

**Department of Electrical
Engineering
School of engineering and
Technology**

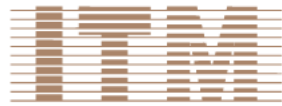
Criteria 1

**Percentage of students undertaking field
projects/research projects/internships**

Academic Year

2019-2020


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ITM University
Gwalior (M.P.)



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“ CELEBRATING DREAMS ”

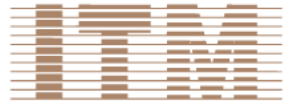
Total Number of Research Projects in UG

Research Projects	Program	Total Number of students Involved in research projects
	B.Tech-EE	11

Total Number of Industrial Trainings in UG

Industrial Trainings	Program	Total Number of students Involved in industrial training
	B.Tech-EE	11


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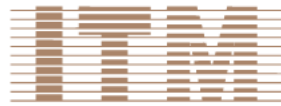
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STUDY AND EVALUATION SCHEME (2019-2020)
SUBJECT-WISE DISTRIBUTION OF MARKS AND CORRESPONDING CREDITS

Programme: B.Tech (Electrical Engineering)

Semester:3rd

S.No.	Course Code	Course Name	Maximum Marks Allotted							Credits Allotted			Total Credits
			Theory			Practical			Total Marks	L	T	P	
			End Sem. Exam	Mid Sem. Exam	Class Participation	End Sem. Exam	Progressive Evaluation	Internal Viva					
1	ECL0303[T]	Semiconductor Devices	40	30	30	0	0	0	100	2	1	0	3
2	ECL0304[T]	Architecture of Smart IoT devices	40	30	30	0	0	0	100	3	0	0	3
3	ECL0306[T]	Digital Electronics	40	30	30	0	0	0	100	2	1	0	3
4	ECL0307[T]	Network Analysis & Synthesis	40	30	30	0	0	0	100	2	1	0	3
5	MAL0306[T]	Engineering Mathematics	40	30	30	0	0	0	100	3	1	0	4
6	CSP0303[P]	Object Oriented Programming With Java	0	0	0	40	30	30	100	0	0	2	2
7	ECL0303[P]	Semiconductor Devices	0	0	0	40	30	30	100	0	0	1	1
8	ECL0304[P]	Architecture of Smart IoT devices	0	0	0	40	30	30	100	0	0	1	1
9	ECL0306[P]	Digital Electronics	0	0	0	40	30	30	100	0	0	1	1
10	ECL0307[P]	Network Analysis & Synthesis	0	0	0	40	30	30	100	0	0	1	1
11	EET0302[P]	Industrial Training-I	0	0	0	40	30	30	100	0	0	2	2
Total Credits												24	

7	Swayam MOOC Course(Optional)	Solar Energy Conversion	2 Credits
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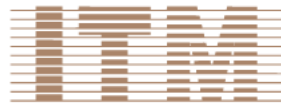
Head
Department of Mechanical Engineering

Dean
School of Engineering and Technology

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STUDY AND EVALUATION SCHEME (2019-2020)
SUBJECT-WISE DISTRIBUTION OF MARKS AND CORRESPONDING CREDITS

Programme: B.Tech (Electrical Engineering)

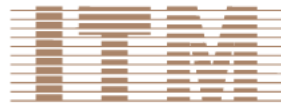
Semester: 6th

S.No.	Course Code	Course Name	Maximum Marks Allotted						Credits Allotted			Total Credits	
			Theory			Practical			Total Marks	L	T		P
			End Sem. Exam	Mid Sem. Exam	Class Participation	End Sem. Exam	Progressive Evaluation	Internal Viva					
1	ECL0662	Machine Learning	40	30	30	0	0	0	100	3	1	0	4
2	EEL0612	Linear Control System	40	30	30	0	0	0	100	3	1	0	4
3	EEL0613	Power system-III	40	30	30	0	0	0	100	3	1	0	4
4	EEL0614	Power Electronics	40	30	30	0	0	0	100	3	1	0	4
5	EEL0615	High Voltage Engineering	40	30	30	0	0	0	100	3	0	0	3
6	EED0603	Mini Project	0	0	0	40	30	30	100	0	0	1	1
7	EEL0612	Linear Control System	0	0	0	40	30	30	100	0	0	1	1
8	EEL0613	Power system-III	0	0	0	40	30	30	100	0	0	1	1
9	EEL0614	Power Electronics	0	0	0	40	30	30	100	0	0	1	1
10	EEL0603	Electrical Engineering Simulation Lab-II	0	0	0	40	30	30	100	0	0	1	1
Total Credits													24

