NCF-003-014204 Seat No. _____

M. Sc. (Botany / Zoology / Microbiology)
(Sem. II) (CBCS) Examination
April / May - 2017
Analytical Techniques : 210

Faculty Code : 003
Subject Code : 014204

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

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

(a) Define Ionization.

(b) Write the uses of HPLC.

(c) What is tissue fixation?

(d) Define true fluorescence and phosphorescence.

(e) Define the term isothermal and gradient elution.

(f) Define spectroscopy.

(g) Define progressive and regressive staining.

(h) Write the step for southern blotting and its application.

(i) Write the principle of centrifugation.

(j) Define absorption and emission.

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

(a) Discuss the principle of HPLC and its advantages.

(b) Write a short note on various centrifugation techniques and their uses.

(c) Write a note on the significance of infrared spectro-photo meter.

3 Answer the following : **7×2=14**

(a) Write a short note on the accessories used in fluorescence microscopy.

(b) Describe the use of ion exchange chromatography for protein separation.

OR

3 Answer the following : **7×2=14**

(a) Describe the principle of phase contrast microscopy.

(b) Write a short note on the applications of spectroscopy techniques.

4 Answer the following : **7×2=14**

(a) Describe few fixative mixtures, their composition and application.

(b) Briefly describe the scanning electron microscopy and it's applications.

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

(a) Describe the principle, procedure and application of gel filtration chromatography.

(b) Write a short note on the principle and applications of autoradiography.

(c) Write a note on isoelectric focussing and its applications.

(d) Describe the principle and applications of transmission electron microscopy.
