



# MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(A Govt. Aided UGC Autonomous Institute & NAAC Accredited Institute Affiliated to R.G.P.V., Bhopal MP)

## Electrical Engineering Department

**For batches admitted in Academic Session 2018-2019 & 2019-2020**

### Scheme of Examination (B.Tech.)

#### GROUP A: II Semester & GROUP B: I Semester

S.No.	Subject Code	Category	Subject Name	Maximum Marks Allotted					Total Marks	Contact Hours per week			Total Credits
				Theory Slot			Practical Slot			L	T	P	
				End Sem.	Mid Sem.	Quiz/ Assignment	End Sem.	Lab work & Sessional					
1.	100101	BSC	Engineering Chemistry (BSC-2)	70	20	10	30	20	150	3	-	2	4 ✓
2.	100102	BSC	Mathematics-I (BSC-3)	70	20	10	-	-	100	3	1	-	4 ✓
3.	100103	HSMC	Technical English (HSMC-3)	70	20	10	30	20	150	3	-	2	4 ✓
4.	100104	ESC	Basic Electrical & Electronics Engineering(ESC-4)	70	20	10	30	20	150	3	-	2	4 ✓
5.	100105	ESC	Engineering Graphics(ESC-5)	70	20	10	30	20	150	3	-	2	4 ✓
6.	100106	ESC	Manufacturing Practices(ESC-6)	-	-	-	30	20	50	-	-	2	1
<b>Total</b>				<b>350</b>	<b>100</b>	<b>50</b>	<b>150</b>	<b>100</b>	<b>750</b>	<del>14</del> <b>15</b>	<b>1</b>	<b>10</b>	<del>20</del> <b>21</b>
Summer Internship Project –I (Institute Level) (Qualifier): Minimum two-week duration													

GROUP A: (Electrical, Electronics, Computer Science & Engineering, Information Technology, Electronics & Telecommunication)

GROUP B: (Civil, Mechanical, Chemical, Biotech, Automobile)

01 Theory Period=1 Credit; 02 Practical Periods =1 Credit

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## Electrical Engineering Department

**For batches admitted in Academic Session 2018-2019 & 2019-2020**

### Scheme of Examination

**B.Tech. III Semester (Electrical Engineering) [For batch admitted in Academic Session 2019-2020]**

S.No.	Subject Code	Category Code	Subject Name	Maximum Marks Allotted					Total Marks	Contact Hours per week			Total Credits
				Theory Slot			Practical Slot			L	T	P	
				End Sem.	Mid Sem. Exam.	Quiz/Assignment	End Sem	Term work					
1.	100001	BSC Engg.	Mathematics-II (BSC-4)	70	20	10	-	-	100	3	1	-	4
2.	130301	DC	Electromagnetic Field Theory (DC-1)	70	20	10	-	-	100	3	1	-	4
3.	130302	DC	Measurement & Instrumentation (DC-2)	70	20	10	30	20	150	3	-	2	4
4.	130303	DC	Network Analysis (DC-3)	70	20	10	30	20	150	3	-	2	4
5.	130304	DC	Analog Electronics (DC-4)	70	20	10	30	20	150	3	-	2	4
6.	130305	DLC	Software Lab-I* (DLC-1)	-	-	-	30	20	50	-	-	2	1
7.	130306	SEMINAR/ SELF STUDY	Self-learning/Presentation (SWAYAM/NPTEL/MOOC) <sup>6</sup>	-	-	-	-	25	25	-	-	2	1
8.	130307 130309	DLC	Summer Internship Project-I (Institute Level) (Evaluation) (DLC)	-	-	-	25	25	25	-	-	4	2
Total				350	100	50	145	105	750	15	2	14	24
9.	100002 <sup>5</sup>	MC	Biology for Engineers (Audit Course) (MC)	70	20	10	-	-	100	3	-	-	-
NSS/NCC				Qualifier									

<sup>6</sup> Compulsory registration for one online course using SWAYAM/NPTEL/ MOOC, evaluation through attendance, assignments and presentation.

