Sant Gadge Baba Amravati University, Amravati

Scheme of Implementation for

Four Year Undergraduate Degree Programme

in Engineering and Technology

B.Tech. (Chemical Technology),
Undergraduate Engineering Degree Programme

in the faculty of

Science and Technology

ACADEMIC EVALUATION SCHEME/CREDIT SYSTEM

Year: 2024-25

(Scheme of Examination w.e.f. 2024-25 and onwards)

	Scheme for First Year Four Year Undergraduate Engineering Degree Programme Semester -I – [B.Tech (Chemical Tech.)]												
Sr No.	**Course Name**	**Code**	**Course Plan per Week (Hrs.)**				**Credits**	**Theory Evaluation**		**Practical Evaluation**		**Total**	**ESE Time Hrs.)**
			L	**P**	**T**	**Hrs.**		**IE**	**ESE**	**INT**	**EXT**		
	Core Courses												
1	Applied Mathematics -I (BSC)	1AL100BS	3	0	0	3	3	40	60			100	3 Hrs.
2	Engineering Physics (BSC)	1AL101BS	3	0	0	3	3	40	60			100	3 Hrs.
3	Computer Programming (ESC)	1AL102ES	3	0	0	3	3	40	60			100	3 Hrs.
4	Engineering Mechanics (ESC)	1AL103ES	3	0	0	3	3	40	60			100	3 Hrs.
	Laboratory Courses												
5	Engineering Physics Lab (BSC)	1AL104BS	0	2	0	2	1			25	25	50	
6	Computer Programming Lab (ESC)	1AL105ES	0	2	0	2	1			25	25	50	
7	Engineering Mechanics Lab (ESC)	1AL106ES	0	2	0	2	1			25	25	50	
8	Workshop (ESC)	1AL107ES	0	2	0	2	1			25	25	50	
	Vocational and Skill Enhancement Courses (VSEC)												
9	Technical Department Specific Basics of Chemical Processes	1CH108VS	0	4	0	4	2			50	-	50	
	Ability Enhancement Courses (AEC)												
10	Professional Communication English	1AL109AE	1	2	0	3	2			25	25	50	
	Co-curricular Course (CC)												
11	Co-curricular Course (CC)- Sports / Yoga / NSS / Fine Arts/Clubs	1AL110CC	0	4	0	4	2			50	-	50	
	TOTAL		13	18	0	31	**22**					**750**	

L: Lecture P: Practical T: Tutorial MSE: Mid Semester Exam ESE: End Semester Exam IE: Internal Evaluation INT: Internal EXT: External

	Scheme for First Year Four Year Undergraduate Engineering Degree Programme Semester -II – [B.Tech (Chemical Tech.)]												
Sr No.	**Course Name**	**Code**	**Course Plan per Week (Hrs.)**				**Credits**	**Theory Evaluation**		**Practical Evaluation**		**Total**	**ESE Time Hrs.)**
			L	**P**	**T**	**Hrs.**		**IE**	**ESE**	**INT**	**EXT**		
	Core Courses												
1	Applied Mathematics -II (BSC)	2AL111BS	3	0	0	3	3	40	60			100	3 Hrs.
2	Engineering Chemistry (BSC)	2AL112BS	3	0	0	3	3	40	60			100	3 Hrs.
3	Basic Electrical Engineering (ESC)	2AL113ES	3	0	0	3	3	40	60			100	3 Hrs.
4	Engineering Graphics (ESC)	2AL114ES	2	0	0	2	2	40	60			100	3 Hrs.
	Laboratory Courses												
5	Engineering Chemistry Lab (BSC)	2AL115BS	0	2	0	2	1			25	25	50	
6	Basic Electrical Engineering Lab (ESC)	2AL116ES	0	2	0	2	1			25	25	50	
7	Engineering Graphics Lab (ESC)	2AL117ES	0	2	0	2	1			25	25	50	
	Vocational and Skill Enhancement Courses (VSEC)												
8	Technical Department Specific Computer Applications for Chemical Engineering	2CH118VS	1	2	0	3	2			50	-	50	
	Programme Core Course (PCC)												
9	Programme Core Course Introduction to Chemical Engineering	2CH119PC	2	0	0	2	2	20	30			50	2.00 Hrs.
	Indian Knowledge System (IKS)												
10	Indian Traditional Knowledge	2AL120IK	2	0	0	2	2	20	30			50	2.00 Hrs.
	Co-curricular Course (CC)												
11	Co-curricular Course (CC)- Sports / Yoga / NSS / Fine Arts/ Clubs	2AL121CC	0	4	0	4	2			50	-	50	
	TOTAL		16	12	0	28	**22**					**750**	

