



MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR
(Deemed University)
(Declared Under Distinct Category by Ministry of Education, Government of India)



NAAC Accredited with A++ Grade
Department of Chemical Engineering

Semester-Wise General Scheme Structure & Important Guidelines for Flexible Curriculum

(Batch admitted in Academic Session 2024-25 onwards)

Abbreviations Used

L	Lecture
T	Tutorial
P	Practical
HSMC	Humanities and Social Sciences including Management Courses
BSC	Basic Science Courses
ESC	Engineering Science Courses
DC	Departmental Core
DE	Departmental Elective
OC	Open Category
DLC	Departmental Laboratory Courses
MOOC	Massive Open Online Course
MWS	Mandatory Workshop
SP	Semester Proficiency
SIP	Skill Internship Program
SLP	Self-learning Presentation
PSC	Professional Skills & Competencies
PDC	Professional Development Component
PBL	Project Based Learning
PC	Professional Certification
MAC	Mandatory Audit Course
NEC	Novel Engaging Course



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Department of Chemical Engineering
Scheme of Evaluation

B. Tech. I Semester (*Chemical Engineering*) (for batch admitted in academic session 2025-26)

S. No.	Course Code	Category Code	Course Name	Maximum Marks Allotted						Total Marks	Contact Hours per week			Total Credits	Mode of Learning	Mode of Exam.	Duration of Exam.
				Theory Block				Practical Block									
				Continuous Evaluation			Major Evaluation	Continuous Evaluation	Major Evaluation								
				Minor Evaluation I	Minor Evaluation II	Quiz/ Assignment		Lab Work & Sessional									
1.	17251101	DC	Chemical Process Calculations	25	25	20	30	-	-	100	3	-	-	3	Face to Face	MCQ	2 Hrs
2.	17251102	ESC	Computer Programming	25	25	20	30	-	-	100	2	-	-	2	Face to Face	MCQ	2 Hrs
3.	17251103	DC	Fluid Mechanics	25	25	20	30	-	-	100	2	1	-	3	Face to Face	MCQ	2 Hrs
4.	17251104	DC	Mechanical Operations	25	25	20	30	-	-	100	2	1	-	3	Face to Face	MCQ	2 Hrs
5.	17251105	ESC	Basic Electrical & Electronics Engineering	25	25	20	30	-	-	100	2	-	-	2	Face to Face	MCQ	2 Hrs
6.	17251106	DLC	Computer Programming Lab	-	-	-	-	70	30	100	-	-	2	1	Experimental	AO	-
7.	17251107	DLC	Electrical & Electronics Engineering Lab	-	-	-	-	70	30	100	-	-	2	1	Experimental	AO	-
8.	17251108	SP	Semester Proficiency ^{\$}	-	-	-	-	50	-	50	-	-	2	1	Face to Face	SO	-
9.	17251109	PBL	Micro Project-I [#]	-	-	-	-	70	30	100	-	-	2	1	Experiential	SO	-
10.	17251110	ESC	Engineering Chemistry Lab ^{\$}	-	-	-	-	70	30	100	-	-	2	1	Experimental	AO	-
11.	NECXXXXX	NEC	Novel Engaging Course (Activity Based Learning)	-	-	-	-	50	-	50	-	1	-	1	Interactive	SO	-
Total				125	125	100	150	380	120	1000	11	03	10	19	-	-	-
12.	17251111	MAC	Universal Human Values & Professional Ethics (UHVPE)	25	25	20	30	-	-	100	2	-	-	GRADE	Blended	MCQ	1.5 Hrs
13.	17251112	MWS	Mandatory Workshop on Report Writingat Department Level											GRADE	Interactive	MCQ	-
14.	17251113	MWS	Mandatory Workshop on Indian Constitution andCultural Valuesat Department Level											GRADE	Interactive	MCQ	-
Induction programme of three weeks (MC): Physical activity, Creative Arts, Universal Human Values, Literary, Proficiency Modules, Lectures by Eminent People, Visits to local Areas, Familiarization to Dept./Branch & Innovations.																	
Skill Internship Program (Soft Skill): Minimum 45 hours duration: To be Credited in II Semester.																	

