

**JSPM University Pune**

**Faculty of Science and Technology**

**School of Electrical and Communication Sciences**



**NEP aligned Structure**

**for**

**B. Tech (Electrical Engineering)**

**(AY: 2024-25)**



# JSPM University Pune

FACULTY OF SCIENCE & TECHNOLOGY  
SCHOOL OF ELECTRICAL AND COMMUNICATION SCIENCES

COURSE STRUCTURE  
(NEP 2020 Aligned)

W. E. F.

2024-2025

RELEASE DATE

01/07/2024

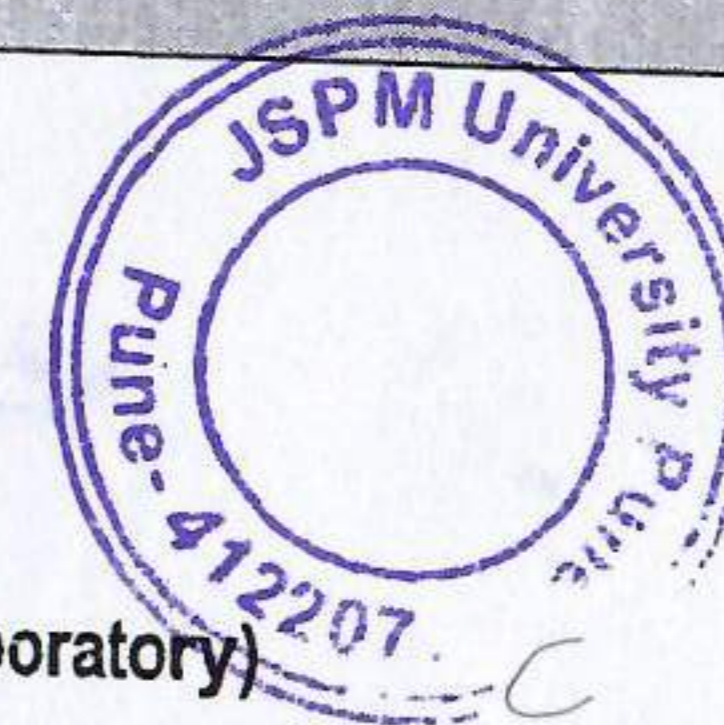
SECOND YEAR BACHELOR OF TECHNOLOGY  
(ELECTRICAL ENGINEERING) (REGULAR STUDENTS)

REVISION NO.

0.0 (NEP)

## SEMESTER III (LEVEL 5)

TYPE	CODE	COURSE NAME	TEACHING SCHEME				EXAMINATION SCHEME AND MARKS										CREDITS
			Hours / Week				THEORY (Equal Weightage for CIE and ESE)				PRACTICAL (Equal Weightage for CIE and ESE)		ORAL (Equal Weightage for CIE and ESE)		TOTAL		
			L	T	P	EL	CONTINUOUS IN SEMESTER EVALUATION (100 Marks)			END SEMESTER EXAMINATION (100 / 50 Marks)	CONTINUOUS IN SEMESTER EVALUATION (50 Marks)	END SEMESTER EXAMINATION (50 Marks)	CONTINUOUS IN SEMESTER EVALUATION (50 Marks)	END SEMESTER EXAMINATION (50 Marks)			
							T1 (30 Marks)	T2 (30 Marks)	Assignments (40 Marks)								
BSC	230GMAB07_03	Ordinary Differential Equations and Multivariate Calculus	2	1	-	-	30	30	40	100	-	-	-	-	100	3	
PCC	240GEEB01_03	Electrical Measurements	3	-	-	-	30	30	40	100	-	-	-	-	100	3	
	240GEEB02_03	Analog and Digital Circuits	2	-	-	-	30	30	40	50	-	-	-	-	50	2	
	231GETB05_03	Network Analysis	2	-	-	2	30	30	40	100	-	-	-	-	100	2.5	
MMC	-	Multidisciplinary Minor Course	1	-	2	-	-	-	-	-	50	50	50	50	100	2	
IOC	-	Interdisciplinary Open Course	2	-	-	-	30	30	40	100	-	-	-	-	100	2	
VEC (HSMC)	230USYB02_03	Professional Laws, Ethics, Values and Harmony	2	-	-	-	30	30	40	50	-	-	-	-	50	2	
LC	240GEEB03_03	Electrical Measurements Lab	-	-	2	-	-	-	-	-	50	50	-	-	50	1	
	240GEEB04_03	Analog and Digital Circuits Lab	-	-	2	-	-	-	-	-	50	50	-	-	50	1	
LLC	230UPYB02_03	Mindfulness and Wellbeing	1	-	-	2	-	-	-	-	-	50	50	-	-	50	1
<b>TOTAL</b>			<b>15</b>	<b>1</b>	<b>6</b>	<b>4</b>								<b>50</b>		<b>1.5</b>	
														<b>750</b>		<b>20</b>	



