



**MANGALORE UNIVERSITY**  
**MSc Medical Physics**

**MPS 505: IPR, Biosafety & Bioethics**

**Teaching hours: Each Unit – 12 h**

**Objectives:**

To familiarise the students with basics of intellectual property and patent related matters including patent filing procedures, different national and international treaties and educating about biohazards and safety aspects.

**Outcomes:**

- Students will learn about intellectual property rights and copyright rights.
- They will understand the national and international agreements and treaties.
- They will learn about patents and patent filing procedures.
- They will learn about biohazards and protection and safety aspects from such hazards.
- Students will also learn about bioethical aspects of biotechnological products and social and ethical implications of biological weapons.

**Unit I : Introduction to Intellectual Property**

Types of IP: Patents, Trademarks, Copyright & Related Rights, Industrial Design, Traditional Knowledge, Geographical Indications, Protection of GMOs IP as a factor in R&D; IPs of relevance to Biotechnology and few Case Studies

**Unit II: Agreements and Treaties**

History of GATT & TRIPS Agreement; Madrid Agreement; Hague Agreement; WIPO Treaties; Budapest Treaty; PCT; Indian Patent Act 1970 & recent amendments

**Unit III: Basics of Patents and Concept of Prior Art**

Introduction to Patents; Types of patent applications: Ordinary, PCT, Conventional, Divisional and Patent of Addition; Specifications: Provisional and complete; Forms and fees Invention in context of prior art; Patent databases; Searching

International Databases; Country-wise patent searches (USPTO, esp@cenet(EPO), PATENTSCOPE(WIPO), IPO, etc.)

#### **Unit IV: Patent filing procedures**

National & PCT filing procedure; Time frame and cost; Status of the patent applications filed; Precautions while patenting—disclosure/non-disclosure; Financial assistance for patenting—introduction to existing schemes, Patent licensing and agreement Patent infringement—meaning, scope, litigation, case studies

#### **Unit V: Biosafety**

Introduction; Historical Background; Introduction to Biological Safety Cabinets; Primary Containment for Biohazards; Biosafety Levels; Biosafety Levels of Specific Microorganisms; Recommended Biosafety Levels for Infectious Agents and Infected Animals; Biosafety guidelines- Government of India; Definition of GMOs & LMOs; Roles of Institutional Biosafety Committee, RCGM, GEAC etc. for GMO applications in food and agriculture; Environmental release of GMOs; Risk Analysis; Risk Assessment; Risk management and communication; Overview of National Regulations and relevant International Agreements including; Cartagena Protocol. Bioethics- Ethical implications of biotechnological products and techniques. Social and ethical implications of biological weapons.

#### **Texts/Reference Books:**

1. BAREACT, Indian Patent Act 1970 Acts & Rules, Universal Law Publishing Co. Pvt. Ltd., 2007
2. Kankanala C., Genetic Patent Law & Strategy, 1st Edition, Manupatra Information Solution Pvt. Ltd., 2007

Important Links: <http://www.w3.org/IPR/> <http://www.wipo.int/portal/index.html.en>  
[http://www.ipr.co.uk/IP\\_conventions/patent\\_cooperation\\_treaty.html](http://www.ipr.co.uk/IP_conventions/patent_cooperation_treaty.html) [www.patentoffice.nic.in](http://www.patentoffice.nic.in)  
[www.iprlawindia.org/](http://www.iprlawindia.org/) - 31k - Cached - Similar page  
<http://www.cbd.int/biosafety/background.shtml>  
<http://www.cdc.gov/OD/ohs/symp5/jyrtext.htm>  
<http://web.princeton.edu/sites/ehs/biosafety/biosafetypage/section3.html>