Roll No.												

PRESIDENCY UNIVERSITY
BENGALURU

Department of Research & Development
Mid - Term Examinations - SEPTEMBER 2024

Odd Semester: Ph.D. Course Work	**Date**: 28 /09/2024
Course Code: PHY805	**Time**: 2:00pm – 3:30pm
Course Name: Material Characterization Techniques	**Max Marks**: 50
Department: Physics	**Weightage**: 25%

Instructions:

(i) Read all questions carefully and answer accordingly.

(ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 5 marks.		**4Qx5M=20M**
1	What are the fundamental principles of absorption spectroscopy?	**5 Marks**
2	What is meant by red shift and blue shift in UV absorption spectra and mention the UV absorption bands designated and classified?	**5 Marks**
3	What are overtones in vibrational spectroscopy, and how do they differ from fundamental vibrations?	**5 Marks**
4	What are the different modes of stretching in molecular vibrations?	**5 Marks**

Part B

Answer ALL Questions. Each question carries 15 marks.		**2QX15M=30M**
5	Describe the principle of UV spectroscopy, its various applications, and the types of information it provides.	**15 Marks**
6	Explain the principle, working of Infrared spectroscopy (IR) with suitable diagram. Mention the advantages and limitations.	**15 Marks**