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Sant Gadge Baba Amravati University, Amravati

Scheme of Teaching, Learning, Examination and Evaluation leading to Four Years UG Degree Program NEP -2020 Model Curriculum for Bachelor Degree B.Tech Chemical Technology Major

THIRD SEMESTER B.TECH (CHEMICAL TECHNOLOGY) (Food/Pulp & Paper/Oil & Paint/Petrochemical Technology)

Sr No.	Course Name	Code	Course Plan per Week (Hrs.)				Credits	Theory Evaluation		Practical Evaluation		Total	ESE Time Hrs.)
			L	P	T	Hrs.		IE	ESE	INT	EXT		
	Core Courses												
1	Programme Core Course -I Chemical Engineering Thermodynamics	3CT200PC/ 3CH200PC	3	0	0	3	3	40	60			100	3 Hrs.
2	Programme Core Course –II Process Calculation	3CT201PC	3	0	0	3	3	40	60			100	3 Hrs.
3	Programme Core Course –III Chemical Engineering Analysis	3CT202PC/ 3CH202PC	3	0	0	3	3	40	60			100	3 Hrs.
	Laboratory Courses												
4	Comm. Engg. Project/ Field Project	3CT400EL	0	4	0	4	2			25	25	50	
5	Programme Core Course –II Chemical Engineering Thermodynamics Lab.	3CT203PC	0	2	0	2	1			25	25	50	
6	Programme Core Course –III Chemical Engineering Analysis Lab.	3CT204PC/ 3CH204PC	0	2	0	2	1			25	25	50	
	Multidisciplinary Minor												
7	Multidisciplinary Minor –I Offered by Uni./ Swayam / NPTEL / MOOCS /other platform approved by AICTE	3CT205M	2	0	0	2	2	20	30	-	-	50	2.00 Hrs.
	Open Elective other than a particular Program												
8	Open Elective –I From any Discipline; Humanity/ Commerce & Management/ Science/ Interdisciplinary	3CT206OE	3	0	0	3	3	40	60	-	-	100	3 Hrs.
	HSSMC (Entrepreneurship/ Economics/ Management Course)												
9	Entrepreneurship Development Engineering Economics	3CT207EM/ 3CH207EM	2	0	0	2	2	20	30			50	2.00 Hrs.
	Value Education Course (VEC)												
10	Environmental Science Environmental Studies	3CT208VE/ 3CH208VE	2	0	0	2	2	20	30			50	2.00 Hrs.
	TOTAL		18	08	0	26	**22**					**700**	

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FOURTH SEMESTER B.TECH (CHEMICAL TECHNOLOGY) (Food/Pulp & Paper/Oil & Paint/Petrochemical Technology)

