



माधव प्रौद्योगिकी एवं विज्ञान संस्थान, ग्वालियर
MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR
Deemed 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: vicechancellor@mitsgwalior.in, Website: www.mitsgwalior.in



MITS

Centre for IoT

B.Tech. Electrical & Computer Engineering

Curriculum and syllabi

(Admitted Batch : 2026)

Contact:

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B.Tech : Electrical and Computer Engineering

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

(Batch admitted in Academic Session 2026-27 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
IKS	Indian Knowledge System
UHV	Universal Human Values



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Scheme of Evaluation

B. Tech. I Semester (Electrical & Computer Engineering)

S. No.	Course Code	Category Code	Course Name	Contact Hours per week			Total Credits
				L	T	P	
1.	33261101	DC	Introduction to Electrical and Computer Engineering	3	-	-	3
2.	33261102	ESC	Computer Programming	2	-	-	2
3.	33261103	DC	Basics of Embedded Programming	2	1	-	3
4.	33261104	DC	Digital Logic Design	2	1	-	3
5.	33261105	BSC	Linear Algebra and Calculus	3	-	-	3
6.	33261106	DLC	Computer Programming Lab	-	-	2	1
7.	33261107	DLC	Smart Electrical and Computing Systems Lab	-	-	2	1
8.	33261108	SP	Semester Proficiency ^S	-	-	2	1
9.	33261109	PBL	Micro Project-I [#]	-	-	2	1
10.	33261110	HSMC	Language Lab	-	-	2	1
Total				12	02	10	19
11.	23261111	MWS	Mandatory Workshop on Virtual Lab Platform	Interactive			
12.	23261112	MIP	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.	Interactive			

Scheme of Evaluation

B. Tech. II Semester (Electrical & Computer Engineering)

S. No.	Course Code	Category Code	Course Name	Contact Hours per week			Total Credits
				L	T	P	
1.	33261201	DC	Sensors and Measurement	3	-	-	3
2.	33261202	DC	Object Oriented Programming	2	1	-	3
3.	33261203	DC	Computer Organization & Architecture	3	-	-	3
4.	33261204	DC	Operating Systems	3	-	-	3
5.	33261205	ESC	Basic Electrical & Electronics Engineering	2	-	-	2
6.	33261206	DLC	Sensors and Measurement Lab	-	-	2	1
7.	33261207	DLC	Object Oriented Programming Lab	-	-	2	1
8.	33261208	DLC	Electrical & Electronics Engineering Lab	-	-	2	1
9.	33261209	UHV	Universal Human Values	-	3	-	3
10.	33261210	SP	Semester Proficiency ^S	-	-	2	1
11.	33261211	PBL	Micro Project-II [#]	-	-	2	1
12.	NECXXXX	NEC	Novel Engaging Course (Activity Based Learning)	-	1	-	1
13.	SIP1XXXX	SIP	Skill Internship Program (Soft Skill)	-	-	-	2**
Total				13	05	10	25
14.	23251212	MAC	Sustainability & Environmental Science	Blended			
15.	23251213	MWS	Mandatory Workshop on Career Planning & Goalsetting at Department Level	Interactive			



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B. Tech. III Semester (Electrical & Computer Engineering)

S. No.	Course Code	Category Code	Course Name	Contact Hours per week			Total Credits
				L	T	P	
1.	33262101	BSC	Probability, Statistics and Optimization	3	-	-	3
2.	33262102	DC	Electronic Devices and Circuits	2	1	-	3
3.	33262103	DC	Signals and Systems	2	1	-	3
4.	33262104	DC	Data Structures	2	1	-	3
5.	33262105	DC	Electromechanical Energy Conversion	3	-	-	3
6.	33262106	DLC	Data Structures Lab	-	-	2	1
7.	33262107	DLC	Electromechanical Energy Conversion Lab	-	-	2	1
8.	33262108	DLC	Problem Solving through Python Programming	-	-	2	1
9.	33262109	SP	Semester Proficiency ^S	-	-	2	1
10.	33262110	PBL	Macro Project-I [#]	-	-	2	1
11.	33262111	SLP	Self-learning/Presentation ^{SSS} (SWAYAM/NPTEL/MOOC)	-	-	2	1
12.	NECXXXX	NEC	Novel Engaging Course (Activity Based Learning)	-	1	-	1
Total				12	04	12	22
13.	23262112	MAC	Cyber Security	Interactive			
14.	23262113	MWS	Mandatory Workshop on Circuit Simulation at Department Level	Interactive			