L-Lecture  
Format No.: JSPMUni/ACAD/001

T-Tutorial  
Rev. No.:0.0

P-Practical Session (Laboratory)  
Rev. Date:01/07/2024

EL-Experiential Learning  
Page 1 of 10

Sem.	Multidisciplinary Minor Course (MMC)			
III	Course Code	230GCSB111_03		
	Course Name	Basics of Data Structures and Algorithms		
IV	Course Code	230GCSB116_04		
	Course Name	Data Science and Analytics		
V	Course Code	230GMTB01_05		
	Course Name	Sensors and Actuators		
VI	Course Code	230GETB34_06		
	Course Name	IoT and Applications		
VII	Course Code	230GCSB133_07		
	Course Name	Foundations of Artificial Intelligence		
VII	Course Code	230GCSB117_07		
	Course Name	Machine Learning in Practice		

Sem.	Interdisciplinary Open Course (IOC)			
III	Course Code	230HFSB16_03		
	Course Name	Biology for Engineers		
V	Course Code	230GCSB168_05		
	Course Name	Fundamentals of Computer Networks		
VII	Course Code	230GMEB64_07		
	Course Name	Smart Materials		

*N. Srinivas*

Dr. Srinivas Nagaballi  
Programme Coordinator, SECS

*A. Deshpande*

Dr. Anuradha S. Deshpande  
Associate Dean (Academics)

*S. Santoshkumar*

Prof. Santoshkumar Hampannavar  
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*R. S. Deshpande*

Prof. R. S. Deshpande  
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FACULTY OF SCIENCE & TECHNOLOGY  
SCHOOL OF ELECTRICAL AND COMMUNICATION SCIENCES

## COURSE STRUCTURE (NEP 2020 Aligned)

W. E. F.

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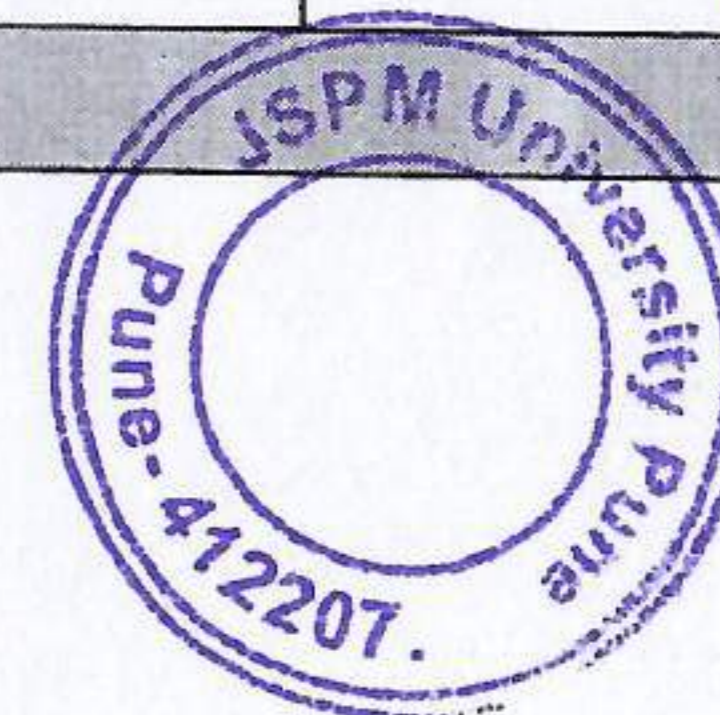
REVISION NO.