Sr No.	Course Name	Code	Course Plan per Week(Hrs.)				Credits	Theory Evaluation		Practical Evaluation		Total	ESE Time Hrs.)
			L	P	T	Hrs.		IE	ESE	INT	EXT		
	Core Courses												
1	Programme Core Course-I Fluid Flow Operation	4CT209PC/ 4CH209PC	3	0	0	3	3	40	60			100	3 Hrs.
2	Programme Core Course-II Mechanical Operation	4CT210PC/ 4CH210PC	3	0	0	3	3	40	60			100	3 Hrs.
3	Programme Core Course –III **Food Technology Sp. Tech-I** **Pulp & Paper Technology Sp. Tech-I** **Oil & Paint Technology Sp. Tech-I** **Petrochemical Technology Sp. Tech-I**	 4FT211PC 4PT211PC 4OT211PC 4PC211PC	3	0	0	3	3	40	60			100	3 Hrs.
	Laboratory Courses												
4	Programme Core Course –I Fluid Flow Operation Lab.	4CT212PC/ 4CH212PC	0	2	0	2	1			25	25	50	
5	Programme Core Course –II Mechanical Operation Lab.	4CT213PC/ 4CH213PC	0	2	0	2	1			25	25	50	
6	Programme Core Course –III Lab. **Food Technology Sp. Tech-I Lab.** **Pulp & Paper Technology Sp. Tech-I Lab.** **Oil & Paint Technology Sp. Tech-I Lab.** **Petrochemical Technology Sp. Tech-I Lab.**	 4FT214PC 4PT214PC 4OT214PC 4PC214PC	0	2	0	2	1			25	25	50	
	Multidisciplinary Minor												
7	Multidisciplinary Minor -II Offered by Uni./ Swayam / NPTEL / MOOCS /other platform approved by AICTE	4CT215M	2	0	0	2	2	20	30	-	-	50	2.00 Hrs.
	Vocational and Skill Enhancement Courses												
8	VSEC-III Machine Design & Drawing	4CT216VS/ 4CH215VS	1	2	0	3	2			50	-	50	
	Open Elective other than a particular Program												
9	Open Elective- II From any Discipline; Humanity/ Commerce & Management/ Science/ Interdisciplinary	4CT217OE	2	0	0	2	2	20	30			50	2.00 Hrs.
	HSSMC (Entrepreneurship/ Economics/ Management Course)												
10	Management Related /Engg. Economics Industrial Management	4CT218EM/ 4CH217EM	2	0	0	2	2	20	30			50	2.00 Hrs.
	Value Education Course (VEC)												
11	Environmental Science / UHV /VE Human Values & Professional Ethics	4CH219VE	2	0	0	2	2	20	30			50	2.00 Hrs.
	TOTAL		18	08	0	26	**22**					**700**	

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FIFTH SEMESTER B.TECH (CHEMICAL TECHNOLOGY) (Food/Pulp & Paper/Oil & Paint/Petrochemical Technology)

Sr No.	Course Name	Code	Course Plan per Week(Hrs.)				Credits	Theory Evaluation		Practical Evaluation		Total	ESE Time Hrs.)
			L	P	T	Hrs.		IE	ESE	INT	EXT		
	Core Courses												
1	Programme Core Course –I Heat Transfer	5CT220PC/ 5CH220PC	3	0	0	3	3	40	60			100	3 Hrs.
2	Programme Core Course-II Industrial Waste Treatment	5CT221PC/ 5CH221PC	3	0	0	3	3	40	60			100	3 Hrs.
3	Programme Core Course-III **Food Technology Sp. Tech-II** **Pulp & Paper Technology Sp. Tech-II** **Oil & Paint Technology Sp. Tech-II** **Petrochemical Technology Sp. Tech-II**	 5FT222PC 5PT222PC 5OT222PC 5PC222PC	3	0	0	3	3	40	60			100	3 Hrs.
4	Programme Elective Course –I Computer Programming & Application	5CT223PE/ 5CH222PC	3	0	0	3	3	40	60			100	3 Hrs.
	Laboratory Courses												
5	Programme Core Course –I Heat Transfer Lab.	5CT224PC/ 5CH226PC	0	2	0	2	1			25	25	50	
6	Programme Core Course –II Industrial Waste Treatment Lab.	5CT225PC/ 5CH227PC	0	2	0	2	1			25	25	50	
7	Programme Core Course –III **Food Technology Sp. Tech-II** **Pulp & Paper Technology Sp. Tech-II** **Oil & Paint Technology Sp. Tech-II** **Petrochemical Technology Sp. Tech-II**	 5FT226PC 5PT226PC 5OT226PC 5PC226PC	0	2	0	2	1			25	25	50	
	Multidisciplinary Minor												
8	Multidisciplinary Minor –III Offered by Uni./ Swayam / NPTEL / MOOCS /other platform approved by AICTE	5CT227M	2	0	0	2	2	20	30			50	2.00 Hrs.
9	Multidisciplinary Minor –IV Offered by Uni./ Swayam / NPTEL / MOOCS /other platform approved by AICTE	5CT228M	2	0	0	2	2	20	30			50	2.00 Hrs.
10	Multidisciplinary Minor – III Lab. -I Offered by Uni./ Swayam / NPTEL / MOOCS /other platform approved by AICTE	5CT229M	0	2	0	2	1			25	25	50	
	Open Elective other than a particular Program												
11	Open Elective- III From any Discipline; Humanity/ Commerce & Management/ Science/ Interdisciplinary	5CT230OE	2	0	0	2	2	20	30			50	2.00 Hrs.
	TOTAL		18	08	0	26	**22**					**750**	

