

GUJARAT TECHNOLOGICAL UNIVERSITY

BRANCH NAME: BIOTECHNOLOGY (04)

SUBJECT NAME: Biosafety Patents & IPR

SUBJECT CODE: 2170408

B.E. 7th SEMESTER

Type of course: B.E. (Biotechnology)

Prerequisite: Basic concepts of Intellectual property Rights, Biosafety and GMO.

Rationale: It is one of the core subjects of Biotechnology field. It involves basic concepts of Intellectual Properties, Intellectual property Rights, applications, advantages, Government rules and regulations for the same. Major issues concerned to the field of Biotechnology like Biosafety and GMO.

Teaching and Examination Scheme:

Teaching Scheme			Credits C	Examination Marks						Total Marks
L	T	P		Theory Marks			Practical Marks			
				ESE (E)	PA (M)		ESE (V)		PA (I)	
					PA	ALA	ESE	OEP		
2	0	0	2	70	10	20	0	0	0	100

Content:

Sr. No.	Content	Total Hrs	% Weightage
1	Introduction to Intellectual Property Rights: Concept of IPR, Designs, Trademarks TM, Trade Secret (TS), Domain Names, Geographical Indications, Copyright	3hrs	9.375 %
2	History and Evolution of Patent Law: Evolution of patent Laws, History of Indian Patent System, International Conventions and Treaties, Patent Laws in other countries.	4 hrs	12.5%
3	Classification of patents: Classification of patents in India, Classification of patents by WIPO, Categories of Patent, Special Patents, Patenting Biological products, Classification of patents, Classification of patents in India, Classification of patents by WIPO, Categories of Patent,	10 hrs	31.25 %

	<p>Special Patents, Patenting Biological products</p> <p>Patent owner : Rights and Duties</p> <p>Ownership of patent, Rights of patent holder and co-owners, Duties of patent holder and co-owners, Transfer of patent Rights, Limitations of patent Rights, Restoration of Patents, Infringement of patent Rights and Offences, Actions against Infringement: Remedies/Relief, Patent Agent</p>		
4	<p>Protection of plant varieties and Farmers' Right Act, 2001</p> <p>Methods of protection of plant and plant products, Essentialities of plant protection, Plant variety protection and Farmers' Right Act, UPOV convention (plant Varieties) 1961</p>	4 hrs	12.5%
5	<p>Introduction to biosafety:</p> <p>Overview of biosafety, Risk assessment, Cartagena protocol on Biosafety,</p> <p>GMOs: Concerns and challenges</p> <p>Transgenic technology, Gene flow, Future opportunities and challenges</p>	4 hrs	12.5 %
6	<p>International regulatory bodies:</p> <p>National regulatory bodies, Biosafety of Genetically engineered products, Genetically engineered products and recombinant DNA technology, Risk assessment of RDT products, Regulating recombinant DNA technology, Permit for movement and import of GMOs,</p> <p>Web based information of biosafety on GMO, Biosafety database</p> <p>Good Laboratory biosafety practices</p> <p>Importance of good laboratory practices, General good laboratory practices</p>	7 hrs	21.875 %

Suggested Specification table with Marks (Theory):

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
21	25	10	7	7	--

**Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate
C: Create and above Levels (Revised Bloom's Taxonomy)**

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Reference Books:

Text Books:

Bioethics

1. IPR, Biosafety and Bioethics by Deepa Goel and Shomini Parashar, Pearson publisher
2. Basics of Patenting published by GTU

Reference Books:

1. Biotechnology in the Welfare of Mankind – Ali Khan
2. Sasson A., Biotechnologies in developing countries present and future, UNESCO Publishers, 1993
3. Singh K., Intellectual Property Rights on Biotechnology, BCIL, New Delhi.
4. Biotechnology and Genomics, P.K. Gupta, Rastogi Publications.

Course Outcome:

Basic concepts of Intellectual Properties, Intellectual property Rights, applications, advantages, Government rules and regulations for the same. Major issues concerned to the field of Biotechnology like Biosafety and GMO. After learning the course the students should be able to:

1. Develop fundamental understanding Intellectual properties and IPR
2. Understand the applications and advantages of IPR
3. Understand the Biosafety and its relation to Biotechnology
4. Understand GMO
5. Understand rules regulations for GMO
- 6.

List of Open Source Software/learning website:

Students can develop their own flow-sheets for demonstration of intellectual property rights. Indian patent office data base. Data bases of other country patent offices. Students can refer to video lectures available on the websites including NPTEL. Students can refer to the CDs which are available with some reference books.

ACTIVE LEARNING ASSIGNMENTS: Preparation of power-point slides, which include videos, animations, pictures, graphics for better understanding theory and practical work – The faculty will allocate chapters/ parts of chapters to groups of students so that the entire syllabus to be covered. The power-point slides should be put up on the web-site of the College/ Institute, along with the names of the students of the group, the name of the faculty, Department and College on the first slide. The best three works should submit to GTU.