DL-003-001420 Seat No. _____

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

April / May – 2015

Analytical Techniques & Bioinformatics

(New Course)

Faculty Code : 003
Subject Code : 001420

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

Instructions : (1) All questions are compulsory.

(2) The right side figures indicate total number of marks.

SECTION - I

1 M.C.Q. : **20**

(1) SOPs means

(A) Standard Operating Procedure

(B) Small Operating Programmes

(C) Standard Orientation Phase

(D) None of above

(2) In NMR the absorption of radio frequency radiation by a nucleus in a strong magnetic field causes

(A) Nuclear spin

(B) Nuclear blast

(C) Distortion of nucleus

(D) None of above

(3) The father of Scientific Management is

(A) Henry Ford (B) Frederick Winslow Taylor

(C) Shewhart (D) None of above

(4) The following is not related to spectroscopy.

(A) IR (B) NMR

(C) GLP (D) None of above

(5) The following is added as source of radicals in polymerization of gel

(A) Acralamide (B) bis acralamide

(c) APS (D) TEMED

(6) Which of the following causes friction resistance in electrophoresis ?

(A) high molecular weight

(B) viscosity

(C) high voltage

(D) all of above

(7) R_F means

(A) Resubstitution factor

(B) Retention factor

(C) Refraction factor

(D) None of above

(8) Chromatography was used for the first time by

(A) Robert Koch (B) Landstainer

(C) Mikhani Tswett (D) None of above

(9) The following is used as bioreceptor in biosensor.

(A) Antibodies (B) Nucleic acids

(C) Enzymes (D) All of them

(10) The following is used as a marker in finger printing technique.

(A) VNTR (B) STR

(C) SNP (D) All of them

(11) β thalessemic traint can be detected by

(A) RFLP (B) SNP

(C) STR (D) RAPD

(12) The following is the membrane used for hybridization studies

(A) Nitrocellulose membrane

(B) Nylon membrane

(C) Both (A) and (B)

(D) None of them

(13) The following was found in 1st generation computers

(A) Transistors (B) Valves

(C) Integrated Circuits (D) None of above

(14) 1 GB = _____ kB

(A) 1000 (B) 10^6

(C) 1024 ×1024 (D) 2048

(15) Which of the following is not a type of computer network ?

(A) LAN (B) PAN

(C) WAN (D) MAN

(16) The following is not a browser

(A) Yahoo (B) Mozilla

(C) Entrez (D) None of above

(17) According to SMILES nomenclature the symbol "N" defines

(A) N_2 (B) NH_3

(C) NH_4 (D) NO_2

(18) The following is Protein Data Base

(A) PDB (B) BLAST

(C) FTP (D) None of above

(19) What is not the feature of FASTA file format ?

(A) It contains the accession number

(B) It begins with symbol ">"

(C) It begins with symbol "%"

(D) It contains comment line

(20) The following is not Data Retrival Tool

(A) SRS (B) DBGET

(C) Entrez (D) NCBI

SECTION - II

2 (a) Answer briefly : (any three from six) **6**

(i) Define : Spectroscopy
(ii) What is Electrophoretic mobility ?
(iii) Give two uses of chemically synthesized DNA
(iv) Which are various input devices ?
(v) What is proteomics ?
(vi) What is fluorescence ?

(b) Answer briefly : (any three from six) **9**

(i) What are the applications of IR ?
(ii) What is the use of Ethidium bromide ?
(iii) Give applications of PCR.
(iv) Which are the parts of control panel ?
(v) What is Genomics ?
(vi) Discuss :Blotting Technique used for DNA.

(c) Write short notes on : (any two from five) **10**

(i) NMR spectroscopy
(ii) TLC
(iii) DNA sequencing Technique
(iv) MS Word
(v) NCBI

3 (a) Write briefly (any three from six) **6**

(i) Define labeling. Give its types.
(ii) What is Lambert's law ?
(iii) Give two uses of DNA finger printing technique.
(iv) What are the applications of search engines ?
(v) What is Target ?
(vi) What is Bioinformatics ?

(b) Answer briefly : (any three from six) **9**

(i) Describe : Spectrophotometer
(ii) What is PAGE ?
(iii) Which different types of probes are used in FISH technique ?
(iv) What is HTML ?
(v) How lead identification is done ?
(vi) Give applications of HPLC.

(c) Write short notes on : (any two from five) **10**

(i) GLP
(ii) Applications of Gel Electrophoresis
(iii) Applications of Biosensor Technology
(iv) MS Excel
(v) Drug Discovery.