NAO-003-001623 Seat No. _____

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

March / April - 2017

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) CATH stands for.

(2) Northern blotting is used to identify.

(3) Taq man DNA probes is used for the technique.

(4) Name the scientist who developed the PCR technique.

(5) The information retrieval tools of NCBI GenBank is.

(6) In Maxam-Gilbert method, chemical used for cytosine alteration is.

(7) Which microorganism genome was first sequenced ?

(8) TrEMBL stands for.

(9) Functional genomics is the study _____ of protein.

(10) OMIM is use for the study of _____.

(11) Short piece of single-stranded DNA that binds to the template DNA and acts as a "starter" for the polymerase _____ is non PCR based marker.

(12) _____ is used as solid surface in microarray chips.

(13) A primer is short synthetic _____.

(14) BLAST is a _____ tools.

(15) _____ is matrix used in FASTA.

(16) Name the scienctist who designed southern blotting technique.

(17) Full form of PIR.

(18) Restriction site of EcoRI.

(19) A thermally stable DNA polymerase was originally isolated from _____.

(20) VNTR DNA are classified as.

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

(1) Define molecular markers.

(2) What are the uses autoradiography ?

(3) What is CATH ?

(4) What are molecular markers ?

(5) What is comparative genomics ?

(6) What is sequence tagged sites ?

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

(1) Types of Uniprot.

(2) Steps of chromosome jumping.

(3) Explain maxam gilbert method of sequencing.

(4) Explain the mechanism of pyrosequecing.

(5) Application of hybridization technique in molecular biology.

(6) Write a note on ExPASY.

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

(1) Explain mechanism and types of PCR.

(2) Explain sangers method of DNA sequencing.

(3) Write a note molecular markers.

(4) Explain BLAST in detail.

(5) Explain the scope and importance of bioinformatics.

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

(1) What is probe ?

(2) What is micro and mini satellite ?

(3) Define database.

(4) Write the use of restriction enzymes.

(5) What is genomics ?

(6) What is global alignment ?

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

(1) Explain the mechanism of qPCR.

(2) Explain the process of Pyrosequecning.

(3) Application of autoradiography.

(4) Write a note on SCOP.

(5) Write a note on comparative genomics.

(6) Functions of NCBI.

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

(1) Explain the process of chemical synthesis of DNA.

(2) Explain biological database in detail.

(3) Explain the types and applications of blotting technique.

(4) Write a note on multiple sequence aligment.

(5) Explain the mechanism of microarray technique.
