



NCF-003-1182004 Seat No. _____

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

April / May - 2017

Zoology : Zoo - 210

(Analytical Techniques)

Faculty Code : 003

Subject Code : 1182004

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

[Total Marks : 70

1 Answer the following very briefly : (any seven) **2×7=14**

- (a) What is spectroscopy?
- (b) Define progressive and regressive staining.
- (c) Write the principle of tissue fixation.
- (d) Write the definition of true fluorescence and phosphorescence.
- (e) Define the term isothermal and gradient elution.
- (f) What is PI? Write its significance.
- (g) Write the short note on FP-LC.
- (h) Define absorption and emission.
- (i) Write the principle of centrifugation.
- (j) Write the step for southern blotting and its application.

2 Answer the following : (any two) **7×2=14**

- (a) Write a short note on ion exchange chromatography for protein separation.
- (b) Write a note on the significance of infrared spectrophotometer.
- (c) Write a short note on various centrifugation techniques and their uses.

3 Answer the following : **7×2=14**

- (a) Write a short note on the accessories used in fluorescence microscopy.
- (b) Discuss the principle of HPLC and its advantages.

OR

3 Answer the following : **7×2=14**

- (a) Write a short note on the principles of Phase Contrast Microscopy.
- (b) Write a note on the applications of various types of Spectroscopy.

4 Answer the following : **7×2=14**

- (a) Write a short note on Scanning Electron Microscopy.
- (b) Write a note on few fixative mixtures, their composition and application.

5 Answer the following : (any two) : **7×2=14**

- (a) Describe the principles and applications of Autoradiography.
- (b) Describe the principles and applications of Transmission Electron Microscopy.
- (c) Describe the principle, procedure and application of Gel Filtration Chromatography.
- (d) Write a note on isoelectric focusing and its applications.