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STUDY AND EVALUATION SCHEME (2019-2020)
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Programme: B.Tech (Electrical Engineering)

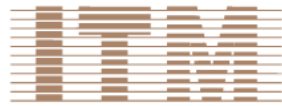
Semester: 7th

S.No.	Course Code	Course Name	Maximum Marks Allotted						Credits Allotted			Total Credits	
			Theory			Practical			Total Marks	L	T		P
			End Sem. Exam	Mid Sem. Exam	Class Participation	End Sem. Exam	Progressive Evaluation	Internal Viva					
1	ECE0764	Cloud Computing	40	30	30	40	30	30	200	3	1	0	4
2	EEL0718[T]	Electric drives	40	30	30	0	0	0	100	3	1	0	4
3	EEL0719[T]	Computer aided protection	40	30	30	0	0	0	100	3	1	0	4
4	EEL0720[T]	Special electrical machine & design	40	30	30	0	0	0	100	3	1	0	4
5	EED0702	Major project-I	0	0	0	40	30	30	100	0	0	2	2
6	EEL0718	Electric drives	0	0	0	40	30	30	100	0	0	1	1
7	EEL0719	Computer aided protection	0	0	0	40	30	30	100	0	0	1	1
8	EEL0720	Special electrical machine & design	0	0	0	40	30	30	100	0	0	1	1
9	EET0704	Industrial training-III	0	0	0	40	30	30	100	0	0	2	2
10		Elective2.	40	30	30	0	0	0	100	3	1	0	4
Total Credits												27	

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STUDY AND EVALUATION SCHEME (2019-2020)
SUBJECT-WISE DISTRIBUTION OF MARKS AND CORRESPONDING CREDITS

Programme: B.Tech (Electrical Engineering)

Semester: 8th

S.No.	Course Code	Course Name	Maximum Marks Allotted						Credits Allotted			Total Credits	
			Theory			Practical			Total Marks	L	T		P
			End Sem. Exam	Mid Sem. Exam	Class Participation	End Sem. Exam	Progressive Evaluation	Internal Viva					
1	EEL0821[T]	Advanced Electrical Drives	40	30	30	0	0	0	100	3	1	0	4
2	EEL0822[T]	Utilization of Electrical Power	40	30	30	0	0	0	100	3	1	0	4
3	EED0804	Major Project	0	0	0	40	30	30	100	0	0	4	4
4	EEL0821	Advanced Electrical Drives	0	0	0	40	30	30	100	0	0	1	1
5		Elective4.	40	30	30	0	0	0	100	3	1	0	4
6		Elective3.	40	30	30	0	0	0	100	3	1	0	4
Total Credits													21

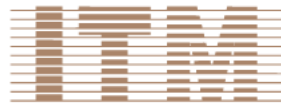
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“ CELEBRATING DREAMS ”

Syllabus-2019-2020

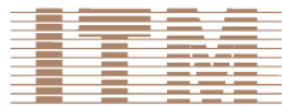
(SOET)(BTech-ElectricalEngineering)

Title of the Course	Industrial Training-I
Course Code	EET0302[P]

Part A

Year	2nd	Semester	3rd	Credits	L	T	P	C
					0	0	1	1
Course Type	Project							
Course Category	Projects and Internship							
Pre-Requisite/s					Co-Requisite/s			
Course Outcomes & Bloom's Level	CO1- Engage in industry initiatives during their industrial training.(BL2-Understand) CO2- Discuss the utilization of sophisticated tools and methodologies encountered during Industrial training and visits.(BL4-Analyze) CO3- Engage with industrial personnel and adhere to engineering procedures and discipline mandated by the industry.(BL5-Evaluate) CO4- Enhance knowledge of overall workplace conduct and cultivate interpersonal and team competencies.(BL2-Understand)							
Course Elements	Skill Development ✓ Entrepreneurship X Employability ✓ Professional Ethics X Gender X Human Values X Environment X		SDG (Goals)		SDG1(No poverty) SDG4(Quality education) SDG5(Gender equality) SDG7(Affordable and clean energy) SDG10(Reduced Inequalities) SDG11(Sustainable cities and economies) SDG12(Responsible consumption and production)			


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Part B

Modules	Contents	Pedagogy	Hours
Unit 1	Definition of analog & digital Instruments, Classification of analog instruments, their operating principle, Operating force, Types of supports, Damping, Controlling. Theory & operation of D'arsonval galvanometer. Measurements: Measurement systems, methods of measurement, classification of Instruments, Static and Dynamic Characteristics of the Instruments, Errors in measurement, Classification of Errors and Error Calibration curve, Loading Effect due to shunt and series connected instruments.	Lectures with whiteboard/PPT, Recorded video/Interactive videos	12

