detail about the categories of Uniprot.
(5) What is microsatellite and minisatelites.
(6) Write the general rules considered for primer designing.

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

(1) Write a note on multiple sequence alignment.
(2) Explain artificial synthesis of DNA.
(3) Explain Maxam-Gilbert method of sequencing.
(4) Explain the mechanism of DNA foot printing.
(5) Application of bioinformatics in molecular biology.

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

(1) What is Clustal W?
(2) What is Boolean operator ?
(3) What is restriction mapping ?
(4) What is global and local alignment ?
(5) What is NGS ?
(6) What is phylogenetic analysis ?

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

(1) Difference between RFLP and RAPD.
(2) Write a note on PubMed.
(3) Explain the levels of SCOP.
(4) Mechanism of pyrosequencing.
(5) Explain the mechanism of western blotting
(6) Application of Microarray technique.

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

(1) Explain the types of PCR.
(2) Write a note human genome project.
(3) Enlist and explain the types of database.
(4) Methods of comparative genomics.
(5) Explain in detail the process of chromosome walking and jumping and its uses.
