## BT 624 Fluorescence Techniques in Biotechnology (3-0-0-6)

Review of fundamental concepts; Steady state and time-resolved fluorescence; Fluorescence anisotropy, Forster Resonance Energy Transfer, Fluorescence quenching and their biological applications; Fluorescence microscopy and live cell imaging; Fluorescence Recovery after Photobleaching and their biological applications; Quantum dots and other novel fluorophores; Applications of fluorescent probes in sensing; Applications in DNA technology and single molecule detection.

## Texts:

1. J. R. Lakowicz, Principles of Fluorescence Spectroscopy, 3rd Edition, Springer, 2006.

2. J. R. Lakowicz (Ed.), Topics in Fluorescence Spectroscopy, Vol. 1-7, Plenum Press/Kluwer Academic, 1991 onwards.

## **References:**

1. R. D. Goldman and D. L. Spector (Eds.) Live Cell Imaging: A laboratory Manual, Cold Spring Harbor Laboratory Press, 2005