



MAY-003-001420

Seat No. _____

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

March / April - 2018

MB-401 : Analytical Techniques & Bioinformatics
(Old Course)

Faculty Code : 003

Subject Code : 001420

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

- Instructions :** (1) All questions are compulsory.
(2) Figures on right side indicates total marks.
(3) Draw the figure wherever necessary.

1 Answer the following : **20**

- (1) Define: Radioactivity.
- (2) Give full form of NMR.
- (3) As per Beer s law absorbance is _____
- (4) Who is the father of Scientific Management?
- (5) Chromatography was used for the first time by _____.
- (6) What is Partition Coefficient?
- (7) Write the role of ammonium persulfate in Polyacrylamide Gel formation?
- (8) Larger pieces of DNA than conventional agarose gel electrophoresis can be separated by _____.
- (9) What is FISH Technique?
- (10) RFLP stands for _____
- (11) Name the membranes used for hybridization studies.
- (12) Who developed chemical cleavage method of DNA Sequencing?
- (13) What is the full form of URL?
- (14) Give any two examples of common area network?

- (15) HTML stands for _____
- (16) What is hyperlink?
- (17) Which Penalty does not consider the length of a gap?
- (18) What is BLAST?
- (19) Give examples of Structural Database.
- (20) According to SMILES nomenclature, the symbol N defines _____.

2 (a) Answer Specifically : (Any 3) **6**

- (1) Define: Total Quality Management.
- (2) What is the difference between Gradient elution and Isocratic elution?
- (3) What are biosensors?
- (4) Write in short on SNP analysis.
- (5) Write two uses of MS-Excel.
- (6) What is CHIME and SMILES ?

(b) Answer in brief : (Any 3) **9**

- (1) Write about biological applications of radioisotopes.
- (2) Write a note on Thin Layer Chromatography.
- (3) Write a note on VNTR.
- (4) Explain : Pulsed field gel electrophoresis.
- (5) What is graph? How many types of graph does MS-Excel support?
- (6) Describe in brief on Lead discovery and Optimization.

(c) Write short notes on : (Any 2) **10**

- (1) Discuss in detail: PCR
- (2) Write note on: Good Laboratory Practice.
- (3) Discuss: Ion exchange chromatography.
- (4) Write a note on: Major types of gap penalties.
- (5) Write a note on: Applications of Internet

- 3** (a) Answer Specifically : (Any **3**) **6**
- (1) Write two applications of IR Spectroscopy.
 - (2) What is electro-endosmosis?
 - (3) Write a role of dideoxynucleotide in chain termination method of DNA Sequencing.
 - (4) What is electrophoretic mobility?
 - (5) What is IP address?
 - (6) What is Bioinformatics?
- (b) Answer in brief : (Any **3**) **9**
- (1) Discuss: Mass Spectroscopy.
 - (2) Write a note on southern blotting.
 - (3) Write an essay on affinity chromatography.
 - (4) Write about Wavelength selectors used for colorimeter and Spectrophotometer?
 - (5) Discuss: Various component parts of Control Panel.
 - (6) Explain various file formats in bioinformatics.
- (c) Write Short notes on: (Any **2**) **10**
- (1) Discuss the principle and working of colorimeter and spectrophotometer.
 - (2) Discuss in detail: DNA sequencing technique developed by Maxam and Gilbert.
 - (3) Explain SDS-PAGE in detail.
 - (4) Write a note on: Power Point Presentation.
 - (5) Describe: BLAST and FASTA.
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