<sup>5</sup> Course will run for Group A/B in III/IV semester respectively (Passing is optional, however a separate marksheet will be issued to those who qualify)

\*Virtual Lab to be conducted along with the traditional lab  
 GROUP A: (Electrical, Electronics, Computer Science & Engineering, Information Technology, Electronics & Telecommunication) & GROUP B: (Civil, Mechanical, Chemical, Biotech, Automobile)

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## Electrical Engineering Department


**For batches admitted in Academic Session 2018-2019 & 2019-2020**

### Scheme of Examination (B.Tech.) B.Tech. IV Semester (Electrical Engineering)

S. No.	Subject Code	Category Code	Subject Name	Maximum Marks Allotted					Total Marks	Contact Hours per week			Total Credits
				Theory Slot			Practical Slot			L	T	P	
				End Sem.	Mid Sem. Exam.	Quiz/Assignment	End Sem.	Term work Lab Work & Sessional					
1.	100003	BSC	Engg. Mathematics- III (BSC-5)	70	20	10	-	-	100	2	2	-	4
2.	130401	DC	Digital Electronics & Microprocessor (DC-5)	70	20	10	30	20	150	2	1	2	4
3.	130402	DC	Electrical Machines-I (DC-6)	70	20	10	30	20	150	2	1	2	4
4.	130403	DC	Control System (DC-7)	70	20	10	-	-	100	3	1	-	4
5.	130404	DC	Power System-I (DC-8)	70	20	10	-	-	100	3	1	-	4
6.	100004	MC	Cyber Security (MC)	70	20	10	-	-	100	2	1	-	3
7.	130405	DLC	Software Lab-II* (DLC-2)	-	-	-	30	20	50	-	-	6	3
<b>Total</b>				<b>420</b>	<b>120</b>	<b>60</b>	<b>90</b>	<b>60</b>	<b>750</b>	<b>14</b>	<b>7</b>	<b>10</b>	<b>26</b>
NSS/NCC				Qualifier									
Summer Internship Project-II (Soft Skills Based) for two weeks duration: Evaluation in V Semester													

<sup>5</sup>This course will run for Group A/ B in IV/III semester respectively.

\*Virtual Lab to be conducted along with the traditional lab

  
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## Electrical Engineering Department

**For batches admitted in Academic Session 2018-2019 & 2019-2020**

### Scheme of Examination B.Tech. V Semester (Electrical Engineering)

S. No.	Subject Code	Category Code	Subject Name	Maximum Marks Allotted					Total Marks	Contact Hours per week			Total Credits
				Theory Slot			Practical Slot			L	T	P	
				End Sem.	Mid Sem Exam.	Quiz/Assignment	End Sem.	Lab work & Sessional					
1.	100005*	HSMC	Ethics, Economics, Entrepreneurship & Management (HSMC-4)	70	20	10	-	-	100	3	-	-	3
				70	20	10	-	-	100	3	1	-	4
2.	130501	DC	Signals & Systems (DC-9)	70	20	10	30	20	150	2	1	2	4
3.	130502	DC	Power System-II (DC-10)	70	20	10	30	20	150	2	1	2	4
4.	130503	DC	Electrical Machines-II (DC-11)	70	20	10	30	20	150	2	1	2	4
5.	130504	DC	Power Electronics (DC-12)	70	20	10	30	20	150	-	-	2	1
6.	130505	DLC	Minor Project-I** (DLC-3)	-	-	-	30	20	50	-	-	6	3
7.	130506	DLC	Summer Internship Project-II (Evaluation) (DLC-4)	-	-	-	25	-	25	-	-	2	1
8.	130507	SEMINAR/ SELF STUDY	Self-learning/Presentation (SWAYAM/NPTEL/ MOOC) <sup>#</sup>	-	-	-	-	25	25	-	-	2	1
			<b>Total</b>	<b>350</b>	<b>100</b>	<b>50</b>	<b>145</b>	<b>105</b>	<b>750</b>	<b>12</b>	<b>4</b>	<b>16</b>	<b>24</b>
9.	100006 <sup>§</sup>	MC	Indian Constitution & Traditional Knowledge (Audit Course) (MC)	70	20	10	-	-	100	3	-	-	-

