

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM

SCHEME OF TEACHING AND EXAMINATION FOR

M.TECH. CHEMICAL ENGG.

I Semester

CREDIT BASED

Subject Code	Name of the Subject	Teaching hours/week		Duration of Exam in Hours	Marks for		Total Marks	CREDITS
		Lecture	Practical / Field Work / Assignment/ Tutorials		I.A.	Exam		
16HCE11	APPLIED MATHEMATICS IN CHEMICAL ENGINEERING	4		3	20	80	100	4
16HCE12	ADVANCED THERMODYNAMICS	4		3	20	80	100	4
16HCE13	TRANSPORT PHENOMENA	4		3	20	80	100	4
16HCE14	CHEMICAL EQUIPMENT DESIGN	4		3	20	80	100	4
16HCE15X	ELECTIVE – I	3		3	20	80	100	3
16HCE16	Process Dynamic and Control Laboratory	--	3	3	20	80	100	2
16HCE17	SEMINAR-I	--	3	--	100		100	1
		19	6	18	220	480	700	22

ELECTIVE – I: 16HCE151 AIR POLLUTION CONTROL AND DESIGN OF EQUIPMENT

16HCE152 **COMPUTATIONAL FLUID DYNAMICS**

16HCE153 **MODERN SEPARATION TECHNIQUES**

16HCE154 **FUEL CELL TECHNOLOGY**

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II Semester

CREDIT BASED

Subject Code	Name of the Subject	Teaching hours/week		Duration of Exam in Hours	Marks for		Total Marks	CREDITS
		Lecture	Practical / Field Work / Assignment/ Tutorials		I.A.	Exam		
16HCE21	PLANT WIDE CONTROL OF CHEMICAL PROCESSES	4	--	3	20	80	100	4
16HCE22	RESEARCH METHODOLOGY AND INDUSTRIAL SAFETY	4	--	3	20	80	100	4
16HCE23	CATALYTIC REACTION ENGINEERING	4	--	3	20	80	100	4
16HCE24	WASTE MANAGEMENT TECHNIQUES	4	--	3	20	80	100	4
16HCE25X	ELECTIVE-II	3	--	3	20	80	100	3
16HCE26	Reaction Engineering laboratory		3	3	20	80	100	2
16HCE27	SEMINAR-II	--	3	--	100	--	100	1
Total		19	6	18	220	480	700	22

**Elective – II: 16HCE251- ENZYME ENGINEERING,
 16HCE253- GASIFICATION TECHNOLOGY,**

**16HCE252- Interfacial Engineering
 16HCE254- FOOD PROCESSING AND ENGINEERING**

NOTE: Project Work Phase-I commencement (2-3 weeks duration) during vacation

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III Semester: INTERNSHIP & PROJECT SELECTION

CREDIT BASED

Subject Code	Name of the Subject	Teaching hours/week		Duration of Exam in Hours	Marks for		Total Marks	CREDITS
		Lecture	Practical / Field Work / Assignment/ Tutorials		I.A.	Exam		
16HCE31	Seminar / Presentation on Internship (after 8 weeks from the date of commencement)	--	--	--	25	--	25	20
16HCE32	Report on Internship	--	--	--	25	--	25	
16HCE33	Evaluation and Viva-Voce of Internship	--	--	--	-	50	50	
16HCE34	Evaluation of project phase-I	--	--	-	50	--	50	1
TOTAL		--	--	--	100	50	150	21

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IV Semester:

CREDIT BASED

Subject Code	Name of the Subject	Teaching hours/week		Duration of Exam in Hours	Marks for		Total Marks	CREDITS
		Lecture	Practical / Field Work / Assignment / Tutorials		I.A.	Exam		
16HCE41	Chemical Process Optimization	4	--	3	20	80	100	4
16HCE42X	Elective-III	3	--	3	20	80	100	3
16HCE43	Evaluation of Project Work Phase-II	--	--	--	50	--	50	3
16HCE44	Evaluation of Project and Viva-voce	--	--	--		100+100	200	10
TOTAL		7	--	6	90	360	450	20

Elective III: 16HCE421: FERMENTATION ENGINEERING,
 16 HCE423: Bioinstrumentation and Biosensors

16HCE-422: Total Quality Management
 16HCE 424: PHARMACEUTICAL TECHNOLOGY