Induction programme of three weeks (MC): Physical activity, Creative Arts, Universal Human Values, Literary, Proficiency Modules, Lectures by Eminent People, Visits to local Areas, Familiarization to Dept./Branch & Innovations.

Skill Internship Program (Soft Skill): Minimum 45 hours duration: To be Credited in II Semester.

^{\$}Semester Proficiency– includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses.

MCQ: Multiple Choice Question **AO:** Assignment + Oral **PP:** Pen Paper **SO:** Submission + Oral**OB:** Open Book

[#] Micro Project-I will be presented and evaluated through an interdisciplinary project evaluation committee.

HSMC	BSC	ESC	DC	DE	OC	DLC	NEC	SP	SIP	SLP	PDC	PBL	MAC	MWS
0	0	3	3	0	0	2	1	1	0	0	0	1	1	2

			Mode of Learning				Mode of Examination							Total Credits
Theory		Proficiency	NEC	Lab			Theory				NEC	Lab		
Face to Face	Online	Face to Face	Interactive	Blended	Experiential	Experimental	PP	AO	MCQ	OB	SO	SO	AO	
13	-	1	1	-	1	3	6	-	7	-	1	2	3	
68.42 %	-	5.26 %	5.26 %	-	5.26 %	15.79 %	31.58 %	-	36.84 %	-	5.26 %	10.53 %	15.79 %	Credits %



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Department of Chemical Engineering Scheme of Evaluation

B. Tech. II Semester (*Chemical Engineering*) (for batch admitted in academic session 2025-26)

S. No.	Course Code	Category Code	Course Name	Maximum Marks Allotted						Total Marks	Contact Hours per week			Total Credits	Mode of Learning	Mode of Exam.	Duration of Exam.
				Theory Block				Practical Block									
				Continuous Evaluation			Major Evaluation	Continuous Evaluation	Major Evaluation								
				Minor Evaluation I	Minor Evaluation II	Quiz/ Assignment		Lab Work & Sessional									
1.	17251201	DC	Organic Process Technology	20	20	30	30	-	-	100	3	-	-	3	Face to Face	MCQ	2 Hrs
2.	17251202	DC	Chemical Engineering Thermodynamics	20	20	30	30	-	-	100	2	1	-	3	Face to Face	MCQ	2 Hrs
3.	17251203	DC	Heat Transfer Operations	20	20	30	30	-	-	100	2	1	-	3	Face to Face	MCQ	2 Hrs
4.	17251204	DC	Mass Transfer Operations – I	20	20	30	30	-	-	100	2	1	-	3	Face to Face	PP	2 Hrs
5.	17251205	BSC	Matrices, Differential Equations & Vector Calculus	20	20	30	30	-	-	100	3	-	-	3	Face to Face	PP	2 Hrs
6.	17251206	DLC	Fluid flow & Mechanical Operations Lab	-	-	-	-	70	30	100	-	-	2	1	Experimental	AO	-
7.	17251207	DLC	Problem Solving through Python Programming	-	-	-	-	70	30	100	-	-	2	1	Experimental	AO	-
8.	17251208	SP	Semester Proficiency ^{\$}	-	-	-	-	50	-	50	-	-	2	1	Face to Face	SO	-
9.	17251209	PBL	Micro Project-II [#]	-	-	-	-	70	30	100	-	-	2	1	Experiential	SO	-
10.	17251210	ESC	Engineering Physics ^{ss}	-	-	-	-	70	30	100	-	-	2	1	Experimental	AO	-
11.	17251211	HSMC	Language Lab	-	-	-	-	70	30	100	-	-	2	1	Blended	AO	-
12.	NECXXXXX	NEC	Novel Engaging Course (Activity Based Learning)	-	-	-	-	50	-	50	-	1	-	1	Interactive	SO	-
13.	SIP1XXXX	SIP	Skill Internship Program	-	-	-	-	60	-	60	-	-	-	2**	Experiential	SO	-
Total				100	100	150	150	510	150	1160	12	04	12	24	-	-	-
14.	17251212	MAC	Sustainability & Environmental Science	20	20	30	30	-	-	100	2	-	-	GRADE	Blended	MCQ	1.5 Hrs
15.	17251213	MWS	Mandatory Workshop on Indian Knowledge System at Department Level											GRADE	Interactive	MCQ	-
16.	17251214	MWS	Mandatory Workshop on Career Planning & Goal Setting at Department Level											GRADE	Interactive	MCQ	-
Summer Semester of six-eight weeks duration will be conducted for makeup of I & II semester examination.																	

