

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(A Govt. Aided UGC Autonomous & NAAC Accredited Institute affiliated to RGPV, Bhopal)

B.Tech. (Chemical Engineering) I Semester

2020-21

S. No.	Subject Code	Category Code	Subject Name	Maximum Marks Allotted							Total Marks	Contact Hours per week			Total Credits	Mode of Teaching (Offline/Online)	Mode of Exam.
				Theory Slot				Practical Slot				L	T	P			
				End Sem.		Mid Sem. Exam.	Quiz/Assignment	End Sem	Lab Work & Sessional	Skill Based Mini Project							
				End Term Evaluation	Proficiency in subject/course												
1.	100012	BSC	Engineering Chemistry	50	10	20	20	60	20	20	200	2	1	2	4	Blended (2/1)	MCQ
2.	100020	ESC	Basic Civil Engineering & Mechanics	50	10	20	20	-	-	-	100	2	1	-	3	Blended (2/1)	PP
3.	100021	ESC	Basic Mechanical Engineering	50	10	20	20	-	-	-	100	2	1	-	3	Blended (2/1)	MCQ
4.	100022	ESC	Basic Electrical & Electronics Engineering	50	10	20	20	60	20	20	200	2	1	2	4	Blended (2/1)	MCQ
5.	100023	ESC	Basic Computer Engineering	50	10	20	20	60	40	-	200	2	1	2	4	Blended (2/1)	A+O
6.	100024	ESC	Manufacturing Practices	-	-	-	-	60	20	20	100	-	-	2	1	Offline (2/0)	SO
Total				250	50	100	100	240	100	60	900	10	5	8	19		
<p style="text-align: center;">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.</p>																	

Subchan

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Anish

Anish

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(A Govt. Aided UGC Autonomous & NAAC Accredited Institute affiliated to RGPV, Bhopal)

B.Tech. (Chemical Engineering) II Semester

2020-21

S. No.	Subject Code	Category Code	Subject Name	Maximum Marks Allotted							Total Marks	Contact Hours per week			Total Credits	Mode of Teaching (Offline/ Online)	Mode of Exam.
				Theory Slot				Practical Slot				L	T	P			
				End Sem.		Mid Sem. Exam.	Quiz/ Assignment	End Sem	Lab Work & Sessional	Skill Based Mini Project							
				End Term Evaluation	Proficiency in subject /course												
1.	100011	BSC	Engineering Mathematics -I	50	10	20	20	-	-	-	100	3	1	-	4	Offline (0/4)	PP
2.	170211	DC	Chemical Process Calculations	50	10	20	20	60	20	20	200	2	1	2	4	Blended (2/1)	PP
3.	100014	ESC	Engineering Graphics	50	10	20	20	-	-	-	100	3	-	-	3	Blended (2/1)	A+O
4.	100015	HSMC	Energy, Environment, Ecology & Society	50	10	20	20	-	-	-	100	3	-	-	3	Blended (2/1)	MCQ
5.	100016	HS MC	Technical Language	50	10	20	20	-	-	-	100	3	-	-	3	Blended (2/1)	PP
6.	100017	HS MC	Language Lab	-	-	-	-	60	20	20	100	-	-	2	1	Offline- (2/0)	SO
7.	100018	ESC	Eg. Graphics Lab	-	-	-	-	60	20	20	100	-	-	2	1	Offline (2/0)	SO
Total				250	50	100	100	180	60	60	800	14	2	6	19		

Summer Internship Project – I (Institute Level) (Qualifier): Minimum two-week duration: Evaluation in III Semester.

