

As Per NEP 2020

University of Mumbai



Syllabus for Basket of OE Life Sciences	
Board of Studies in Life Sciences	
UG First Year Programme	
Semester I	
Title of Paper	Credits 2/ 4
I) IPR and Entrepreneurship	2
From the Academic Year	2024 – 2025

II. Name of the Course: Life Sciences - IPR and Entrepreneurship

Sr. No.	Heading	Particulars	
1	Description the course : Including but Not limited to:	This course aims to engage the learner with the potential to convert applications of Life Sciences to a profitable business. The learner would be exposed to the basics of Intellectual Property Rights and its implications in businesses and important aspects that need to be addressed to start such a business.	
2	Vertical :	Open Elective	
3	Type :	Theory	
4	Credits :	2 credits (1 credit = 15 Hours)	
5	Hours Allotted :	30 hours	
6	Marks Allotted:	50 Marks	
7	Course Objectives(CO): The course aims to: CO1 Outline the various aspects of Intellectual Property and its protection. CO2 Build on the concept of IPR and its application in business with a focus on Life Sciences. CO3 Explain concepts of Entrepreneurship and build an understanding about business situations in which entrepreneurs CO4 To explain classification and types of entrepreneurs and the process of entrepreneurial project development CO5 To discuss the steps in venture development and new trends in entrepreneurship.		

8	Course Outcomes (OC): The learner would be able to: OC 1. Discuss the various types of IP and its business application. OC 2. Imagine and apply the concepts of IPR in businesses related to Life Sciences. OC 3. Understand about the Foundation of Entrepreneurship Development and its theories. OC 4. Identify the type of entrepreneur and the steps involved in an entrepreneurial venture.	
9	Module 1	Lectures 15
	Introduction to Intellectual Property Rights (IPR): The concept of Intellectual property Rights (IPR). Different Types of IPR (Trademarks, copyright, Patent, Geographical Indications, Industrial designs, Layouts and Integrated chips, etc.). Relevance of IPR in Life Sciences. The agreements related to IPR: TRIPPs, Madrid agreement; Hague agreement; WIPO treaties; Budapest treaty; The Indian Patent office and application for IPR: Indian Patent Act (1970), Introduction to the procedures involved for IPR in India, An introduction to the official website of the Indian Patent Office. The concept of Prior art and Novelty – and their importance in claiming IPR, sources of prior art information. Licensing: Inward and Outward Licensing, Motivation for licensing, Collaboration, Technology transfer, Royalties.	
	Module 2 : Bio-Entrepreneurship	Lectures 15

	1. The Entrepreneurial Perspective -Concept, definition, structure and types of entrepreneurships. 2 2. From Idea to The Opportunity- Creativity and the Business Idea, Identifying and Analyzing Domestic and International Opportunities, Protecting the Idea and Other Legal Issues for the Entrepreneur. 2 3. From the Opportunity to The Business Plan - The Business Plan: Creating and Starting the Venture, The Marketing Plan, The Organizational Plan, The Financial Plan. 2 4. From the Business Plan to Funding The Venture – 4 Sources of Capital, Institutional interface for enterprise, eg. Entrepreneurship Development Institute of India (EDII), Small industries, Service institute, Banks and financial institutions, Informal Risk Capital, Venture Capital, and Going Public 1. Product planning and development in Life Sciences – 2. Concept of projects, project management, Search for business idea - opportunity identification, project selection and formulation, Design and network analysis - Institutional interface for enterprise eg. Entrepreneurship Development Institute of India (EDII), Small industries, Service institute, Banks and financial institutions 3 3. Ethical decision making, ethical dilemmas: 2		
10 and 11.	Text and Reference Books: 1. S. N. Jogdand (2007): Entrepreneurship And Business Of Biotechnology. Himalaya Publishing House. 2. Sibi G. (2020): Intellectual Property Rights, Bioethics, Biosafety and Entrepreneurship in Biotechnology. First Edition. I K International Publishing House Pvt. Ltd. 3. The Indian Patent Office website: https://www.ipindia.gov.in/ 4. Entrepreneurship and Small Business A publication of SBPD Publishing House (Sanjay Sahitya Bhawan) By R. C. Agarwal, Dr. B. K. Mehta, 2020. 5. Fundamentals of Entrepreneurship, Dr. O. P. Gupta, Dr. Vijay Gupta, Santosh Gupta, 2021		
12	Internal Continuous Assessment: 40%	Semester End Examination: 60%	

13	Continuous Evaluation through: Quizzes, class test, presentation, project, role play, Patent drafting, Case study and analysis of different IPR, assignments, business plan development etc.: 15 marks Attendance and Participation: 05 marks. Total 20 marks.	Theory evaluation: 30 marks.	
14	Format of Question Paper: Details given at the end of the document.		

Evaluation for Open Elective Course: 50 Marks

The evaluation of these courses would include continuous evaluation (internal assessment) and Semester end examinations (External assessment). The evaluation pattern would be as follows:

Internal Assessment: 20 marks.

Theory Component: 20 marks.

Quizzes, class test, presentation, project, role play, creative writing, assignment etc: 15 marks

Attendance and Participation: 05 marks.

External Assessment: 30 marks.

Theory Component: 30 marks.

- Duration: **1 Hour**
- Theory question paper pattern:

Question No.	Unit	Question	Marks
Q1.	I	Any 1 out of 2 (1 or 1a, b)	12
Q2	II	Any 1 out of 2 (2 or 2a, b)	12
Q3.	I and II	Any 2 out of 4 (3: a, b, c, d)	06
		Total	30

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