No.	Information of the subject	
1.	Unit name:	Industrial Biotechnology
2.	Code:	BioT 41024
3.	Classification:	General
4.	Credit value:	3.5
5.	Semester/Year Offered:	1/4
6.	Pre-requisite:	BioT 41024&BioT 42024
7.	Mode of delivery:	Presentations, Lectures
8.	Assessment system and breakdown of marks:	Practical, Classwork
	Practical	15%
	Active participation in Classwork and discussion	15%
	Mid-term exam	35%
	Final exam	35%
9.	Academic staff teaching unit:	Department of Biotechnology
10.	Course outcome of unit: After completion of this course, students will be able to 1. understand the basic knowledge of industrial biotechnology 2. know about the sorts of nutrients in fermentation media 3. understand the microbial growth kinetic in fermentation system 4. understand the fermentation process and system 5. know about the recovery of the fermentation products	
11.	Synopsis of unit: Industrial biotechnology is the application of biotechnology forindustrial purposes, including manufacturing, alternative energy(or "bioenergy"), and biomaterials. It includes the practice of using cells or componentsof cells like enzymes to generate industrially useful products. Industrial biotechnology is still to mature as an industry and there is no doubt that the efficiency gains that can be made from current applications are only the tip of the iceberg, in terms of emission reductions currently achieved but more significantly in terms of transformational potential.	
12.	Topics 1.Introduction 2.Screening for metabolites 3.Microbial nutrition 4.Substrates for industrial fermentation 5.Methods of fermentation	

	6. Product Recovery 7. Organic feedstock produced by fermentation
13.	Main reference: • WulfCruger and AnnelieseCrueger, Biotechnology: A Textbook of Industrial Biotechnology, Panima Publishing Corporation. (1984)
14.	Additional references: • Presscott, Dunn, Industrial Microbiology, Agrobios (India).2006 • Murrey Moo & Young, Comprehensive Biotechnology, Pergamon.2007 • Ratledge& Kristiansen, Basic Biotechnology, IInd edition,; CambridgeUniversity press. 2004. • WulfCruger and AnnelieseCrueger, Biotechnology: A Textbook of Industrial Microbiology, Panima Publishing Corporation. (2003)