Subhan

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MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR
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B.Tech. III Semester (Chemical Engineering) *Effective for academic session 2021-22 & 2022-23*

S. No.	Subject Code	Category Code	Subject Name	Maximum Marks Allotted							Total Marks	Contact Hours per week			Total Credits	Mode of Teaching (Offline/Online)	Mode of Exam
				Theory Slot				Practical Slot				L	T	P			
				End Sem.		Mid Sem. Exam.	Quiz/Assignment	End Sem	Lab Work & Sessional	Skill Based Mini Project							
				End Term Evaluation	Proficiency in subject/course												
1.	100025	BSC	Engineering Mathematics-II	50	10	20	20	-	-	-	100	3	1	-	4	Offline (3/0)	PP
2.	170311	DC	Fluid Mechanics	50	10	20	20	60	20	20	200	2	1	2	4	Blended (2/1)	PP
3.	170312	DC	Organic Process Technology	50	10	20	20	-	-	-	100	3	-	-	3	Blended (2/1)	MCQ
4.	170313	DC	Chemical Engineering Thermodynamics	50	10	20	20	-	-	-	100	3	-	-	3	Blended ((2/1)	PP
5.	170314	DC	Fluid Particle Mechanics	50	10	20	20	60	20	20	200	3	-	2	4	Blended (2/1)	PP
6.	170315	DLC	Chemical Synthesis Lab	-	-	-	-	60	20	20	100	-	-	2	1	Offline (1/0)	SO
7.	170316	DLC	Self-learning/Presentation (SWAYAM/NPTEL/MOOC)	-	-	-	-	-	40	-	40	-	-	2	1	Online + Mentoring	SO
8.	200XXX	CLC	Novel Engaging Course (Informal Learning)	-	-	-	-	50	-	-	50	-	-	2	1	Interactive	SO
9.	170317	DLC	Summer Internship Project-I (Institute Level) (Evaluation)	-	-	-	-	60	-	-	60	-	-	4	2	Offline	SO
Total				250	50	100	100	290	100	60	950	14	2	14	23	-	-
10.	1000005 ⁵	MAC	Project Management & Financing	50	10	20	10	-	-	-	100	2	-	-	GRADE	Online	MCQ

⁵ proficiency in course/subject includes the weightage towards ability/skill/competence/knowledge level/ expertise attained etc. in that particular course/subject.
^{SS}MCQ: Multiple Choice Question ^{SS}AO: Assignment + Oral ^{SS}PP: Pen Paper ^{SS}SO: Submission + Oral

Mode of Teaching				Mode of Examination							Total Credits
Theory		Lab	NEC	Theory			Lab	SIP/SLP/NEC	SO		
Offline	Online			Blended	PP	A+O				MCQ	
		Offline	Online				SO				
4	1	8	4	5	1	4	0	1	4	2	23
17.39	4.34	34.78	17.39	21.73	4.34	36.36	0	9.09	36.36	18.18	Credits %

MAD
4/1/22
DEAN (ACADEMICS)
M.I.T.S
GWALIOR

Tabesh *Engl* *Shrikant* *Anjay*

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR-05
(A Govt. Aided UGC Autonomous Institute Affiliated to RGPV, Bhopal)

B.Tech. IV Semester (Chemical Engineering) Effective for academic session 2021-22, 2022-23

S. No.	Subject Code	Category Code	Subject Name	Maximum Marks Allotted							Total Marks	Contact Hours per week			Total Credits	Mode of Exam	Mode of Teaching
				Theory Slot				Practical Slot				L	T	P			
				End Sem.		Mid Sem. Exam	Quiz/Assignment	End Sem	Lab Work & Sessional	Skill Based Mini Project							
				End Term Evaluation	Proficiency in subject/course												
1.	100003	BSC	Engineering Mathematics-III	50	10	20	20	-	-	-	100	2	1	-	3	PP	Offline
2.	170411	DC	Heat Transfer	50	10	20	20	60	20	20	200	2	1	2	4	PP	Blended
3.	170412	DC	Instrumentation & Process Control	50	10	20	20	-	-	-	100	3	-	-	3	PP	Blended
4.	170413	DC	Mechanical Design of Process Equipments	50	10	20	20	-	-	-	100	3	-	-	3	AO	Blended
5.	170414	DC	Mass Transfer-I	50	10	20	20	60	20	20	200	2	1	2	4	PP	Blended
6.	100004	MC	Cyber Security	50	10	20	20	-	-	-	100	2	-	-	2	MCQ	Online
7.	170415	DLC	Process Control Lab	-	-	-	-	60	40	-	100	-	-	2	1	SO	Offline
8.	200XXX	CLC	NSS/NCC/ Novel engaging Courses	-	-	-	-	50	-	-	50	-	-	2	1	SO	Interactive
Total				300	60	120	120	230	80	40	950	14	3	8	21	-	-
9.	100000 1	MAC	Indian Constitution and Traditional Knowledge	50	10	20	20	-	-	-	100	2	-	-	Grade	MCQ	Online