Summer Semester of six-eight weeks duration will be conducted for makeup of I & II semester examination.

^{\$}Semester Proficiency– includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral OB: Open Book

^{**} These credits will be transferred from Skill Internship Program (Soft Skill).

[#]Micro Project-II will be presented and evaluated through an interdisciplinary project evaluation committee.

HSMC	BSC	ESC	DC	DE	OC	DLC	NEC	SP	SIP	SLP	PDC	PBL	MAC	MWS
1	1	1	4	0	0	2	1	1	1	0	0	1	1	2

			Mode of Learning				Mode of Examination							Total Credits
Theory		Proficiency	NEC	Lab			Theory				NEC	Lab		
Face to Face	Online	Face to Face	Interactive	Blended	Experiential	Experimental	PP	AO	MCQ	OB	SO	SO	AO	
15	-	1	1	1	3	3	6	-	9	-	1	4	4	
62.5 %	-	4.17 %	4.17 %	4.17 %	12.5 %	12.5 %	25 %	-	37.5 %	-	4.17 %	16.67 %	16.67 %	Credits %



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Department of Chemical Engineering

Scheme of Evaluation

B. Tech. III Semester (*Chemical Engineering*) (for batch admitted in academic session 2024-25 onwards)

S. No.	Course Code	Category Code	Course Name	Maximum Marks Allotted						Total Marks	Contact Hours per week			Total Credits	Mode of Learning	Mode of Exam.	Duration of Exam.
				Theory Block				Practical Block			L	T	P				
				Continuous Evaluation			Major Evaluation	Continuous Evaluation	Major Evaluation								
				Minor Evaluation I	Minor Evaluation II	Quiz/ Assignment		Lab Work & Sessional									
1.	17242101	BSC	Complex Analysis & Integral Transforms	25	25	20	30	-	-	100	3	-	-	3	Face to Face	MCQ	2 Hrs
2.	17242102	DC	Data Structures	25	25	20	30	-	-	100	2	1	-	3	Face to Face	MCQ	2 Hrs
3.	17242103	DC	Chemical Reaction Engineering – I	25	25	20	30	-	-	100	2	1	-	3	Face to Face	MCQ	2 Hrs
4.	17242104	DC	Mechanical Design of Process Equipment	25	25	20	30	-	-	100	2	1	-	3	Face to Face	MCQ	2 Hrs
5.	17242105	DC	Inorganic Process Technology	25	25	20	30	-	-	100	2	1	-	3	Face to Face	MCQ	2 Hrs
6.	17242106	DLC	Heat Transfer Operations Lab	-	-	-	-	70	30	100	-	-	2	1	Experimental	AO	-
7.	17242107	DLC	Chemical Synthesis Lab	-	-	-	-	70	30	100	-	-	2	1	Experimental	AO	-
8.	17242108	SP	Semester Proficiency ^{\$}	-	-	-	-	50	-	50	-	-	2	1	Face to Face	SO	-
9.	17242109	PBL	Macro Project-I [#]	-	-	-	-	70	30	100	-	-	2	1	Experiential	SO	-
10.	17242110	SLP	Self-learning/Presentation ^{\$\$\$} (SWAYAM/NPTEL/MOOC)	-	-	-	-	40	-	40	-	-	2	1	Mentoring	SO	-
11.	NECXXXXX	NEC	Novel Engaging Course (Activity Based Learning)	-	-	-	-	50	-	50	-	1	-	1	Interactive	SO	-
Total				125	125	100	150	350	90	940	11	05	10	21	-	-	-
12.	17242111	MAC	Cyber Security	25	25	20	30	-	-	100	2	-	-	GRADE	Blended	MCQ	1.5 Hrs
13.	17242112	MWS	Mandatory Workshop on Mastering Competitive Success at Department Level											GRADE	Interactive	MCQ	-
Skill Internship Program (Institute Level) (Qualifier): Minimum 30 hours duration: To be Credited in IV Semester																	

