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RZ-003-001623 Seat No. _____

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

March - 2019

BT - 603 : Advance Molecular Techniques and 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) Name the polymerase enzyme used in PCR

(2) GenBank maintains data of _____

(3) The full form of NCBI is _____

(4) Dideoxy method is used for _____

(5) KEGG is a specialized database for _____

(6) RFLP is a _____ marker.

(7) Who developed the southern blotting technique

(8) SCOP stands for _____.

(9) Capping in phosphoramidite method of gene synthesis is done by _____

(10) Microarray is used for the study of _____

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

(12) Full form of BLAST is _____

(13) Completion year of human genome project is _____

(14) Proteomics is the study of _____

(15) Northern blotting technique used for the detection of

(16) PDB is a source of _____

(17) Entrez is a _____

(18) Microsatllie is a repeated sequence of _____ to _____base pairs

(19) Autography is the use of _____ film to detect radioactive materials

(20) NIH stands for _____

2 Attempt the following : **25**

(A) Write any **three** out of six : **6**

(1) Define Probe`?

(2) What is autoradiography?

(3) What is Pubmed?

(4) What is FASTA ?

(5) Define restriction mapping

(6) What is ExPASY?

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

(1) What are the goals of human genome project ?

(2) Explain the mechanism of PCR

(3) What are the types of BLAST ?

(4) Write a note on PDB

(5) Write the general rules considered for primer designing

(6) Application of western blotting technique

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

(1) Explain Sanger's method of DNA sequencing

(2) Explain chemical synthesis of DNA by phosphoramidite method

(3) Branches and application of bioinformatics

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

(5) Write in detail about Human Genome Project

3 Attempt the following : **25**

(A) Write any **three** out of six : **6**

(1) What are the uses of primer?

(2) What is Boolean operator?

(3) What are redundant datas?

(4) Name primary database of protein and DNA?

(5) What is annotation?

(6) What is E-Value?

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

(1) Advantages and disadvantages of RFLP?

(2) Explain the types of Uniprot

(3) Mechanism of southern blotting technique

(4) Write a note on literature database

(5) Write in detail the classification of protein by SCOP

(6) Explain Phylogenetic analysis

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

(1) Explain the mechanism and application of microarray

(2) Write a note Comparative Genomics

(3) Explain the process of Maxam-Gilbert method of sequencing

(4) Enlist and explain the any two types of PCR

(5) Explain the process of DNA foot printing and its application