KNT/KW/16/5123

Bachelor of Science (B.Sc.) Semester–III (C.B.S.) Examination

BIO-CHEMISTRY (Biophysical Techniques–I)

Paper — II

Time : Three Hours] [Maximum Marks : 50

N.B. :— (1) **All** questions are compulsory.

(2) All questions carry equal marks.

1. Derive Beer's law and state its concept. Add a note on deviation from the law. 10

OR

Write notes on :

(i) Monochromator in spectrophotometry 5

(ii) The photomultiplier detector. 5

2. Write a detailed description on spectrofluorometry. 10

OR

Discuss details of flame emission photometry. 10

3. Discuss in detail thin layer chromatography. 10

OR

State the principle of gel filteration chromatography and briefly discuss its working. 10

4. Write brief notes on :

(a) HPLC 5

(b) Gas chromatography. 5

OR

Describe the principle of Affinity chromatography. Describe the process in detail. 10

5. Solve any **ten** of the following (**1** mark each) : 10

(I) Compounds with conjugated double bonds absorb light in _____ range.

(II) The Beer's law is applicable to monochromatic or polychromatic light.

(III) Define an auxochrome.

(IV) Name any two physiologically important buffer.

(V) State H-H equation.

(VI) Define isoelectric pH.

(VII) Define Rf value.

(VIII) What is meant by distribution coefficient in chromatography ?

(IX) Glass beads are used in _____ chromatography.

(X) Name two types of ion exchange resins used in ion-exchange chromatography.

(XI) Give one application of affinity chromatography.

(XII) Name any one gas used as mobile phase in gas chromatography.