Skill Internship Program (Institute Level) (Qualifier): Minimum 30 hours duration: To be Credited in IV Semester

^{\$}Semester Proficiency– includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses

MCQ: Multiple Choice Question **AO:** Assignment + Oral **PP:** Pen Paper **SO:** Submission + Oral **OB:** Open Book

[#] Macro Project-I will be presented and evaluated through an interdisciplinary project evaluation committee.

^{\$\$\$} Compulsory registration for one online course using SWAYAM/NPTEL/ MOOC, evaluation through attendance and presentation.

HSMC	BSC	ESC	DC	DE	OC	DLC	NEC	SP	SIP	SLP	PDC	PBL	MAC	MWS
0	1	0	4	0	0	2	1	1	0	1	0	1	1	1

Mode of Learning								Mode of Examination						Total Credits	
Theory		Proficiency	NEC	Self Learning	Lab			Theory				NEC	Lab		
Face to Face	Online	Face to Face	Interactive	Mentoring	Blended	Experiential	Experimental	PP	AO	MCQ	OB	SO	SO		AO
15	-	1	1	1	-	1	2	-	-	15	-	1	3		2
71.43 %	-	4.76 %	4.76 %	4.76 %	-	4.76 %	9.52 %	-	-	71.43 %	-	4.76 %	14.29 %	9.52 %	Credits %



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Department of Chemical Engineering
Scheme of Evaluation
B. Tech. IV Semester (*Chemical Engineering*) (for batch admitted in academic session 2024-25 onwards)

S. No.	Course Code	Category Code	Course Name	Maximum Marks Allotted						Total Marks	Contact Hours per week			Total Credits	Mode of Learning	Mode of Exam.	Duration of Exam.
				Theory Block				Practical Block									
				Continuous Evaluation			Major Evaluation	Continuous Evaluation	Major Evaluation								
				Minor Evaluation I	Minor Evaluation II	Quiz/ Assignment		Lab Work & Sessional									
1.	17242201	DC	Process Instrumentation	20	20	30	30	-	-	100	2	1	-	3	Face to Face	MCQ	2 Hrs
2.	17242202	DC	Mass Transfer Operations – II	20	20	30	30	-	-	100	2	1	-	3	Face to Face	PP	2 Hrs
3.	17242203	DC	Process Dynamics & Control	20	20	30	30	-	-	100	2	1	-	3	Face to Face	MCQ	2 Hrs
4.	17242204	DC	Chemical Reaction Engineering - II	20	20	30	30	-	-	100	2	1	-	3	Face to Face	MCQ	2 Hrs
5.	17242205	DC	Computational Methods in Chemical Engineering	20	20	30	30	-	-	100	3	-	-	3	Face to Face	PP	2 Hrs
6.	17242206	DLC	Mass Transfer Operations Lab	-	-	-	-	70	30	100	-	-	2	1	Experimental	AO	-
7.	17242207	DLC	Process Control Lab	-	-	-	-	70	30	100	-	-	2	1	Experimental	AO	-
8.	17242208	DLC	Process Computation Lab	-	-	-	-	70	30	100	-	-	2	1	Experimental	AO	-
9.	17242209	SP	Semester Proficiency ^{\$}	-	-	-	-	50	-	50	-	-	2	1	Face to Face	SO	-
10.	17242210	PBL	Macro Project-II [#]	-	-	-	-	70	30	100	-	-	2	1	Experiential	SO	-
11.	NECXXXXX	NEC	Novel Engaging Course (Activity Based Learning)	-	-	-	-	50	-	50	-	1	-	1	Interactive	SO	-
12.	SIP3XXXX	SIP	Skill Internship Program	-	-	-	-	60	-	60	-	-	-	2**	Experiential	SO	-
Total				100	100	150	150	440	120	1060	11	05	10	23	-	-	-
13.	17242211	MAC	Project Management, Economics & Financing	20	20	30	30	-	-	100	2	-	-	GRADE	Blended	MCQ	1.5 Hrs
14.	17242212	MWS	Mandatory Workshop on Writing Research Articles:Idea to Publicationat Department Level											GRADE	Interactive	MCQ	-
15.	17242213	MWS	Mandatory Workshop on Intellectual Property Rightsat Department Level											GRADE	Interactive	MCQ	-

