



Course Title: **Biotechnology and Entrepreneurship**
Course Code: **BIOT306**
Credit Units: **3**
Level: **UG**

L	T	P/ S	SW/F W	TOTAL CREDIT UNITS
3	0	0	0	3

#	Course Title	
1		
2	Prerequisites: Student should have a keen interest in the stream of life science and biotechnology and should be willing to translate ideas into entrepreneurial venture(s).	
3	Student Learning Outcomes: 1. Student will be able to demonstrate good understanding of processes and mechanisms related to the development of products and services associated with the field of biotechnology 2. Student will be able to translate knowledge and understanding of intellectual property rights (IPR) issues and strategies from a national and international perspective. 3. Student will be able to carry out basic evaluations of projects at various stages. 4. Student will be able to illustrate an ability to analyze a project and ensure its outcome. 5. Student will be able to formulate a simple business plan.	
Course Contents / Syllabus:		
4	Module I	25% Weightage
	Interdisciplinary Nature of the Biotechnology Industry: Overview of progressive areas of biotechnology: Biocatalysis and biomaterials, biotechnology and health care (neutraceuticals and probiotics), biosensors and biochips, biotechnology and the pharmaceuticals industry. Bio-services sector (research consumables and instruments).	

5	Module II	15% Weightage
	Financial and Funding Strategies: Financial requirements and strategies for entrepreneurial ventures. Different sources of finance available: Roles played by government of India. Introduction to BCIL and BIRAC. Introduction to retail banks, investment banks, VCs, internal sources of capital and incubators.	
6	Module III	20% Weightage
	Design and Development Activities: Innovation theory and product Inception, Feasibility analysis. Impact of innovation. Effectively managing technological change.	
7	Module IV	25% Weightage
	Marketing Strategies: Critical marketing and sales challenges in entrepreneurship. Relevant markets, market identification, segmentation, sales, overall market planning, niche and viral marketing.	
8	Module V	15% Weightage
	IPR/Legal Framework: Environmental protection laws and regulations, licensing, Intellectual Property Laws. Ways to protect IP: Patents, trademarks, copyrights, trade secrets. IP agreements.	
9	Pedagogy for Course Delivery: The class will be taught using theory and case based method. Lectures 40 Assessments 2 Case studies 3	

Assessment/ Examination Scheme:

Theory L/T (%)	Lab/Practical/Studio (%)	End Term Examination
30%	NA	70%

Theory Assessment (L&T):

Continuous Assessment/Internal Assessment					End Term Examination
Components (Drop down)	Class Test	Assignment	Quiz	Attendance	
Weightage (%)	10%	10%	5%	5%	70%

Text and References:

- Barringer, Brace R., and R., Duane Ireland, Entrepreneurship, Pearson Prentice Hall, New Jersey (USA). ISBN-10: 0133974138
- Charantimath, Poornima, Entrepreneurship Development and Small Business Enterprises, Pearson Education, New Delhi ISBN-10: 8131762262
- Handbook of Bio-entrepreneurship, Patzelt, Holger, Brenner, Thomas (Eds.); Springer 2008, ISBN 978-0-387-48345-0 ISBN-10: 0387483438
- Lall, Madhurima, and Shikha Sahai, Entrepreneurship, Excel Book, New Delhi. ISBN-10: 8174466134