

Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi)

#14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru – 560057 Phone: 080-28372800/1/2 www.sapthagiri.edu.in Fax: 080-28372797

Department of Biotechnology

Curriculum Plan & Deployment 2022-23

Sl.No.	Subject Name /Code	Beyond Syllabus	Innovative teaching methods / ICT Tools Used	Deployment Strategy and Tool	Cross-cutting issues integrated	PO	PSO
1.	BSC 21MAT31 Mathematics course		Google classroom & Google meet	Chalk and Talk method		PO1, 2,3,4,5,6	PSO1,2,3
2.	IPCC 21BT32 Unit operations + lab		Google classroom & Google meet	Chalk and Talk method PPT,Project work,Internship		PO1,2,3,4 ,9,10,11,12	PSO1,2,3
3.	IPCC 21BT33 Biochemistry + lab		Google classroom & Google meet	Chalk and Talk method PPT		PO1,2,3, 9,10,11	PSO 1,2,3
4.	PCC 21BT34 Microbiology		Google classroom & Google meet	Chalk and Talk method, PPT		PO1,2,5,12	PSO1
5.	PCC 21BTL35 Microbiology lab	Conduction of new experiments which are beyond the syllabus	Google classroom & Google meet	Chalk and Talk method, PPT		PO1,2,3,4, 9,11	PSO1,2,3
6.	UHV 21UH36 Social Connect and Responsibility	Seminar	Google classroom & Google meet	Chalk and Talk method, PPT	Human values	PO1, 2,3,4,5,6,7	PSO1,2



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7.	HSMC21KSK37/47 Samskrutika kannada		Google classroom & Google meet	Chalk and Talk method PPT,Project and internship	PO1,2,3,4,6	PSO1,2,3
8.	HSMC 21KBK37/47 Balake kannada		Google classroom & Google meet	Chalk and Talk method	PO1,2,3,9,10,11	PSO 1,2,3
9.	HSMC 21CIP37/47 Constitution of India and Professional Ethics		Google classroom & Google meet	Chalk and Talk method PPT	 PO 1,2,3,4,11,12	PSO 1,2
10.	21BT383 Biodiversity and Conservation Law	Conducted Quiz Seminar	Google classroom & Google meet	Chalk and Talk method PPT, You tube videos	 PO1,2,3,10,12	PSO1,2
11.	BSC 21BT41 Biostatistics and Design of experiments		Google classroom & Google meet	Chalk and Talk method PPT, NPTEL videos	PO1,2,3,4,6,9,10,11,12	PSO1,2,3
12.	IPCC 21BT42 Python programming + lab		Google classroom & Google meet	Chalk and Talk method	PO1,2,3,4,6,9,10,11,12	PSO1,2,3
13.	IPCC 21BT43 Cell biology & Cell culture techniques + lab		Google classroom & Google meet	Chalk and Talk method PPT	 PO1,2,3,4,6,9,10,11,12	PSO 1,2
14.	PCC 21BT44 Molecular biology &Genetic engineering		Google classroom & Google meet	Chalk and Talk method, PPT, you tube videos	 PO1,2,3,4,6,9,10,11,12	PSO1,2
15.	AEC 21BE45 Biology for	Conduction of new experiments which are beyond the syllabus	Google classroom & Google meet	Chalk and Talk method PPT	 PO1,2,3,4,6,9,10,11,12	PSO1,2

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16.	PCC 21BTL46 Molecular biology &Genetic	 Google classroom & Google meet	Chalk and Talk method		PO1,2,3,6	PSO1,2,
17.	21BT483 Biopesticides and Biofertilizers	Google classroom & Google meet	PPT			
18.	UHV21UH49 Universal Human Values	Google classroom & Google meet	PPT	Human Value and Professional ethics	PO1,2,3,4,8,9,11	
19.	INT21INT49 Inter/Intra Institutional Internship	Google classroom & Google meet	PPT		PO1,2,3,4,6,9,10,11,12	
20.	18BT51/Bio-Business and Entrepreneurship	Google classroom & Google meet	Chalk & talk, PPT, webinars,	Professional ethics	P <mark>O1,2,3,6,8</mark>	PSO1,2,
21.	18BT52 /Chemical Reaction Engineering	 Google classroom & Google meet	Chalk and Talk method		PO1,2,3,4,6,9,10,11,12	PSO1,2
22.	18BT53/ Enzyme Technology & Biotransformation	 Google classroom & Google meet	Chalk and Talk method, Project and Internship		PO1,2,3,4,6,9,10,11,12	PSO 1,2
23.	18BT54/ Genomics & Proteomics	 Google classroom & Google meet	Chalk and Talk method You tube PPT	e	PO1,2,3,4,6,9,10,11,12	PSO1,2
24.	18BT55 /Bioanalytical Techniques	 Google classroom & Google meet	Chalk and Talk method, NPTEL Videos, PPT		PO1,2,7,12	PSO1,2,3
25.	18BT56 /Genetic Engineering &Applications	 Google classroom & Google meet	Chalk and Talk method, NPTEL Videos, PPT		PO1,2,3,6,8	PSO1,2,3
26.		 Google classroom &	Chalk and Talk method,Project and		PO 1,2,3,4,9,10,T2	