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SIXTH SEMESTER B.TECH (CHEMICAL TECHNOLOGY) (Food/Pulp & Paper/Oil & Paint/Petrochemical Technology)

Sr No.	Course Name	Code	Course Plan per Week (Hrs.)				Credits	Theory Evaluation		Practical Evaluation		Total	ESE Time Hrs.)
			L	P	T	Hrs.		IE	ESE	INT	EXT		
	Core Courses												
1	Programme Core Course –I Mass Transfer	6CT231PC	3	0	0	3	3	40	60			100	3 Hrs.
2	Programme Core Course-II **Food Technology Sp. Tech-III** **Pulp & Paper Technology Sp. Tech-III** **Oil & Paint Technology Sp. Tech-III** **Petrochemical Technology Sp. Tech-III**	 6FT232PC 6PT232PC 6OT232PC 6PC232PC	3	0	0	3	3	40	60			100	3 Hrs.
3	Programme Core Course-III **Food Technology Sp. Tech-IV** **Pulp & Paper Technology Sp. Tech-IV** **Oil & Paint Technology Sp. Tech-IV** **Petrochemical Technology Sp. Tech-IV**	 6FT233PC 6PT233PC 6OT233PC 6PC233PC	3	0	0	3	3	40	60			100	3 Hrs.
4	Program Elective Course –II Process Equipment Design & Drawing	6CT234PE/ 6CH239PE	3	0	0	3	3	40	60			100	3 Hrs.
5	Program Elective Course –III Chemical Reaction Engineering-I	6CT235PE/ 6CH235PC	3	0	0	3	3	40	60			100	3 Hrs.
	Laboratory Courses												
6	Programme Core Course –I Mass Transfer Lab.	6CT236PC	0	2	0	2	1			25	25	50	
7	Programme Core Course –II **Food Technology Sp. Tech-IV** **Pulp & Paper Technology Sp. Tech-IV** **Oil & Paint Technology Sp. Tech-IV** **Petrochemical Technology Sp. Tech-IV**	 6FT237PC 6PT237PC 6OT237PC 6PC237PC	0	2	0	2	1			25	25	50	
8	Program Elective Course –III Chemical Reaction Engineering-I Lab.	6CT238PE/ 6CH244PC	0	2	0	2	1			25	25	50	
	Multidisciplinary Minor												
9	Multidisciplinary Minor –V Offered by Uni./ Swayam / NPTEL / MOOCS /other platform approved by AICTE	6CT239M	2	0	0	2	2	20	30			50	2.00 Hrs.
	Vocational and Skill Enhancement Courses												
10	VSEC -V (Technical Dept. Specific) Simulation Lab.	6CT240VS	1	2	0	3	2			50	-	50	
	TOTAL		18	08	0	26	**22**					**750**	

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Sant Gadge Baba Amravati University, Amravati

Scheme of Teaching, Learning, Examination and Evaluation leading to Four Years UG Degree Program NEP -2020 Model Curriculum for Bachelor Degree B.Tech Chemical Technology Major

