



PAT-003-1132004 Seat No. _____

**M. Sc. (Biotechnology) (Sem. II) (CBCS)
(W.E.F.2016) Examination**

August - 2020

BT-209 : Biostatistics and Analytical Techniques

Faculty Code : 003

Subject Code : 1132004

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

[Total Marks : 70

Instruction : All questions are compulsory. Support your answers with suitable illustrations where required.

1 Answer Any Seven : (2 Marks each) 14

- (1) What is chromatography?
- (2) What is the significance of solvents in chromatography?
- (3) Enlist various properties of the molecules used for their separation.
- (4) What is Western Blotting?
- (5) What is TEM?
- (6) What is fluorescence microscopy?
- (7) What is IR Spectroscopy?
- (8) What is fitness of Good?
- (9) What is the Beer Lambert's law?
- (10) What is the correlation between the statistical analysis and biotechnology ?

2 Describe Any Two : (7 marks each) 14

- (a) Analysis of variance and its application in biology
- (b) t-Test
- (c) Regression analysis

- 3** Write comment : (7 marks each) **14**
(a) Radioactivity and its applications in biology
(b) Probability distribution

OR

- 3** Answer the following : (7 marks each) **14**
(a) Discuss ion exchange column chromatography.
(b) Discuss principle and biological applications of X-Ray Crystallography.

- 4** Write in detail : (7 marks each) **14**
(a) Principle and biological applications of SEM
(b) NMR: Principle and biological applications

- 5** Write detailed comments on Any **Two** : (7 marks each) **14**
(a) Molecular seive chromatography
(b) Principle and Applications of Electrophoresis
(c) Immuno-techniques
(d) Affinity chromatography
