

**BACHELOR OF SCIENCE (GENERAL)**

**6<sup>th</sup> SEMESTER**

**SKILL ENHANCEMENT COURSE (SEC)**

**BT620S: BIOTECHNOLOGY: BIOSAFETY, BIOETHICS AND IPR**

**CREDITS: THEORY – 2, PRACTICAL – 2 (2+2)**

**THEORY (2 CREDITS: 30 HOURS)**

**MAXIMUM MARKS: 30, MINIMUM MARKS: 12**

**Objective:** This course is intended to remind the students about their responsibilities towards themselves and society, and promotes creativity among them by providing detailed insight into intellectual property rights.

**Unit-1 (15 HOURS)**

**Biosafety**– Introduction to Good Laboratory Practices (GLP); Introduction to biosafety; Biosafety levels; Definition of GMOs and LMOs; Roles of institutional biosafety committees; Cartagena Protocol;

**Bioethics** – Introduction to bioethics; Ethical issues involved in molecular technologies, genetic manipulations, germline therapy and transgenics; Human genome project and its ethical issues; Human cloning and bioethics.

**Unit- 2 (15 HOURS)**

Introduction: Property – tangible, intangible; Intellectual property – patents, trade secrets, copyright, trade mark, service mark, industrial design, geographical indications, traditional knowledge, layout design of circuits; Main features of WIPO, GATT, and TRIPS agreement.

**Patent:** meaning, types of patents; Patentability criteria; Patentable and Non-patentable inventions; Rights of patentee; Brief procedure for filing a patent (national, international).

**PRACTICALS (2 CREDITS: 60 HOURS)**

**MAXIMUM MARKS: 30, MINIMUM MARKS: 12**

1. Proxy filing of Indian Product patent to learn the process.
2. Planning of establishing a hypothetical biotechnology industry in India
3. A case study on clinical trials of drugs in India with emphasis on ethical issues.
4. A study on medical errors and negligence.

## **BOOKS RECOMMENDED**

1. IPR, Biosafety and biotechnology Management.Senthil Kumar Sand Mohammed Jaabir,-Jasen Publications
2. Intellectual Property Law, Lionel Bently& Brad Sherman, OUP.
3. Law of Patent,Elizabeth Verkey, - Eastern Book Company, Lucknow.
4. IPR, Biosafety and Bioethics,Goel D &Prashar S – Pearson

## **Expected Learning Outcomes:**

1. Understanding of Good laboratory practices, and biosafety.
2. Know-how of issues and bioethics related to molecular technologiesand GMOs.
3. Understanding the intellectual property rights,concept of patenting organisms and process of filing for a patent.