MCQ: Multiple Choice Question AO: Assignment + Oral OB: Open Book PP: Pen Paper SO: Submission+ Oral
* compulsory registration for one online course using SWAYAM/NPTEL/ MOOC, evaluation through attendance, assignments and presentation

[§]Proficiency in course/subject – includes the weightage towards ability/ skill/ competence /knowledge level /expertise attained /attendance etc. in that particular course/subject

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02.03.2023

DEAN (ACADEMICS)
M.I.T.S
GWALIOR

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR
(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV, Bhopal)

B.Tech. V Semester (Chemical Engineering) For batches admitted in academic session 2021 – 22 onwards

S. No.	Subject Code	Category Code	Subject Name	Maximum Marks Allotted							Total Marks	Contact Hours per week			Total Credits	Mode of Teaching (Offline/Online)	Mode of Exam
				Theory Slot				Practical Slot				L	T	P			
				End Sem.		Mid Sem. Exam.	Quiz/Assignment	End Sem	Lab Work & Sessional	Skill Based Mini Project							
				End Term Evaluation	⁵ Proficiency in subject /course												
1.	170511	MC	Data Science	50	10	20	20	60	20	20	200	3	0	2	4	Blended (2/1)	MCQ
2.	170512	DC	Mass Transfer –II	50	10	20	20	60	20	20	200	2	1	2	4	Blended (2/1)	PP
3.	170513	DC	Chemical Reaction Engineering – I	50	10	20	20	60	20	20	200	2	1	2	4	Blended (2/1)	PP
4.	170514	DC	Computational Methods in Chemical Engg	50	10	20	20	60	20	20	200	2	1	2	4	Blended (2/1)	PP
5.	170515	DC	Inorganic Process Technology	50	10	20	20	-	-	-	100	2	-	-	2	Blended (2/1)	MCQ
6.	170516	DLC	Minor Project-I	-	-	-	-	60	40	-	100	-	-	4	2	Offline(2/0)	SO
7.	170517	DLC	Self-learning/Presentation (SWAYAM/NPTEL/MOOC)# or Interdisciplinary course from other institutions and platforms with credit transfer	-	-	-	-	-	40	-	40	-	-	2	1	Online + Mentoring	SO
8.	200XXX	CLC	Novel Engaging Course (Informal Learning)	-	-	-	-	50	-	-	50	-	-	2	1	Interactive	SO
9.	170518	DLC	Summer Internship Project-II (Institute Level) (Evaluation)	-	-	-	-	60	-	-	60	-	-	4	2	Offline	SO
Total				250	50	100	100	410	160	60	1150	10	3	20	23	-	-
10.	100007	MAC	Disaster Management (MC)	70	-	20	10	-	-	-	100	2	-		Grade	Online	MCQ
Additional Course for Honours or minor Specialization				Permitted to opt for maximum two additional courses for the award of Honours or Minor specialization													

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

compulsory registration for one online course using SWAYAM/NPTEL/ MOOC, evaluation through attendance, assignments and presentation

⁵Proficiency in course/subject – includes the weightage towards ability/ skill/ competence /knowledge level /expertise attained /attendance etc. in that particular course/subject

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR
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Department of Chemical Engineering Scheme of Evaluation B.Tech. VI Semester
Effective for academic session 2020-21, 2021-22 & 2022-23