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	Laboratory		Google meet	Internship		-1	
.7.	18BTL58/ Genetic Engineering and Cell Culture Laboratory	Conduction of new experiments which are beyond the syllabus	Google classroom & Google meet	Chalk and Talk method, NPTEL Videos, PPT		PO1,2,3,4,6,9,10,11,12	PSO1,2
28.	18BT61 /Process Control & Automation Chemical		Google classroom & Google meet	Chalk and Talk method		PO1,2,3,4,5,6,9,10,11,12	PSO1,2
29.	18BT62 /Bioprocess Equipment Design & CAED		Google classroom & Google meet	Chalk and Talk method PPT		PO1,2,3,4,5, 9,10,12	PSO1,2,
30.	18BT63 /Bioinformatics		Google classroom & Google meet	Chalk and Talk method PPT,Project		PO 1,2,3,10,11,12	PSO 1,2
31.	18BT643/ Human Physiology		Google classroom & Google meet	Chalk and Talk method PPT		PO 1,2,3,10,11,12	PSO 1,2
32.	18BT653/ Nanobiotechnology		Google classroom & Google meet	Chalk and Talk method		PO1,2,3,6,12	PSO1,2,
33.	18BTL66 /Process Control & Automation Laboratory		Google classroom & Google meet	Chalk and Talk method		PO1,2,3,4,5,7,11	PSO1,2
34.	18BTL67/ Bioinformatics Laboratory	Conduction of new experiments which are beyond the syllabus	Google classroom & Google meet	Chalk and Talk method PPT,Project		PO 1,2,3,10,11,12	PSO 1,2
35.	18BTMP68/Mini-		Google classroom & Google meet	PPT	Environmental Sustainability Human Value and	PO1,2,3,4,5,6,7,8,9,10	PSO1,2,