Part C

Modules	Title	Indicative-ABCA/PBL/ Experiments/Field work/ Internships	Bloom's Level	Hours
1	MPEB	Field work	BL3-Apply	40
2	Railways, Gwalior Office	Field work	BL3-Apply	40
3	BHEL	Field work	BL3-Apply	40

Part D(Marks Distribution)

Theory					
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation
Practical					
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation
100	50	40	20	60	30

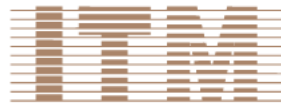
Part E

Books	
Articles	
References Books	
MOOC Courses	
Videos	

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	1	1	1	1	1	1	-	-	-	-	1	1	2	3	2
CO3	1	1	1	1	1	1	-	-	-	-	1	1	2	3	3
CO4	1	1	1	1	1	1	-	-	-	-	1	1	3	3	3
CO5	1	1	1	1	1	1	-	-	-	-	1	1	3	2	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-


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Syllabus-2019-2020

(SOET)(BTech-ElectricalEngineering)

Title of the Course	Mini Project
Course Code	EED0603

Part A

Year	3rd	Semester	6th	Credits	L	T	P	C
					0	0	4	4
Course Type	Project							
Course Category	Projects and Internship							
Pre-Requisite/s				Co-Requisite/s				
Course Outcomes & Bloom's Level	CO1- Examine and cultivate a cognitive approach for delivering a presentation.(BL2-Understand) CO2- Enhance his linguistic and communicative abilities. (BL3-Apply) CO3- promote collaboration by cultivating an understanding of alternative perspectives.(BL4-Analyze) CO4- Stay updated on the most recent advancements in electrical engineering.(BL5-Evaluate)							
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics X Gender X Human Values X Environment X		SDG (Goals)		SDG1(No poverty) SDG3(Good health and well-being) SDG4(Quality education) SDG6(Clean water and sanitation) SDG7(Affordable and clean energy) SDG9(Industry Innovation and Infrastructure) SDG11(Sustainable cities and economies) SDG12(Responsible consumption and production)			

Part B

Modules	Contents	Pedagogy	Hours
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Syllabus-2019-2020

(SOET)(BTech-ElectricalEngineering)

Title of the Course	Industrial training-III
Course Code	EET0704

Part A

Year	4th	Semester	7th	Credits	L	T	P	C
					0	0	4	4
Course Type	Project							
Course Category	Projects and Internship							
Pre-Requisite/s				Co-Requisite/s				
Course Outcomes & Bloom's Level	CO1- Participate in the projects in industries during his or her industrial training.(BL2-Understand) CO2- Interact with industrial personnel and follow engineering practices and discipline prescribed in industry.(BL4-Analyze) CO3- Describe use of advanced tools and techniques encountered during industrial training and visit.(BL4-Analyze) CO4- Develop awareness about general workplace behavior and build interpersonal and team skills. (BL5-Evaluate) CO5- Prepare professional work reports and presentations.(BL6-Create)							
Course Elements	Skill Development ✓ Entrepreneurship X Employability ✓ Professional Ethics X Gender X Human Values X Environment X		SDG (Goals)		SDG1(No poverty) SDG6(Clean water and sanitation) SDG7(Affordable and clean energy) SDG9(Industry Innovation and Infrastructure) SDG11(Sustainable cities and economies)			

Part B

Modules	Contents	Pedagogy	Hours
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(SOET)(BTech-ElectricalEngineering)

Title of the Course	Major project-I
Course Code	EED0702

Part A

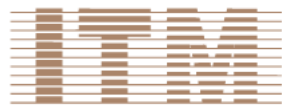
Year	4th	Semester	7th	Credits	L	T	P	C
					0	0	2	2
Course Type	Project							
Course Category	Projects and Internship							
Pre-Requisite/s				Co-Requisite/s				
Course Outcomes & Bloom's Level	CO1- Utilize contemporary tool sets to simulate and verify utilizing experimental methods whenever possible.(BL3-Apply) CO2- . Verify and examine the outcomes by utilizing various case studies.(BL4-Analyze) CO3- Make logical deductions and draw significant conclusions that are suitable for publication.(BL6-Create)							
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics X Gender X Human Values X Environment X		SDG (Goals)	SDG1(No poverty) SDG6(Clean water and sanitation) SDG7(Affordable and clean energy) SDG8(Decent work and economic growth) SDG9(Industry Innovation and Infrastructure) SDG11(Sustainable cities and economies) SDG12(Responsible consumption and production)				

Part B

Modules	Contents	Pedagogy	Hours
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Syllabus-2019-2020