SEVENTH SEMESTER B.TECH (CHEMICAL TECHNOLOGY) (Food/Pulp & Paper/Oil & Paint/Petrochemical Technology)

Sr. No.	Course Name	Code	Course Plan per Week (Hrs.)				Credits	Theory Evaluation		Practical Evaluation		Total	ESE Time Hrs)
			L	P	T	Hrs.		IE	ESE	INT	EXT		
	Core Courses												
1	Programme Core Course –I **Food Technology Sp. Tech-V** **Pulp & Paper Technology Sp. Tech-V** **Oil & Paint Technology Sp. Tech-V** **Petrochemical Technology Sp. Tech-V**	 7FT300PC 7PT300PC 7OT300PC 7PC300PC	3	0	0	3	3	40	60			100	3 Hrs.
2	Programme Core Course-II **Food Technology Sp. Tech-VI** **Pulp & Paper Technology Sp. Tech- VI** **Oil & Paint Technology Sp. Tech- VI** **Petrochemical Technology Sp. Tech- VI**	 7FT301PC 7PT301PC 7OT301PC 7PC301PC	3	0	0	3	3	40	60			100	3 Hrs.
3	Program Elective Course –IV Plant Design & Project Engineering	7CT302PE/ 7CH303PE	3	0	0	3	3	40	60			100	3 Hrs.
4	Program Elective Course –V Transport Phenomenon	7CT303PE/ 7CH305PE	3	0	0	3	3	40	60			100	3 Hrs.
5	Program Elective Course –VI Chemical Reaction Engineering II	7CT304PE/ 7CH308PE	3	0	0	3	3	40	60			100	3 Hrs.
	Laboratory Courses												
6	Programme Core Course-II **Food Technology Sp. Tech-VI** **Pulp & Paper Technology Sp. Tech- VI** **Oil & Paint Technology Sp. Tech- VI** **Petrochemical Technology Sp. Tech- VI**	 7FT305PC 7PT305PC 7OT305PC 7PC305PC	0	2	0	2	1			25	25	50	
7	Program Elective Course –VI Chemical Reaction Engineering II	7CT306PE/	0	2	0	2	1			25	25	50	
	Multidisciplinary Minor												
8	Multidisciplinary Minor -VI* Offered by Uni./ Swayam / NPTEL / MOOCS /other platform approved by AICTE	7CT307M	3	0	0	3	3	20	30			50	2.00 Hrs.
9	Multidisciplinary Minor – VI Lab. –II Offered by Uni./ Swayam / NPTEL / MOOCS /other platform approved by AICTE	7CT308M	0	2	0	2	1			25	25	50	.
	Project												
10	Project / Seminar (FT/PT/OT/PC)	7CT401PR	0	4	0	4	2			50	50	100	
	TOTAL		9	27	0	36	**22**					**800**	

L: Lecture P: Practical T: Tutorial MSE: Mid Semester Exam ESE: End Semester Exam IE: Internal Evaluation INT: Internal EXT: External

	Scheme for Fourth Year Four Year Undergraduate Engineering Degree Programme B.Tech. in (Chemical Engineering/ Chemical Technology). (Semester -VIII) Level – 6.0												
Sr No.	**Course Name**	**Code**	**Course Plan per Week (Hrs.)**				**Credits**	**Theory Evaluation**		**Practical Evaluation**		**Total**	**ESE Time Hrs)**
			L	**P**	**T**	**Hrs.**		**IE**	**ESE**	**INT**	**EXT**		
	Core Courses												
1	Research Methodology	8CT402RM	4*			4	4	40	60			100	3 Hrs.
2	Industry Internship	8CT403OJT	0	24	0	24	12			100	200	300	--
3	Project (FT/PT/OT/PC)	8CT404PR	0	4	0	4	2			50	50	100	--.
	TOTAL		4	28	0	32	**18**					**500**	

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Abbreviations: BSC: Basic Science Course, ESC: Engineering Science Course, PCC: Program Core Course, PEC: Program Elective Course, MDM: Multi-disciplinary Minor: Different discipline of engineering or different faculty altogether, OE: Open Elective: To be chosen Compulsorily from faculty other than major discipline, VSEC: Vocational and Skill Enhancement Course, AEC: Ability Enhancement Course, IKS: Indian Knowledge System, VEC: Value Education Course: e.g. Understanding India, Environmental Science / Education / Digital and Tech solutions ELC: Experimental Learning Course, CCA: Co-curricular activities, EXT: External, INT: Internal.