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project		1.1.1		Professional ethics		
		1				
18BT71 Bioprocess Engineering		Google classroom	Chalk and Talk method, NPTEL Videos, PPT		PO1,3,4,6, 9,10	PSO1,2,
18BT72 Clinical & Pharmaceutical Biotechnology		Google classroom	Chalk and Talk method, NPTEL Videos, PPT		PO1,3,6	PSO1,2,
18T732 Bioreactor Design Concepts		Google classroom	Chalk and Talk method You tube PPT,Project and Intership		PO1	PSO1
18BT742 Agricultural Biotechnology		Google classroom	Chalk and Talk method		PO 1,2,3,4,9,10,12	PSO1,2
18BT752 Forensic science	Group Discussion and case studies	Google classroom	Chalk and Talk method PPT	Human Value and Professional ethics	PO1,2,4,6,8,10	PSO1,2
18BTL76 Bioprocess Engineering Laboratory	Conduction of new experiments which are beyond the syllabus	Google classroom	Chalk and Talk method ,Project and Intership			PSO1,2
18BTP77 Project phase 1			PPT	"Environmental Sustainability Human Value and Professional ethics"	PO1,2,3,4,5,6,7,8,9,10	PSO1,2,3
18BT71 Internship			РРТ	"Environmental Sustainability Human Value and	PO1,2,3,4,5,6,7,8,9,10	PSO1,2,3
	18BT71 Bioprocess Engineering 18BT72 Clinical & Pharmaceutical Biotechnology 18T732 Bioreactor Design Concepts 18BT742 Agricultural Biotechnology 18BT752 Forensic science 18BTL76 Bioprocess Engineering Laboratory 18BTP77 Project phase 1	18BT71 Bioprocess Engineering18BT72 Clinical & Pharmaceutical Biotechnology18BT72 Bioreactor Design Concepts18BT742 Agricultural Biotechnology18BT742 Agricultural Biotechnology18BT752 Forensic scienceGroup Discussion and case studies18BTL76 Bioprocess Engineering LaboratoryConduction of new experiments which are beyond the syllabus18BTP77 Project phase 1	18BT71 Bioprocess EngineeringGoogle classroom18BT72 Clinical & Pharmaceutical BiotechnologyGoogle classroom18T732 Bioreactor Design ConceptsGoogle classroom18BT742 Agricultural BiotechnologyGoogle classroom18BT752 Forensic scienceGroup Discussion and case studiesGoogle classroom18BTL76 Bioprocess Engineering LaboratoryConduction of new experiments which are beyond the syllabusGoogle classroom18BTP77 Project phase 1Google classroom	18BT71 Bioprocess EngineeringGoogle classroomChalk and Talk method, NPTEL Videos, PPT18BT72 Clinical & Pharmaceutical BiotechnologyGoogle classroomChalk and Talk method, NPTEL Videos, PPT18T732 Bioreactor Design ConceptsGoogle classroomChalk and Talk method, NPTEL Videos, PPT18T732 Bioreactor Design ConceptsGoogle classroomChalk and Talk method You tube PPT,Project and Intership18BT742 Agricultural BiotechnologyGoogle classroomChalk and Talk method You tube18BT752 Forensic scienceGroup Discussion and case studiesGoogle classroomChalk and Talk method PPT18BTL76 Bioprocess Engineering LaboratoryConduction of new experiments which are beyond the syllabusGoogle classroomChalk and Talk method pPT18BTP77 Project phase 1Google classroomChalk and Talk method pPT18BT71 InternshipSoogle classroomChalk and Talk method project and Intership	18BT71 Bioprocess Google Chalk and Talk method, NPTEL Videos, PPT 18BT72 Clinical & Pharmaceutical Biotechnology Google classroom Chalk and Talk method, NPTEL Videos, PPT 18T732 Bioreactor Design Concepts Google classroom Chalk and Talk method, NPTEL Videos, PPT 18BT742 Agricultural Biotechnology Google classroom Chalk and Talk method You tube PPT, Project and Intership 18BT752 Forensic science Group Discussion and case studies case studies Google classroom Chalk and Talk method PPT 18BT752 Forensic science Group Discussion and case studies Google classroom Chalk and Talk method PPT 18BT752 Forensic science Group Discussion and case studies Google classroom Chalk and Talk method PPT 18BT717 Project phase 1 Google classroom Chalk and Talk method PPT 18BT71 Internship	18BT71 Bioprocess Engineering Google classroom Chalk and Talk method, NPTEL Videos, PPT PO1,3,4,6,9,10 18BT72 Clinical & Pharmaceutical Biotechnology Google classroom Chalk and Talk method, NPTEL Videos, PPT PO1,3,6 18T732 Dioreactor Design Concepts Google classroom Chalk and Talk method, NPTEL Videos, PPT PO1 18T732 Dioreactor Design Concepts Google classroom Chalk and Talk method volu tube PPT, Project and Intership PO1 18BT732 Porensic science Group Discussion and case studies Google classroom Chalk and Talk method elassroom 18BT752 Porensic science Conduction of new experiments which are beyond the syllabus Google classroom Chalk and Talk method elassroom Human Value and Professional ethics 18BTP77 Project phase 1 Google classroom Chalk and Talk method elassroom 18BTP77 Project phase 1 PPT Po1,2,3,4,9,10,11,12 18BT71 Internship PPT Po1,2,3,4,5,6,7,8,9,10 18BT71 Internship PPT PO1,2,3,4,5,6,7,8,9,10

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44.	18BT81 Regulatory affairs in Biotechnology	Google classroom	Chalk and Talk method			PSO1,2
6		1.50	PPT		PO 1,2,3,10,12	1 200
45.	18BT821 Environmental biotechnology	 Google classroom	Chalk and Talk method PPT	Environmental Sustainability	PO1,2,3,4,7,9,11	PSO1,2
46.	18BT822 Industrial Microbiology	Google classroom	Chalk and Talk method PPT	Environmental Sustainability	PO1,2,3,4,7,9,11	PSO1,2
47.	18BTP83 Project Phase 2		PPT	"Environmental Sustainability Human Value and Professional ethics"	PO1,2,3,4,5,6,7,8,9,10	PSO1,2,3
48.	18BTS84Technical Seminar		РРТ	"Environmental Sustainability Human Value and Professional ethics"	PO1,2,3,4,5,6,7,8,9,10	PSO1,2,3
49.	18BTI85 Internship	 	PPT	"Environmental Sustainability Human Value and Professional ethics"	PO1,2,3,4,5,6,7,8,9,10	PSO1,2,3

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