

Ph.D. Course Work Syllabus (2018)
Paper: Biotechnology

SS 930
2018-19
SS-1209
2018-19

Total Credits: 3

- 1) Chromatographic methods of separation: High-Performance Thin Layer Chromatography (HPTLC), High-performance liquid chromatography with diode array detection (HPLC-DAD) – Principle and applications
- 2) Advances microscopy techniques : Confocal microscopy
- 3) Real Time PCR: Principle and applications
- 4) Mass Spectroscopy: Basic principal, detector types and applications
- 5) Flow Cytometry: Basic Principle and applications
- 6) Biosensors : Principle, types and applications
- 7) Conformational study of biomolecules: Circular Dichroism and Spectrofluorimetry analysis Principle and applications.
- 8) Next generation sequencing and its applications
- 9) Nanoparticles: Synthesis and characterization of nanoparticles, Applications in medicine and agriculture with few examples
- 10) Overview of new drug discovery: Different stages in development of drug
- 11) Animal ethics and policy: Ethical review procedures, Institutional ethical committee, its organization and functions, Specific principles for clinical evaluation of drugs and herbal remedies, CPCSEA guidelines
- 12) Biofortification and its applications
- 13) Antioxidants: Types and applications
- 14) Toxicogenomics: Basic principal and applications
- 15) Apoptosis marker assays
- 16) Advances in Probiotics: Applications in health and food

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