Internship/On job Training:

- In the Eighth semester, every student will have to undergo an internship and/or On Job Training. The Internship would be of 12 credits.
- The total duration of the internship would be for a period equivalent to 12 Calendar weeks.
- The internship may be completed in one or more organizations as described below.
- The internship could be of the following forms: Industrial internship in a company (within India or Abroad) involved in R&D / design / manufacturing (QA/QC/Plant Engineering / Stores and Purchase) / marketing / finance / consultancy / Technical services / Engineering / Projects, etc.
- At the end of the internship, each student will submit a written report based on the work carried out during the Internship.
- The report will be countersigned by the Supervisor from Industry / Institute as the case may be.
- Performance of the student will be assessed based on the written report and a presentation to Department.
- Feedback will be taken from Industry mentors and this will used while assigning the grades.

Internship/Apprenticeship	Internal	Assessment of these verticals shall be based on various activities/ practices. It shall be evaluated by giving maximum marks of 50 per 2 credit course with separate activity weightage
FP/CEP		
CCA		

Scheme for Minimum Passing Marks- Four Year Undergraduate Engineering Degree Programme
Semester –I & II [B.Tech. (Chemical Engineering / Chemical Technology)]

SN	Course Name	Code	Course Plan per Week (Hrs.)				Credits	Theory Evaluation				Theory (Total)		Practical Evaluation				Practical (Total)		ESE Time (Hours)
								External		Internal				External		Internal				
			L	P	T	Hrs.		Max Marks	Min Marks	Max Marks	Min Marks	Max Marks	Min Marks	Max Marks	Min Marks	Max Marks	Min Marks	Max Marks	Min Marks	
	Core Courses																			
1	Basic Science Courses (BSC)		3	0	0	3	3	60	18	40	12	100	40							3 Hrs.
2	Engineering Science Courses (ESC)		3	0	0	3	3	60	18	40	12	100	40							3 Hrs.
	Laboratory Courses																			
3	Basic Science Courses (BSC)		0	2	0	2	1							25	10	25	10	50	25	
4	Engineering Science Courses (ESC)		0	2	0	2	1							25	10	25	10	50	25	
	Vocational and Skill Enhancement Courses (VSEC)																			
5	Technical Department Specific		1	2	0	3	2									50	20	50	25	
6	Technical Department Specific		0	4	0	4	2									50	20	50	25	
	Programme Core Course (PCC)																			
7	Programme Core Course		2	0	0	2	2	30	9	20	6	50	20							2 Hrs.
	Ability Enhancement Courses (ACE)																			
8	Professional Communication / Modern Indian Language		1	2	0	3	2							25	10	25	10	50	25	
	Indian Knowledge System (IKS)																			
9	Indian Traditional Knowledge		2	0	0	2	2	30	9	20	6	50	20							2 Hrs.
	Co-curricular course (CC)																			
10	Co-curricular Course		0	4	0	4	2									50	20	50	25	

Scheme for Minimum Passing Marks- Four Year Undergraduate Engineering Degree Programme

Semester –III to VIII – [B.Tech. (Chemical Engg. / Chemical Technology)]