Summer Semester of six-eight weeks duration will be conducted for makeup of previous semester examination.

Additional Course for Honours or Minor Degree: Permitted to opt for maximum two additional courses for the award of Honours or Minor Degree

^{\$}Semester Proficiency– includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses

MCQ: Multiple Choice Question **AO:** Assignment + Oral **PP:** Pen Paper **SO:** Submission + Oral **OB:** Open Book

[#] Macro Project-II will be presented and evaluated through an interdisciplinary project evaluation committee.

^{**} These credits will be transferred from Skill Internship Program.

BSC	ESC	DC	DE	OC	DLC	NEC	SP	SIP	SLP	PDC	PBL	MAC	MWS
0	0	5	0	0	3	1	1	1	0	0	1	1	2

			Mode of Learning						Mode of Examination						Total Credits
Theory		Proficiency	NEC	Lab			Theory				NEC	SIP	Lab		
Face to Face	Online	Face to Face	Interactive	Blended	Experiential	Experimental	PP	AO	MCQ	OB	SO	SO	SO	AO	
15	-	1	1	-	3	3	6	-	9	-	1	2	2	3	
65.22 %	-	4.35 %	4.3.5 %	-	13.04 %	13.04 %	26.09 %	-	39.13 %	-	4.35 %	8.70%	8.70 %	13.04 %	Credits %



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Department of Chemical Engineering

Scheme of Evaluation

B. Tech. V Semester (*Chemical Engineering*) (for batch admitted in academic session 2024-25 onwards)

S. No.	Course Code	Category Code	Course Name	Maximum Marks Allotted								Total Marks	Contact Hours per week			Total Credits	Mode of Learning	Mode of Exam.	Duration of Exam.
				Theory Block				Practical Block		MOOCs									
				Continuous Evaluation			Major Evaluation	Continuous Evaluation	Major Evaluation	Assignment	Exam								
				Minor Evaluation I	Minor Evaluation II	Quiz/ Assignment		Lab Work & Sessional											
1.	17243101	DC	Process Engineering & Costing	20	20	30	30	-	-	-	-	100	2	1	-	3	Face to Face	MCQ	2 Hrs
2.	17243102	DC	Process Equipment Design	20	20	30	30	-	-	-	-	100	2	1	-	3	Face to Face	OB	2 Hrs
3.	17243103	DC	Data Science	20	20	30	30	-	-	-	-	100	2	1	-	3	Face to Face	MCQ	2Hrs
4.	17243104	DC	Process Modeling & Simulation	20	20	30	30	-	-	-	-	100	2	1	-	3	Face to Face	PP	2 Hrs
5.	17243105	DE	Departmental Elective* (DE-1)	-	-	-	-	-	-	25	75	100	3	-	-	3	Online	MCQ	3 Hrs
6.	17243106	DLC	Modeling & Simulation Lab	-	-	-	-	70	30	-	-	100	-	-	2	1	Experimental	AO	-
7.	17243107	DLC	Data Science Lab	-	-	-	-	70	30	-	-	100	-	-	2	1	Experimental	AO	-
8.	17243108	SP	Semester Proficiency ^{\$}	-	-	-	-	50	-	-	-	50	-	-	2	1	Face to Face	SO	-
9.	17243109	PSC	Professional Skills & Competencies - I	-	-	-	-	70	30	-	-	100	-	-	4	2	Face to Face	MCQ	2Hrs
10.	17243110	PBL	Cornerstone Project	-	-	-	-	70	30	-	-	100	-	-	4	2	Experiential	SO	-
Total				80	80	120	120	330	120	25	75	950	11	04	14	22	-	-	-
11.	17243111	MAC	Supply Chain Management	20	20	30	30	-	-			100	2	-	-	GRADE	Blended	MCQ	1.5 Hrs
12.	17243112	MWS	Mandatory Workshop on Internships: Explore, Apply and Excel at Department Level													GRADE	Interactive	MCQ	-
Additional Course for Honours or Minor Degree: Permitted to opt for maximum two additional courses for the award of Honours or Minor Degree																			

