(i) Printed Pages: 3] Roll No. .....

(ii) Questions : 9] **Sub. Code : 0 1 6 0**

Exam. Code : 0 0 0 2

B.A./B.Sc. (General) 2nd Semester Examination

1047

CHEMISTRY

Paper : A : Biochemical Techniques

Time : 3 Hours] **[Max. Marks : 45**

Note :– Attempt *five* questions in all. Question No. **1** is compulsory. *One* question is to be attempted from each Section.

1. (a) Define Beer-Lambert law.

   (b) Define R.F. value.

   (c) Explain role of SDS in SDS PAGE.

   (d) Define Diffusion Coefficient.

(e) What is meant by electronic transition.

(f) Give relationship between g and rpm. 1½ each

Section–I 9 each

2. Describe various applications of fluorescence spectroscopy in elucidating the structure of biomolecules.

3. What is extinction coefficient ? Explain its applications.

Section–II 9 each

4. Explain briefly :

   (a) Various matrices used in gel permeation chromatography

   (b) Applications of HPLC

5. Describe the principles involved in protein purification by affinity chromatography. Give any *three* applications of affinity chromatograpy.

Section–III

9 each

6. Describe the principle and applications of isopycnic centrifugation.

7. Compare and contrast the preparative and analytical ultracentrifugation techniques.

Section–IV

8. Can native gel electrophoresis of proteins be used to determine protein molecular weight ? Explain the process and various applications of native gel electrophoresis. 9

9. Write short notes on :

   (a) 2D PAGE

   (b) Northern blotting 5,4