S. No.	Subject Code	Category Code	Subject Name	Maximum Marks Allotted									Total Marks	Contact Hours per week			Total Credits	Mode of Teaching	Mode of Exam.	
				Theory Slot				Practical Slot			MOOCs			L	T	P				
				End Term Evaluation		Continuous Evaluation		Mid Sem. Exam.	Practical Exam.	Continuous Evaluation		Assignment								Exam
				End Sem. Exam.	Proficiency in subject/course	Mid Sem. Exam.	Quiz/Assignment			Labwork & Sessional	Skill Based Mini Project									
1.	170615	DC	Process Modeling & Simulation	50	10	20	20	60	20	20	-	-	200	3	-	2	4	Blended	PP	
2.	170616	DC	Process Equipment Design	50	10	20	20	-	-	-	-	-	100	3	-	-	3	Blended	AO	
3.	170617	MC	Artificial Intelligence & Machine Learning	50	10	20	20	60	20	20	-	-	200	3	-	2	4	Blended	MCQ	
4.	DE	DE	Departmental Elective*(DE-1)	-	-	-	-	-	-	-	25	75	100	3	-	-	3	online	MCQ	
5.	OC	OC	Open Category(OC-1)	50	10	20	20	-	-	-	-	-	100	3	-	-	3	Blended	MCQ	
6.	170618	DLC	Minor Project-II	-	-	-	-	60	40	-	-	-	100	-	-	4	2	-	-	
7.	200XXX	CLC	Novel Engaging Course (Informal Learning)	-	-	-	-	50	-	-	-	-	50	-	-	2	1	Interactive	-	
Total				200	40	80	80	230	80	40	25	75	850	15	-	10	20	-	-	
8.	1000007	MAC	Intellectual Property Rights (IPR)	50	10	20	20	-	-	-	-	-	100	2	-	-	GRADE	Online	MCQ	
Summer Internship-III (On Job Training) for Four weeks duration: Evaluation in VII Semester																				
Additional Course for Honours or Minor Specialization				Permitted to opt for maximum two additional courses for the award of Honours or Minor specialization																

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^{ss}SO: Submission + Oral

*Course run through SWAYAM/NPTEL/MOOC Learning Based Platform with credit transfer

DE-I(Online)	OC-I
170661- Multiphase Flow	910115-Fuels & Combustion(MCQ)
170662- Membrane Technology	-
170663- Physical and Electrochemical Characterizations in Chemical Engineering	-

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(Deemed to be University)

NAAC Accredited with A++ Grade

Department of Chemical Engineering

Scheme of Evaluation

B. Tech. VII Semester *For batches admitted in academic session 2021-22*

S. No.	Subject Code	Category Code	Subject Name	Maximum Marks Allotted									Total Marks	Contact Hours per week			Total Credits	Mode of Teaching (Online, Offline, Blended)	Mode of Exam.
				Theory Slot				Practical Slot			MOOCs			L	T	P			
				End Term Evaluation		Continuous Evaluation		End Sem. Exam.	Continuous Evaluation		Assignment	Exam							
				End Sem. Exam.	Proficiency in subject /course	Mid Sem. Exam	Quiz/ Assignment		Lab work & Sessional	Skill Based Mini Project									
1.	DE	DE	Departmental Elective (DE-2)	50	10	20	20	-	-	-	-	-	100	3	-	-	3	Offline	PP
2.	DE	DE	Departmental Elective* (DE-3)	-	-	-	-	-	-	-	25	75	100	3	-	-	3	Blended	MCQ
3.	DE	DE	Departmental Elective(DE-4)*	-	-	-	-	-	-	-	25	75	100	3	-	-	3	Blended	MCQ
4.	OC	OC	Open Category (OC-2)	50	10	20	20	-	-	-	-	-	100	3	-	-	3	Blended	MCQ
5.	170715	DLC	Process Computation Lab	-	-	-	-	60	20	20	-	-	100	-	-	4	2	Offline	SO
6.	170716	DLC	Creative Problem Solving (Evaluation)	-	-	-	-	25	25	-	-	-	50	-	-	2	1	Blended	SO
7.	170717	DLC	Summer Internship Project-III (04 weeks) (Evaluation)	-	-	-	-	60	-	-	-	-	60	-	-	4	2	Offline	SO
Total				100	20	40	40	145	45	20	25	75	610	12	-	10	17	-	-
8	1000008	MAC	Universal Human Values & Professional Ethics(UHVPE)	50	10	20	20	-	-	-	-	-	100	2	-	-	GRADE	Blended	MCQ
Additional Course for Honours or minor Specialization				Permitted to opt for maximum two additional courses for the award of Honours or Minor specialization															