^{\$}Semester Proficiency- includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral OB: Open Book

* Course run through SWAYAM/NPTEL/ MOOC Learning Based Platform

HSMC	BSC	ESC	DC	DE	OC	DLC	NEC	SP	SIP	SLP	PDC	PSC	PBL	MAC	MWS
0	0	0	4	1	0	2	0	1	0	0	0	1	1	1	1

Mode of Learning							Mode of Examination							Total Credits
Theory		Professional Skills	Proficiency	Lab			Theory				Professional Skills	Lab		
Face to Face	Online	Face to Face	Face to Face	Blended	Experiential	Experimental	PP	AO	MCQ	OB	MCQ	SO	AO	
15	-	2	1	-	2	2	3	-	9	3	2	3	2	
68.18 %	-	9.09 %	4.55 %	-	9.09 %	9.09 %	13.64 %	-	40.91 %	13.64 %	9.09 %	13.64 %	9.09 %	Credits %



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Department of Chemical Engineering

Scheme of Evaluation

B. Tech. VI Semester (*Chemical Engineering*) (for batch admitted in academic session 2024-25 onwards)



S. No.	Course Code	Category Code	Course Name	Maximum Marks Allotted								Total Marks	Contact Hours per week			Total Credits	Mode of Learning	Mode of Major Evaluation	Duration of Major Evaluation
				Theory Block				Practical Block		MOOCs			L	T	P				
				Continuous Evaluation			Major Evaluation	Continuous Evaluation	Major Evaluation	Assignment	Exam								
				Minor Evaluation I	Minor Evaluation II	Quiz/ Assignment		Lab Work & Sessional											
1.	17243201	DC	Equilibrium Staged Operations	20	20	30	30	-	-	-	-	100	2	1	-	3	Face to Face	MCQ	2 Hrs
2.	17243202	DC	Transport Phenomena	20	20	30	30	-	-	-	-	100	2	1	-	3	Face to Face	PP	2 Hrs
3.	17243203	DC	Artificial Intelligence & Machine Learning	20	20	30	30	-	-	-	-	100	3	-	-	3	Face to Face	MCQ	2 Hrs
4.	172432XX	DE	Departmental Elective* (DE-2)	-	-	-	-	-	-	25	75	100	3	-	-	3	Online	MCQ	3 Hrs
5.	172432XX	OC	Open Category Course (OC-1)	20	20	30	30	-	-	-	-	100	2	1	-	3	Face to Face	PP	2 Hrs
6.	17243204	DLC	Artificial Intelligence & Machine Learning Lab	-	-	-	-	70	30	-	-	100	-	-	2	1	Experimental	AO	-
7.	17243205	DLC	Computer Aided Process Calculations Lab	-	-	-	-	70	30	-	-	100	-	-	2	1	Experimental	AO	-
8.	17243206	SP	Semester Proficiency ^{\$}	-	-	-	-	50	-	-	-	50	-	-	2	1	Face to Face	SO	-
9.	17243207	PC	Professional Certification	-	-	-	-	50	-			50	-	-	2	1	Blended	SO	-
10.	17243208	PSC	Professional Skills & Competencies - II	-	-	-	-	70	30	-	-	100	-	-	4	2	Face to Face	MCQ	2Hrs
11.	17243209	PBL	Capstone Project	-	-	-	-	70	30	-	-	100	-	-	4	2	Experiential	SO	-
Total				80	80	120	120	380	120	25	75	1000	12	03	16	23	-	-	-
12.	17243210	MAC	Disaster Management	20	20	30	30	-	-	-	-	100	2	-	-	GRADE	Blended	MCQ	1.5 Hrs
13.	17243211	MWS	Mandatory Workshop on Placement Readiness: Building Resume and Mastering Interview at Department Level													GRADE	Interactive	MCQ	-