(SOET)(BTech-ElectricalEngineering)

Title of the Course	Major Project
Course Code	EED0804

Part A

Year	4th	Semester	6th	Credits	L	T	P	C
					0	0	8	8
Course Type	Project							
Course Category	Projects and Internship							
Pre-Requisite/s					Co-Requisite/s			
Course Outcomes & Bloom's Level	CO1- Utilize contemporary tool sets to simulate and verify utilizing experimental methods whenever possible. (BL3-Apply) CO2- Verify and examine the outcomes by utilizing various case studies. (BL5-Evaluate) CO3- Make logical deductions and draw significant conclusions that are suitable for publication.(BL6-Create)							
Course Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professional Ethics X Gender X Human Values X Environment X	SDG (Goals)	SDG1(No poverty) SDG3(Good health and well-being) SDG4(Quality education) SDG6(Clean water and sanitation) SDG7(Affordable and clean energy) SDG11(Sustainable cities and economies) SDG12(Responsible consumption and production)					

Part B

Modules	Contents	Pedagogy	Hours
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Part C

Modules	Title	Indicative-ABCA/PBL/ Experiments/Field work/ Internships	Bloom's Level	Hours
1	Home Automation System	PBL	BL6-Create	120
2	Arduino Radar Model	PBL	BL6-Create	120
3	DC motor speed control wireless	PBL	BL6-Create	120


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Details of UG research projects

Name of the School: School of Engineering and

Technology Name of the Course and Branch: B.Tech-EE

(Batch 2016-20)

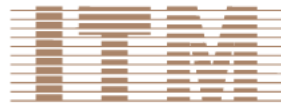
Session: 2019-2020

Total No. of Students enrolled: 11

S. No.	Specialization	Name of the student	Roll no.	Title of the project	Duration	Name of the Guide
1.	B.Tech-EE	Nikhil Kumar Singh	BETN1CS16059	Dual axis solar tracker system	06 Months	Mr. Abhishek Saxena
		Abhishek Gaur	BETN1EE16001			
		Munish Kaundal	BETN1EE15006			
2.	B.Tech-EE	Himanshu Soni	BETN1EE16003	Automatic wireless health monitoring system For patients	06 Months	Mr. Abhishek Saxena
		Pradumn Yadav	BETN1EE16006			
3.	B.Tech-EE	Vishist Kumar Jangade	BETN1EE16008	Hybrid Power Generation and Utilization using renewable energy resources	06 Months	Mr. Abhishek Tripathi
		Farhat Ara	BETN1EE16002			
4.	B.Tech-EE	Satyam Priyadarshi	BETN1EE16009	Solar energy in agriculture system	06 Months	Mr. Upendra Kumar Bhusan
		Mukul Tiwari	BETN1EE16005			
5.	B.Tech-EE	Kislay Krishna	BETN1EE16004	Auto-phase Selector	06 Months	Mr. Abhishek Saxena
		Prafull Singh	BETN1EE16007			



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**AUTOMATIC WIRELESS HEALTH MONITORING SYSTEM
FOR PATIENTS
A MAJOR PROJECT**

Submitted in partial fulfilment for the award of the degree of

BACHELOR OF TECHNOLOGY

IN

ELECTRICAL ENGINEERING



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Submitted by

Himanshu Soni (BETN1EE16003)

Pradumn Yadav (BETN1EE16006)

Under the Guidance of

Assistant Prof. ABHISHEK SAXENA

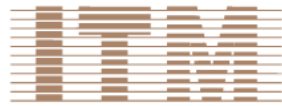
ELECTRICAL ENGINEERING DEPARTMENT

School of Engineering & Technology

ITM UNIVERSITY GWALIOR, (M.P.), INDIA

2016-2020


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“ CELEBRATING DREAMS ”

DUAL AXIS SOLAR TRACKER SYSTEM

A MAJOR PROJECT

Submitted in partial fulfillment for the award of the Degree of

BACHELOR OF TECHNOLOGY IN ELECTRICAL
ENGINEERING



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“ CELEBRATING DREAMS ”

Submitted by

Nikhil Kumar Singh	(BETNICS16059)
Abhishek Gaur	(BETN1EE16001)
Munish Kundal	(BETN1EE15006)

Under the Guidance of

Prof. ABHISHEK SAXENA

Department of Electrical Engineering School of Engineering &
Technology

ITM UNIVERSITY GWALIOR, (M.P.), INDIA 2019-2020

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MUKUL TIWARI

To certify that he/she has successfully
completed Industrial Automation Training on Panasonic
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Because Knowledge Matters
ISO 9001:2008 Certified

Girish Singh
Director

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