



**B. Sc. Semester-III Examinations-2020**  
**Subject- Biochemistry (Honours)**  
**Paper- CC7**  
**Physical Biochemistry (Theory)**

**F.M.: 40**

**Time: 2 hrs.**

**Answer any eight questions from the following**

**5 x 8 = 40**

1. Define terms enthalpy, entropy and free energy. What is meant by activation energy?
2. Write a short note on sedimentation coefficient and centrifugation.
3. Mention the application of FTIR for the determination of secondary structure of Proteins. Illustrate the theory of Hooke's law.
4. What do you mean by circular dichroism and linear dichroism? –Explain
5. What is plane polarized light? What is chiral carbon atom? Explain by citing a suitable example.
6. Define the term  $pH$ . What is buffer? What do you understand by the term reverse osmosis?–Explain
7. Elaborately discuss the principle of gas chromatography with a schematic diagram.
8. Write a short note on ion exchange chromatography and affinity chromatography.
9. Differentiate between fluorescence and chemiluminescence with suitable example.
10. Derive the mathematical expression of Beer Lambert's law. Mention the applications of UV-Visible spectroscopy in proteins and nucleic acids determination.