Skill Enhancement Program/Research Internship/On Job Training for Four weeks duration

Summer Semester of six-eight week duration will be conducted for makeup of Previous semester examination.

Additional Course for Honours or Minor Degree: Permitted to opt for maximum two additional courses for the award of Honours or Minor Degree

^{\$}Semester Proficiency– includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in the semester courses

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral OB: Open Book

* Course run through SWAYAM/NPTEL/ MOOC Learning Based Platform

HSMC	PC	BSC	ESC	DC	DE	OC	DLC	NEC	SP	SIP	SLP	PDC	PSC	PBL	MAC	MWS
0	1	0	0	2	1	1	2	0	1	0	0	0	1	1	1	1

Mode of Learning								Mode of Examination								Total Credits
Theory		Professional Skills	Professional Certification	Proficiency	Lab			Theory				Professional Skills	Professional Certification	Lab		
Face to Face	Online	Face to Face	Blended	Face to Face	Blended	Experiential	Experimental	PP	AO	MCO	OB	MCO	SO	SO	AO	



MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(Deemed University)

(Declared Under Distinct Category by Ministry of Education, Government of India)

NAAC Accredited with A++ Grade



Department of Chemical Engineering

12	3	2	1	1	-	2	2	6	-	9	-	2	1	2	2	23
52.17 %	13.04%	8.70 %	4.35 %	4.35 %	-	8.70 %	8.70 %	26.09 %	-	39.13 %	-	8.70 %	4.35 %	8.70 %	8.70%	Credits %

Scheme of Evaluation

B. Tech. VII Semester (*Chemical Engineering*) (for batch admitted in academic session 2024-25 onwards)

S. No.	Course Code	Category Code	Course Name	Maximum Marks Allotted								Total Marks	Contact Hours per week			Total Credits	Mode of Learning	Mode of Major Evaluation	Duration of Major Evaluation
				Theory Block				Practical Block		MOOCs									
				Continuous Evaluation			Major Evaluation	Continuous Evaluation	Major Evaluation	Assignment	Exam								
				Minor Evaluation I	Minor Evaluation II	Quiz/ Assignment		Lab Work & Sessional											
1.	172441XX	DE	Departmental Elective* (DE-3)	20	20	30	30	-	-	-	-	100	3	-	-	3	Face to Face	PP	2 Hrs
2.	172441XX	DE	Departmental Elective* (DE-4)	-	-	-	-	-	-	25	75	100	3	-	-	3	Online	MCQ	3 Hrs
3.	172441XX	OC	Open Category Course* (OC-2)	-	-	-	-	-	-	25	75	100	3	-	-	3	Online	MCQ	3 Hrs
4.	17244101	SEP	Skill Enhancement Program/Research Internship/ On Job Training	-	-	-	-	-	50	-	-	50	-	-	-	1**	Face to Face	SO	-
5.	17244102	DLC	Creative Problem Solving	-	-	-	-	-	50	-	-	50	-	-	2	1	Experiential	SO	-
Total				20	20	30	30	--	100	50	150	400	09	-	02	11	-	-	-
Additional Course for Honours or Minor Degree: Permitted to opt for maximum two additional courses for the award of Honours or Minor Degree																			