Scheme of Evaluation

B. Tech. IV Semester (Electrical & Computer Engineering)

S. No.	Course Code	Category Code	Course Name	Contact Hours per week			Total Credits
				L	T	P	
1.	33262201	DC	Computer Networks and Protocols	3	-	-	3
2.	33262202	DC	Design and Analysis of Algorithms	2	1	-	3
3.	33262203	DC	Embedded System and IoT	2	1	-	3
4.	33262204	DC	Power Electronics and Drives	3	-	-	3
5.	33262205	DC	Data Science	3	-	-	3
6.	33262206	DLC	Data Science Lab	-	-	2	1
7.	33262207	DLC	Power Electronics and Drives Lab	-	-	2	1
8.	33262208	DLC	Competitive Programming	-	-	2	1
9.	33262209	IKS	Indian Knowledge System	-	1	-	1
10.	33262210	SP	Semester Proficiency ^S	-	-	2	1
11.	33262211	PBL	Macro Project-II [#]	-	-	2	1
12.	NECXXXXX	NEC	Novel Engaging Course (Activity Based Learning)	-	1	-	1
13.	SIPXXXXX	SIP	Skill Internship Program	-	-	-	2**
Total				13	04	10	24
14.	23262112	MAC	Project Management, Economics & Financing	Interactive			
15.	23262113	MWS	Mandatory Workshop at Department Level	Interactive			



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Scheme of Evaluation

B. Tech. V Semester (Electrical & Computer Engineering)

S. No.	Course Code	Category Code	Course Name	Contact Hours per week			Total Credits
				L	T	P	
1.	33263101	DC	Power Electronics & Drives	2	-	-	2
2.	33263102	DC	Elements of Power System	2	1	-	3
3.	33263103	DC	Artificial Intelligence and Machine Learning	2	1	-	3
4.	33263104	DC	Control Systems	2	1	-	3
5.	332631xx	DE	Departmental Elective* (DE-1)	3	-	-	3
6.	33263108	DLC	Power Electronics & Drives Lab	-	-	2	1
7.	33263109	DLC	Artificial Intelligence and Machine Learning Lab	-	-	2	1
8.	33263110	DLC	Power System Lab	-	-	2	1
9.	33263111	SP	Semester Proficiency ^S	-	-	2	1
10.	33263112	PBL	Cornerstone Project	-	-	4	2
Total				11	04	14	20
11.	23263110	MAC	Supply Chain Management	Blended			
12.	23263111	MWS	Mandatory Workshop as per Annexure at Department Level	Interactive			

Scheme of Evaluation

B. Tech. VI Semester (Electrical & Computer Engineering)

S. No.	Course Code	Category Code	Course Name	Contact Hours per week			Total Credits
				L	T	P	
1.	33263201	DC	Data Base Management System	2	1	-	3
2.	33263202	DC	Power System Analysis and Control	2	1	-	3
3.	33263203	DC	Industrial IoT & Smart Systems	3	-	-	3
4.	332632xx	DE	Departmental Elective* (DE-2)	3	-	-	3
5.	332632xx	OC	Open Category Course (OC-1)	2	1	-	3
6.	33263207	DLC	DBMS Lab	-	-	2	1
7.	33263208	DLC	PSAC Lab	-	-	2	1
8.	33263209	SP	Semester Proficiency ^S	-	-	2	1
9.	33263210	PC	Professional Certification	-	-	2	1
10.	33263211	PSC	Professional Skills & Competencies	-	-	4	2
11.	33263212	PBL	Capstone Project	-	-	4	2
Total				12	03	16	23
11.	23263110	MAC	Disaster Management and Preparedness	Interactive			
12.	23263111	MWS	Mandatory Workshop as per Annexure at Department Level	Interactive			



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Scheme of Evaluation

B. Tech. VII Semester (Electrical & Computer Engineering)

S. No.	Course Code	Category Code	Course Name	Contact Hours per week			Total Credits
				L	T	P	
1.	332641XX	DE	Departmental Elective [#] (DE-3)	3	-	-	3
2.	332641XX	DE	Departmental Elective* (DE-4)	3	-	-	3
3.	332641XX	OC	Open Category Course* (OC-2)	3	-	-	3
4.	33264101	SEP	Skill Enhancement Program/Research Internship/ On Job Training	-	-	-	2**
5.	33264102	DLC	Creative Problem Solving	-	-	2	1
Total				09	-	02	12

Scheme of Evaluation

B. Tech. VIII Semester (Electrical & Computer Engineering)

S. No.	Course Code	Category Code	Course Name	Contact Hours per week			Total Credits
				L	T	P	
1.	332642XX	DE	Departmental Elective* (DE-5)	3	-	-	3
2.	332642XX	OC	Open Category Course* (OC-3)	2	-	-	2
3.	33264201	PBL	Industry Internship/Research Internship/ Innovation & Start-up	-	-	16	8
4.	33264202	PDC	Professional Development ^{##}	-	-	4	2
Total				05	-	20	15

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

Suggested topics of MWS	Semester
<p>Minimum one Mandatory Workshop to be conducted in I to VI semester, from the list below:</p> <ul style="list-style-type: none">• Mindfulness and Wellness Program• Writing Research Articles: Idea to Publication• Internships: Explore, Apply and Excel• Placement Readiness: Building Resume and Mastering Interview• Mastering Competitive Success• Intellectual Property Rights <p>OR/And</p> <p>On any discipline specific emerging technological advancements (tools/technology) in the domain.</p> <p><i>MWS should be conducted by either an external or internal resource person, preferably during the regular teaching hours.</i></p>	I semester to VI semester
