**BT –XIII B: Intellectual Property Right (IPR)**

Marks: 50 Hours: 30 Credits: 2

Course Objective: To provide the students with the essential knowledge of Intellectual Property Right and patenting of Biological materials.

**UNIT I:** - Research: Definition, Importance and Meaning of Research, Objectives of research, Characteristics of Research, Types of Research. Steps in Research; Identification, Selection and Formulation of Research Problem, Research Design, Formulation of Hypothesis, Review of Literature. Sampling Techniques: Sampling theory, Types of Sampling, Steps in Sampling, Sample Size, Advantages and limitations.

**UNIT II:** - Thesis and Manuscript writing: Abstract, Introduction, Materials and Methods, Results and Discussion, Summary and Conclusion, References (IMRAD). Preparation of Manuscript; Author instructions, modes of paper communication, criteria for publication. Presentation of a scientific Paper.

**UNIT III:** - Introduction to IPR and Patents: Intellectual property, Protection of Intellectual property, World organizations, forms of protection- patent, copyright, trademark, geographical indications, trade secrets. Criteria and procedure of patenting.

**UNIT IV:** - Patenting biological material. Patent procedure in India. Types of patenting, Patenting of biological materials with examples. Patent infringement- meaning, scope, litigation and examples.

**UNIT V:** - Plant breeder’s right: concept of UPOV, Breeders exemption, Plant variety protection in India. Farmer’s right, advantages and disadvantages of PBR. Technology transfer-Introduction, types of technology transfer and Indian scenario.

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Text & References

1. Research Methodology, Method and Techniques by C.R. Kothari
2. Research Methodology, Method and Techniques by Santosh Gupta.
3. Research Methodology by Gurumani.
4. Text book of Biotechnology, P K Gupta
5. Text book of Biotechnology, B D Singh

Learning Outcome (LO): Students will be able to: 1. understand the procedure of patenting of biological inventions. 2. Thesis and Manuscript writing 3. Plant breeder’s right and Farmer’s right.