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\$\$SO: Submission + Oral

* Course run through SWAYAM/NPTEL/ MOOC Learning Based Platform with Credit Transfer

DE-II(Offline)	DE-III(Online)	DE-IV (Online)	OC-II
Transport Phenomena -170721	Chemical Process Safety -170761	Petroleum Reservoir Engineering-170765	Industrial Safety and Hazards - 910215
Equilibrium Stage operation -170722	Sustainable Energy Technology -170762	Petroleum Technology-170766	-
Heterogeneous Reaction Systems -170723	Fluidization Engineering - 170767	Chemical Process Intensification - 170768	-
Multi – Component Distillation -170724			

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR
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NAAC Accredited with A++ Grade

Mode of Teaching				Mode of Examination				Total Credits
Theory			Lab	Theory			Lab	
Offline	Online	Blended	Offline	PP	AO	MCQ	SO	
03	-	09	05	03	-	09	05	17
17.65%	-	52.94%	29.41%	17.65%	-	52.94%	29.41%	Credits %



Department of Chemical Engineering

Scheme of Evaluation

B. Tech. VIII Semester (for batch admitted in academic session 2021-22)

S. No.	Subject Code	Category Code	Subject Name	Maximum Marks Allotted								Total Marks	Contact Hours per week			Total Credits	Mode of Teaching (Online, Offline, Blended)	Mode of Exam.	
				Theory Slot				Practical Slot		MOOCs			L	T	P				
				End Term Evaluation		Continuous Evaluation		End Sem. Exam.	Continuous Evaluation		Assignment								Exam
				End Sem. Exam.	Proficiency in subject /course	Mid Sem. Exam.	Quiz/ Assignment		Lab work & Sessional	Skill Based Mini Project									
1.	DE	DE	Departmental Elective* (DE-5)	-	-	-	-	-	-	-	25	75	100	3	-	-	3	Online	MCQ
2.	OC	OC	Open Category* (OC-3)	-	-	-	-	-	-	-	25	75	100	3	-	-	3	Online	MCQ
3.	170811	DLC	Internship/Research Project/ Innovation & Start-up	-	-	-	-	250	150	-	-	-	400	-	-	18	9	Blended	SO
4.	170812	-	Professional Development [#]	-	-	-	-	50	-	-	-	-	50	-	-	4	2		
Total				-	-	-	-	300	150	-	50	150	650	6	-	22	17	-	-
Additional Course for Honours or minor Specialization				Permitted to opt for maximum two additional courses for the award of Honours or Minor specialization															

MCQ: Multiple Choice Question AO: Assignment + Oral

PP: Pen Paper

SO: Submission + Oral

*All of these courses will run through SWAYAM/NPTEL/ MOOC with credit transfer

[#] 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)

*DE-5 (SWAYAM/NPTEL/ MOOC platform)		*Open Category (OC-3) (SWAYAM/NPTEL/ MOOC platform) (For students of other branches)	
170861	Chemical Reaction Engineering -II	910323	Environmental Quality Monitoring & Analysis
170862	Biomass Conversion and Biorefinery	910324	Electrochemical Technology in Pollution Control
170863	Chemical Process Utilities		

Mode of Teaching				Mode of Examination				Total Credits
Theory		Lab	Theory			Lab		
Offline	Online	Blended	Offline	PP	AO	MCQ	SO	
-	06	-	11	-	-	06	11	17
-	35.29%	-	64.71%	-	-	35.29%	64.71%	Credits %