

B.Sc. II (Part-II)(With Credits)-Regular-Semester 2012 Sem III
B.Sc.2382
Bio-Chemistry-II (Biophysical And Biochemical Techniques-I) Paper-II

P. Pages : 2

Time : Three Hours



GUG/W/16/3327

Max. Marks : 50

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

1. Give detail account of titration curve of weak acids. 10
- OR**
- Discuss the instrumentation and applications of flame photometer. 10
2. Give detail account of thin layer chromatography. 10
- OR**
- Discuss the technique of ion exchange chromatography. Add a note on its applications. 10
3. a) Write a note on calomel electrode . 2½
- b) Give an account of different types of detectors in spectrophotometer. 2½
- c) Discuss the types of gels used in gel filtration Chromatography. 2½
- d) What is the importance of ligand in affinity chromatography. 2½
- OR**
- e) Describe the structure and working of glass electrode. 2½
- f) Why is absorption spectrum specific for a substance. 2½
- g) Explain partition coefficient and nature of partition forces. 2½
- h) Discuss the principle of affinity chromatography in brief. 2½
4. a) Describe the principle of turbidometry and nephelometry. 2½
- b) Describe mechanism of action of buffer. 2½
- c) Describe the concept of plates in column- chromatography. 2½
- d) Write a note on HPLC. 2½
- OR**
- e) Derive Henderson-Hasselbalch equation. 2½
- f) Explain the importance of nebulizer in flame photometer. 2½
- g) Briefly describe the applications of gel filtration chromatography. 2½
- h) Describe the technique of gas chromatography. 2½

5. Attempt **any ten** of the following.

- a) What is pK_a ? 1
- b) What is buffer capacity? 1
- c) Define isoelectric pH. 1
- d) What are chromophores? 1
- e) Why can't glass cuvettes be used in ultraviolet region of the spectrum? 1
- f) What is fluorescence? 1
- g) What is column efficiency? 1
- h) Molecular weight of a compound can be determined by ----- chromatography. 1
- i) One step enzyme purification may be achieved by ----- chromatography. 1
- j) What is isocratic elution? 1
- k) Give one application of gas chromatography. 1
- l) Name any two stains use for the detection of sugars by TLC. 1