Department level activity/workshop/awareness programme to be conducted; certificate of compliance to be submitted by HoD to the Exam Controller through Dean Academics

Additional Course for Honours or minor Specialization

Permitted to opt for maximum two additional courses for the award of Honours or Minor specialization

\* Group A/B programmes will offer this course in V/VI Semester respectively.  
<sup>§</sup> Group A/B programmes will offer this course in V/VI Semester respectively. ((Passing is optional, however a separate marksheet will be issued to those who qualify)  
<sup>\*\*</sup> The minor project-I may be evaluated by an internal committee for awarding Sessional marks.  
<sup>#</sup> Compulsory registration for one online course using SWAYAM/NPTEL/ MOOC, evaluation through attendance, assignments and presentation  
 GROUP A: (Electrical, Electronics, Computer Science & Engineering, Information Technology, Electronics & Telecommunication)

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## Electrical Engineering Department

**For batches admitted in Academic Session 2018-2019 & 2019-2020**

### Scheme of Examination

#### B.Tech. VI Semester (Electrical Engineering)

S. No	Subject Code	Category Code	Subject Name	Maximum Marks Allotted					Total Marks	Contact Hours per week			Total Credits
				Theory Slot			Practical Slot			L	T	P	
				End Sem.	Mid Sem Exam.	Quiz/Assignment	End Sem.	Lab work & Sessional					
1.	130601	DC	Switchgear & Protection (DC-13)	70	20	10	30	20	150	2	1	2	4
2.	130602	DC	Electrical Engineering Materials (DC-14)	70	20	10	-	-	100	4	-	-	4
3.	130611/ 130612/ 130613	DE	DE (DE-1)	70	20	10	-	-	100	4	-	-	4
4.	130651/ 130652/ 130653	DE	DE* (DE-2)	70	20	10	-	-	100	4	-	-	4
5.	900103	OC	OC (OC-1) <del>Energy Conservation &amp; Management</del> #	70	20	10	-	-	100	2	1	-	3
6.	100007	MC	Disaster Management (MC)	70	20	10	-	-	100	3	-	-	3
7.	130603	DLC	Minor Project-II (DLC-5)	-	-	-	50	50	100	-	-	4	2
<b>Total</b>				<b>420</b>	<b>120</b>	<b>60</b>	<b>80</b>	<b>70</b>	<b>750</b>	<b>19</b>	<b>2</b>	<b>6</b>	<b>24</b>

Summer Internship-III (On Job Training) for Four weeks duration: Evaluation in VII Semester

Additional Courses for obtaining Honours/ Honours with Minor Specialization by desirous students

Permitted to opt for maximum two additional courses for the award of Honours or Minor specialization

\*This course run through SWAYAM/NPTEL/ MOOC platform

# ECM is only opted by other department students

DE-1		DE-2 (SWAYAM/NPTEL)	
130611	Computer Aided Power System Analysis	130651	Non Conventional Energy Resources (IITM)
130612	Industrial Automation	130652	DC Power Transmission Systems (IITM)
130613	Transducers & Sensors	130653	Fuzzy Logic & Neural Networks

*Waste to Energy (130651)*  
*Renewable Energy (130652)*  
*wind and Biomass (130653)*

*Handwritten signatures and marks in blue ink.*

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Electrical Engineering Department