Additional Course for Honours or Minor Degree: Permitted to opt for maximum two additional courses for the award of Honours or Minor Degree

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral OB: Open Book

*Course run through SWAYAM/NPTEL/ MOOC Learning Based Platform

** These credits will be transferred from Skill Enhancement Program/Research Internship/On Job Training

#Course run through MITS-DU MOOCs

HSMC	BSC	ESC	DC	DE	OC	DLC	NEC	SP	SIP	SLP	PDC	PBL	MAC	MWS
0	0	0	0	2	1	1	0	1	0	0	0	0	0	1

Mode of Learning						Mode of Examination						Total Credits
Theory		SEP	Lab			Theory			SEP	Lab		
Face to Face	Online	Face to Face	Face to Face	Experiential	Experimental	PP	MCQ	OB	SO	AO	SO	
3	6	1	-	1	-	3	6	-	1	-	1	
27.27 %	54.55 %	9.09 %	-	9.09 %	-	27.27 %	54.55 %	-	9.09 %	-	9.09 %	Credits %



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Department of Chemical Engineering
Scheme of Evaluation

B. Tech. VIII Semester (*Chemical Engineering*) (for batch admitted in academic session 2024-25 onwards)

S. No.	Course Code	Category Code	Course Name	Maximum Marks Allotted								Total Marks	Contact Hours per week			Total Credits	Mode of Learning	Mode of Major Evaluation	Duration of Major Evaluation
				Theory Block				Practical Block		MOOCs			L	T	P				
				Continuous Evaluation			Major Evaluation	Continuous Evaluation	Major Evaluation	Assignment	Exam								
				Minor Evaluation I	Minor Evaluation II	Quiz/ Assignment													
1.	1724442XX	DE	Departmental Elective* (DE-5)	-	-	-	-	-	-	25	75	100	3	-	-	3	Online	MCQ	3 Hrs
2.	1724442XX	OC	Open Category Course* (OC-3)	-	-	-	-	-	-	25	75	100	2	-	-	2	Online	MCQ	3 Hrs
3.	17244201	PBL	Industry Internship/ Research Internship/ Innovation & Start-up	-	-	-	-	280	120	-	-	400	-	-	20	10	Experiential	SO	-
4.	17244202	PDC	Professional Development##	-	-	-	-	-	50	-	-	50	-	-	4	2	Interactive	SO	-
Total				-	-	-	-	280	170	50	150	650	05	-	24	17	-	-	-

Summer Semester of six-eight week duration will be conducted to complete any backlog courses.

Additional Course for Honours or Minor Degree: Permitted to opt for maximum two additional courses for the award of Honours or Minor Degree

MCQ: Multiple Choice Question **AO:** Assignment + Oral **PP:** Pen Paper **SO:** Submission + Oral **OB:** Open Book

*Course run through SWAYAM/NPTEL/ MOOC Learning Based Platform

Evaluation will be based on participation/laurels brought by the students to the institution in national/state level technical and other events during the complete tenure of the UG programme (participation in professional chapter activities, club activities, cultural events, sports, personality development activities, collaborative events, MOOCs, technical events, institute/department committees, etc.)

HSMC	BSC	ESC	DC	DE	OC	DLC	NEC	SP	SIP	SLP	PDC	PBL	MAC	MWS
0	0	0	0	1	1	0	0	0	0	0	1	1	0	0

Mode of Learning						Mode of Examination						Total Credits
Theory		Professional Development	Lab			Theory			Professional Development	Lab		
Face to Face	Online	Interactive	Face to Face	Experiential	Experimental	PP	MCQ	OB	SO	AO	SO	
-	5	2	-	10	-	-	5	-	2	-	10	
-	29.41 %	11.76 %	-	58.82 %	-	-	29.41 %	-	11.76 %	-	58.82 %	Credits %