



माधव प्रौद्योगिकी एवं विज्ञान संस्थान, ग्वालियर
MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR
Deemed to be University
(Declared under Distinct Category by Ministry of Education, Government of India)
NAAC ACCREDITED WITH A++ Grade
Gola Ka Mandir, Gwalior (M.P.)- 474005, INDIA
Ph.:+91-751-2409300, E-mail: director@mitsgwalior.in, Website: www.mitsgwalior.in



Flexible Scheme (Jan. – June- 2025) B.Tech.

in

Mathematics and Computing



Department of Engineering Mathematics and Computing
Madhav Institute of Technology & Science
Gwalior-474005



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Flexible Scheme 2021-2022 B.Tech.

in

Mathematics and Computing



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Mathematics and Computing
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
MC	Mandatory Course
MOOC	Massive Open Online Courses

Definition of Credit:

1 Hr. Lecture (L) per week	1 credit
1 Hr. Tutorial (T) per week	1 credit
2 Hours Practical(Lab)/week	1 credit

***Minor variation is allowed as per need of the respective disciplines. Please consult the AICTE model curriculum as a standard reference, if needed.*



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Flexible Scheme (2022-2026) B.Tech. in Mathematics and Computing



Department of Engineering Mathematics and Computing
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Department of Engineering Mathematics & Computing
Scheme of Examination
B. Tech. VI Semester

(Admitted Batch 2022)

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			MOOCs			L	T	P			
				End Sem.		Mid Sem. Exam.	Quiz/Assignment	End Sem	Lab Work & Sessional	Skill Based Mini Project	Assignment	Exam							
				End Term Evaluation	Proficiency in subject/course														
1.	2250601	DC	Computer Graphics	50	10	20	20	-	-	-			100	3	1	-	4	Offline	PP
2.	2250602	DC	Compiler Design	50	10	20	20	-	-	-			100	3	1	-	4	Offline	PP
3.	2250603	DE	Departmental Elective (DE-I)								25	75	100	3	-	-	3	Online	MCQ
4.	2250604	MC	Artificial Intelligence & Machine Learning (AI & ML)	50	10	20	20	60	20	20			200	3	-	2	4	Blended	MCQ
5.		OC	Open Category (OC-1)	50	10	20	20	-	-	-			100	3	-	-	3	Offline	PP/MCQ
6.	2250605	DLC	Minor Project-II					60	40				100	-	-	4	2	Offline (2/0)	SO
7.	200xxx	CLC	Novel Engaging Course	-	-	-	-	50	-	-			50	-	-	2	1	Interactive	SO
8.		NSS	*Natural Sciences & Skill	200	40	80	80	120	40	40	-	-	600	-	-	-	2*	-	-
Total				400	80	160	160	290	100	60	25	75	1350	15	2	4	23		
Summer Internship-III (On Job Training) for Four weeks duration: Evaluation in VII Semester																			
9.	1000007		Intellectual Property Right (IPR)	50	10	20	20	-					100	2			GRADE	Online	MCQ

*Natural Sciences & Skills: Engineering Physics / Engineering Chemistry / Environmental Science/ Language

(“Natural Science & Skills” treated as Mandatory Audit Courses from first to fourth semester and cumulative marks converted as a cluster of credits and awarded in the VI semester)

**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

^{**} The Minor Project-I may be evaluated by an internal committee for awarding sessional marks.

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

Mode of Teaching					Mode of Examination					Total Credits
Theory		Blended	Lab	NEC	Theory			Lab	NEC	
Offline	Online				Offline	Interactive	PP			
		Offline	Online	Offline	Interactive	PP	A+O	MCQ	SO	
11	3	3	1	2	1	3		3	1	1
52.38%	14.28%	14.28%	4.76%	9.52%	4.76%	37.5%		37.5%	12.5%	12.5%



Open Course (OC- I)		
S. No.	Subject Code	Subject name
1		Advanced Numerical Techniques
2		Transform Calculus
3		Computational Fluid Dynamics