B.Tech. (Electrical Engineering) VII Semester

For batch admitted in Academic Session 2019-2020

S. No.	Subject Code	Category Code	Subject Name & Title	Maximum Marks Allotted						Total Marks	Contact Hours per week			Total Credits	
				Theory Slot			Practical Slot		MOOC		L	T	P		
				End Sem.	Mid Sem. Exam	Quiz/Assignment	End Sem.	Lab Work & Sessional	Assignment						Exam
1.	130713/ 130715/ 130716	DE (DE-3)	IoT in Microgrid Electric Vehicles Biomedical Instrumentation	70	20	10	-	-	-	-	100	2	1	-	3
2.	130751/ 130755	DE (DE-4)	DE*	-	-	-	-	-	25	75	100	2	-	-	2
3.	OC-2	OC	OC-2	70	20	10	-	-	-	-	100	3	-	-	3
4.	OC-3	OC	OC-3	70	20	10	-	-	-	-	100	3	-	-	3
5.	100008	MC	Intellectual Property Rights (IPR)	70	20	10	-	-	-	-	100	2	-	-	2
6.	130704	DLC	Electric Drives Lab	-	-	-	50	50	-	-	100	-	-	4	2
7.	130702	DLC	Summer Internship Project-III (04 weeks) Evaluation	-	-	-	50	50	-	-	100	-	-	4	2
8.	130703	DLC	Creative Problem Solving/ Industrial Automation & Control Lab	-	-	-	25	25	-	-	50	-	-	2	1
<b>Total</b>				<b>280</b>	<b>80</b>	<b>40</b>	<b>125</b>	<b>125</b>	<b>25</b>	<b>75</b>	<b>750</b>	<b>12</b>	<b>1</b>	<b>10</b>	<b>18</b>
Additional Course for Honors or minor Specialization				Permitted to opt for maximum two additional courses for the award of Honors or Minor specialization											

\* This course runs through SWAYAM/NPTEL/MOOC platform

DE-3		DE-4 (SWAYAM/NPTEL)		OC-2 (For students of other branches)		OC-3 (For students of other branches)	
130713	IoT in Microgrid	130751	Introduction to SMART	900205	Applications of Electrical Equipment &	900216	IoT in Microgrid
130715	Electric Vehicles	130755	Fundamentals of Electric Drives (HTK)	900230	Sensor Technology	900217	Electric Vehicles
130716	Biomedical Instrumentation						

Sulbhan  
04.07.2022

M. P. Singh  
04/07/2022  
MCADEMIC  
M.I.T.S  
GWALIOR

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## Electrical Engineering Department

### Scheme of Examination

### B.Tech. VIII Semester (Electrical Engineering)

**For batch admitted in Academic Session 2019-2020**

S. No.	Subject Code	Category	Subject Name & Title	Maximum Marks Allotted					MOOC		Total Marks	Contact Hours per week			Total Credits
				Theory Slot			Practical Slot		Assignment	Exam		L	T	P	
				End Sem.	Mid Sem. Exam	Quiz/ Assignment	End Sem.	Term Work							
1.	130851/55/56/57	DE	DE* (DE-5)	-	-	-	-	-	25	75	100	-	-	-	3
2.	900**	OC	OC* (OC-4)	-	-	-	-	-	25	75	100	-	-	-	2
3.	130801	DLC	Internship/ Project	-	-	-	250	150	-	-	400	-	-	12	6
4.	130802	-	Professional Development <sup>†</sup>	-	-	-	-	50	-	-	50	-	-	2	1
<b>Total</b>				-	-	-	250	200	50	150	650	-	-	8	12
Additional Courses for obtaining Honours or minor Specialization by desirous students				Permitted to opt for <u>maximum two additional courses</u> for the award of (i) Honours in parent discipline or (ii) Honours with Minor Specialization in engineering discipline other than the parent discipline.											

\*All of these courses will run through SWAYAM/NPTEL/ MOOC

<sup>†</sup>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 program (participation in professional chapter activities, club activities, cultural events, sports, personality development activities, collaborative events, MOOCs & technical events)

DE-5 *(SWAYAM/NPTEL/ MOOC)		OC-4**(SWAYAM/NPTEL/ MOOC) (For students of other branches)	
130851	Introduction to Internet of Things	900607	Renewable Energy Engineering: Solar, Wind and Biomass Energy Systems
130855	Power System Dynamics, Control and Monitoring	900608	Non-Conventional Energy Resources
130556	Microprocessors and Interfacing	900633	Smart Grid: Basics to Advanced Technologies
130857	Industrial Automation And Control	900605	Waste to Energy Conversion