

B.Sc. II (With Credits)-Regular-Semester 2012 Sem IV
B.Sc.2471-Biotechnology-I : Paper-I (Biophysical Techniques)

P. Pages : 2

Time : Three Hours



GUG/W/16/5594

Max. Marks : 50

Notes : 1. All questions are compulsory and carry equal marks.

1. Discuss in detail UV-visible spectrophotometry and its applications. **10**

OR

Describe in detail ion exchange chromatography.

2. What is density gradient centrifugation? Discuss in detail. **10**

OR

Write a note on liquid scintillation counter.

3. a) Describe any one detector used in UV spectrophotometer. **2½**

b) Describe in brief thin layer chromatography. **2½**

c) Write about different types of gels used in electrophoresis. **2½**

d) Write note on Geiger Muller counter. **2½**

OR

e) Derive Beer's law. **2½**

f) Write about amino acid analyser. **2½**

g) What are different factors affecting electrophoretic mobility. **2½**

h) Describe advantages of isotopic tracer technique. **2½**

4. a) Describe the principle of colorimeter. **2½**

b) Explain paper chromatography. **2½**

c) Describe isopycnic centrifugation. **2½**

d) Explain mass spectrometry. **2½**

OR

e) Draw well labelled diagram of electromagnetic radiation. **2½**

f) Give the applications of affinity chromatography. **2½**

- g) Describe distribution coefficient. 2½
- h) Give clinical applications of Radioisotopes. 2½
- 5.** Solve **any ten** of followings.
- a) What is gratings? 1
- b) What is monochromatic and polychromatic beam? 1
- c) What is wave number? 1
- d) What is flow rate in chromatography. 1
- e) What is absorbent used in thin layer chromatography. 1
- f) What is isocratic elution? 1
- g) Define solubilizer. 1
- h) Define sedimentation coefficient. 1
- i) What do you mean by preparative centrifuge? 1
- j) Name isotope used in sterilization of food. 1
- k) What is the unit of radioactivity. 1
- l) What is autoradiography. 1