DE -I (Through NPTEL)					
S. No.	Subject Code	Subject name	Time Duration (Weeks)	Faculty Coordinator	Mentor Name and Affiliation
1	250605	Block chain and its application	12	Dr. Minakshi Dhaiya / Dr. A. K. Ray	Prof. Sandip Chakraborty, Prof. Shamik Sural from IIT Kharagpur
2	250606	Cloud Computing	12		Prof. Soumya Kanti Ghosh from IIT Kharagpur
3	250607	GPU Architectures and Programming	12		Prof. Soumya jit Dey from IIT Kharagpur
4	250608	Introduction to internet of things	12		Prof. Sudip Misra from IIT Kharagpur

Minor Specialization					
S. No.	Subject Code	Subject name	Time Duration (Weeks)	Faculty Coordinator	Mentor Name and Affiliation
1	M250601	A Primer to Mathematical Optimization	12	Dr. Minakshi Dhaiya	Prof. Debdas Ghosh from IIT (BHU), Varanasi
2	M250602	Advanced Linear Algebra	12		Prof. Premananda Bera from IIT Roorkee
3	M250603	Advanced Probability Theory	12		Prof. Niladri Chatterjee from IIT Delhi

Honors Specialization					
S. No.	Subject Code	Subject name	Time Duration (Weeks)	Faculty Coordinator	Mentor Name and Affiliation
1	H250601	Getting Started with Competitive Programming	12	Dr. Minakshi Dhaiya	Prof. Neeldhara Misra from IIT Gandhinagar
2	H250602	Advanced Graph Theory	8		Prof. Rajiv Misra from IIT Patna
3	H250603	Computer Vision & Image Processing Fundamental and Applications	12		Prof. M. K. Bhuyan from IIT Guwahati



Flexible Scheme & Syllabus 2023-2027 B.Tech.

in

Mathematics and Computing



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***Minor variation is allowed as per need of the respective disciplines. Please consult the AICTE model curriculum as a standard reference, if needed.*



Department of Engineering Mathematics & Computing

Scheme of Examination

B. Tech. IV Semester

(Admitted batch 2023)

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.	3250401	DC	Transform and Vector Calculus	50	10	20	20	-	-	-	100	2	1	-	3	Offline (3/0)	PP
2.	3250402	DC	Data Base and Management System & SQL	50	10	20	20	40	30	30	200	2	1	2	4	Blended (2/1)	PP
3.	3250403	DC	Theory of Computation	50	10	20	20				100	2	1	-	3	Blended (2/1)	MCQ
4.	3250404	DC	Design & Analysis of Algorithm	50	10	20	20				100	2	1	-	3	Blended(2/1)	PP
5.	3250405	DC	Number Theory and Cryptography	50	10	20	20	-	-	-	100	3	1	-	4	Offline(3/0)	PP
6.	3250406	DLC	Programming in Python	-	-	-	-	40	30	30	100	-	-	4	2	Offline	SO
7.	200xxx	CLC	Novel Engaging Course	-	-	-	-	50	-	-	50	-	-	2	1	Interactive	SO
Total				250	50	100	100	130	60	60	750	11	5	4	20		
Summer Internship Project-II (Soft skills Based) for two weeks duration: Evaluation in V Semester																	
8.	3000002	Natural Science & Skill)	Engg. Chemistry	50	10	20	20	-	-	-	100	2	-	-	Grade	Online	MCQ
9	1000005	MAC	Project Management and Financing	50	10	20	20	-	-	-	100	2	-	-	Grade	Online	MCQ

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

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

Mode of Teaching						Mode of Examination					Total Credits
Theory				Lab	NEC	Theory			Lab	NEC	
Offline	Online	Blended		Offline	Interactive	PP	A+O	MCQ	SO	SO	
		Offline	Online								
6	2	6	3	2	1	4	-	2	1	1	20
30%	10%	30%	15%	10%	5%	50%	-	25%	12.5%	12.5%	Credits %