SS804 **SPECTROSCOPY** **3-1-0-4**

NMR: Fundamental principles and theory, Instrumentation, solvents, Introduction to 1D, 2D and 3D NMR.

UV: Introduction, modern instrumentation – design and working principle. Applications of UVVisible spectroscopy, Woodward-Fischer rules for calculating absorption maximum, Mass: Introduction, Basic principles and instrumentation, fragmentation processes and fragmentation pattern, types of ionization techniques and applications.

IR Spectroscopy: Introduction, theory of IR absorption, interaction of rotations and vibrations – Techniques and Instrumentation (outline and sample handling) and applications.

TEXT BOOKS/REFERENCES:

1. C. N. Banwell and McCagh, "*Fundamentals of Molecular Spectroscopy*", Fourth Edition, Tata McGraw Hill Publishing Co.Ltd, 1994.
2. Donaid L. Pavia, Gary M. Lampman, George S. Kriz and James A. Vyvyan, "*Introduction to Spectroscopy"*, Fourth Edition, Cengage Learning, 2009.
3. W. Kemp, "*Organic Spectroscopy*", Second Edition, ELBS MacMillan, 1987.