SN	Course Name	Code	Course Plan per Week (Hrs.)				Credits	Theory Evaluation				Theory (Total)		Practical Evaluation				Practical (Total)		ESE Time (Hours)
								External		Internal				External		Internal				
			L	P	T	Hrs.		Max Marks	Min Marks	Max Marks	Min Marks	Max Marks	Min Marks	Max Marks	Min Marks	Max Marks	Min Marks	Max Marks	Min Marks	
	Core Courses																			
1	Programme Core Course		3	0	0	3	3	60	18	40	12	100	40							3 Hrs.
2	Programme Core Course		2	0	0	2	2	60	18	40	12	100	40							3 Hrs.
3	Multidisciplinary Minor		2	0	0	2	2	30	09	20	06	50	20							2 Hrs.
4	Open Elective		3	0	0	3	3	60	18	40	12	100	40							3 Hrs.
5	Open Elective		2	0	0	2	2	30	09	20	06	50	20							2 Hrs.
6	Research Methodology		4	0	0	4	4	60	18	40	12	100	40							3 Hrs.
	Laboratory Courses																			
7	Programme Core Course		0	2	0	2	1							25	10	25	10	50	25	
8	Community Engg. Project / Field Project		0	4	0	4	2							25	10	25	10	50	25	
9	Multidisciplinary Minor		0	2	0	2	1							25	10	25	10	50	25	
	Vocational and Skill Enhancement Courses (VSEC)																			
10	Course		1	2	0	3	2									50	20	50	25	
	HSSMC (Entrepreneurship/ Economics/ Management Course)																			
11	Course		2	0	0	2	2	30	09	20	06	50	20							2 Hrs.
	Value Education Course (VEC)																			
12	Course		2	0	0	2	2	30	09	20	06	50	20							2 Hrs.
	Programme Elective Course																			
13	Course		3	0	0	3	3	60	18	40	12	100	40							3 Hrs.
	Project																			
14	Minor Project		1	2	0	3	2									50	20	50	25	
15	Industry Internship		0	24	0	24	12							200	80	100	40	300	150	
16	Project (Phase I & II)		0	4	0	4	2							50	20	50	20	100	50	

University offered Basket of Multidisciplinary Minor Courses (B.Tech Chemical Technology (Food/Pulp & Paper/Oil & Paint/Petrochemical Technology) with

Multidisciplinary Minor: Environment and Waste Management)

Environment and waste Management					
Semester III	**Semester IV**	**Semester V**	**Semester VI**	**Semester VII**	**Semester VIII**
Air Pollution and Control	Solid Waste Management	Environmental Impact Assessment	Emerging Technologies in Renewable Energy Sources	Industrial wastewater treatment	Corrosion control
Nano materials and their applications	Design and Synthesis of nanomaterials	Characterization Techniques for Nanomaterials	Quantum Mechanics for Nanotechnologists	Nano Biotechnology	Smart Sensors

Basket of Multidisciplinary Minor Courses (B.Tech Chemical Technology (Food/Pulp & Paper/Oil & Paint/Petrochemical Technology) with Multidisciplinary Minor with Honors)

Sem	Food Technology	Oil Technology	Petrochemical Technology	Pulp & Paper Technology
III	Food Chemistry	Chemistry of Oils & Allied Products	Petroleum Exploration and Exploitation Techniques	Wood Chemistry
IV	Advances in Food Technology	Surface coating	Advances in Petrochemical Technology	Advances in Pulp & paper Technology
V	Food process engineering	Refining of Oils	Petroleum Primary Processing Technology	Chemical Recovery
VI	Food process Technology-I	Technology of Oils, Oleo Chemicals and Surfactants	Petrochemical analysis and testing	Paper Making - I
VII	Food process Technology-II	Quality Assurance of Oils and Allied Products	Petroleum Secondary Processing Technology	Paper Making - II
VIII	Food Packaging Technology	Essential Oils & Cosmetics	Catalytic Reaction Engineering	Paper Properties & Conversion

Open Elective Course

Open Elective I (III Semester)	Open Elective II (IV Semester)	Open Elective III (V Semester)
Exploration And Production of Petroleum	Petroleum Refining	Quality control of Petroleum Product

(B.Tech. Chemical Technology-Honors with Research and Multidisciplinary Minor)

Semester	Credits	Name of Course
VII	**18*(** These credits will be over and above the min.160-max.176 credits prescribed for Four Year Multidisciplinary Bachelor's Degree in Engg./Tech. Program.	Research Project - I
VIII		Research Project - II