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SECOND YEAR BACHELOR OF TECHNOLOGY  
(ELECTRICAL ENGINEERING) (LATERAL ENTRY)

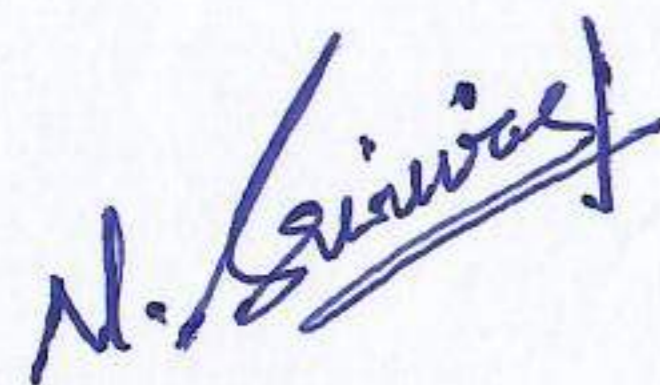
### SEMESTER III ((LEVEL 5))

COURSE		TEACHING SCHEME	EXAMINATION SCHEME AND MARKS												C R E D I T S	
TYPE	CODE	COURSE NAME	Hours / Week				THEORY (Equal Weightage for CIE and ESE)				PRACTICAL (Equal Weightage for CIE and ESE)		ORAL (Equal Weightage for CIE and ESE)			T O T A L
			L	T	P	EL	CONTINUOUS INSEMESTER EVALUATION (100 Marks)			END SEMESTER EXAMINATION (100 / 50 Marks)	CONTINUOUS INSEMESTER EVALUATION (50 Marks)	END SEMESTER EXAMINATION (50 Marks)	CONTINUOUS INSEMESTER EVALUATION (50 Marks)	END SEMESTER EXAMINATION (50 Marks)		
							T1 (30 Marks)	T2 (30 Marks)	Assign- ments (40 Marks)							
BSC	230GMAL01_03	Linear Algebra and Univariate Calculus	3	1	-	-	30	30	40	100	-	-	-	-	100	4
PCC	240GEEB01_03	Electrical Measurements	3	-	-	-	30	30	40	100	-	-	-	-	100	3
	240GEEB02_03	Analog and Digital Circuits	2	-	-	-	30	30	40	50	-	-	-	-	50	2
	231GETB05_03	Network Analysis	2	-	-	2	30	30	40	100	-	-	-	-	100	2.5
MMC	-	Multidisciplinary Minor Course	1	-	2	-	-	-	-	-	50	50	50	50	100	2
IOC	-	Interdisciplinary Open Course	2	-	-	-	30	30	40	100	-	-	-	-	100	2
VSC	230IDCB01_03	Design Thinking and Creativity	1	-	-	2	-	-	-	-	-	-	50	50	50	1.5
AEC (HSMC)	230UENB01_03	Effective Communication Skills	1	-	2	-	30	30	40	50	-	-	-	-	50	2
LC	240GEEB03_03	Electrical Measurements Lab	-	-	2	-	-	-	-	-	50	50	-	-	50	1
	240GEEB04_03	Analog and Digital Circuits Lab	-	-	2	-	-	-	-	-	50	50	-	-	50	1
<b>TOTAL</b>			<b>15</b>	<b>1</b>	<b>8</b>	<b>4</b>									<b>750</b>	<b>21</b>



Sem.	Multidisciplinary Minor Course (MMC)			
III	Course Code	230GCSB111_03		
	Course Name	Basics of Data Structures and Algorithms		
IV	Course Code	230GCSB116_04		
	Course Name	Data Science and Analytics		
V	Course Code	230GMTB01_05		
	Course Name	Sensors and Actuators		
VI	Course Code	230GETB34_06		
	Course Name	IoT and Applications		
VII	Course Code	230GCSB133_07		
	Course Name	Foundations of Artificial Intelligence		
VII	Course Code	230GCSB117_07		
	Course Name	Machine Learning in Practice		

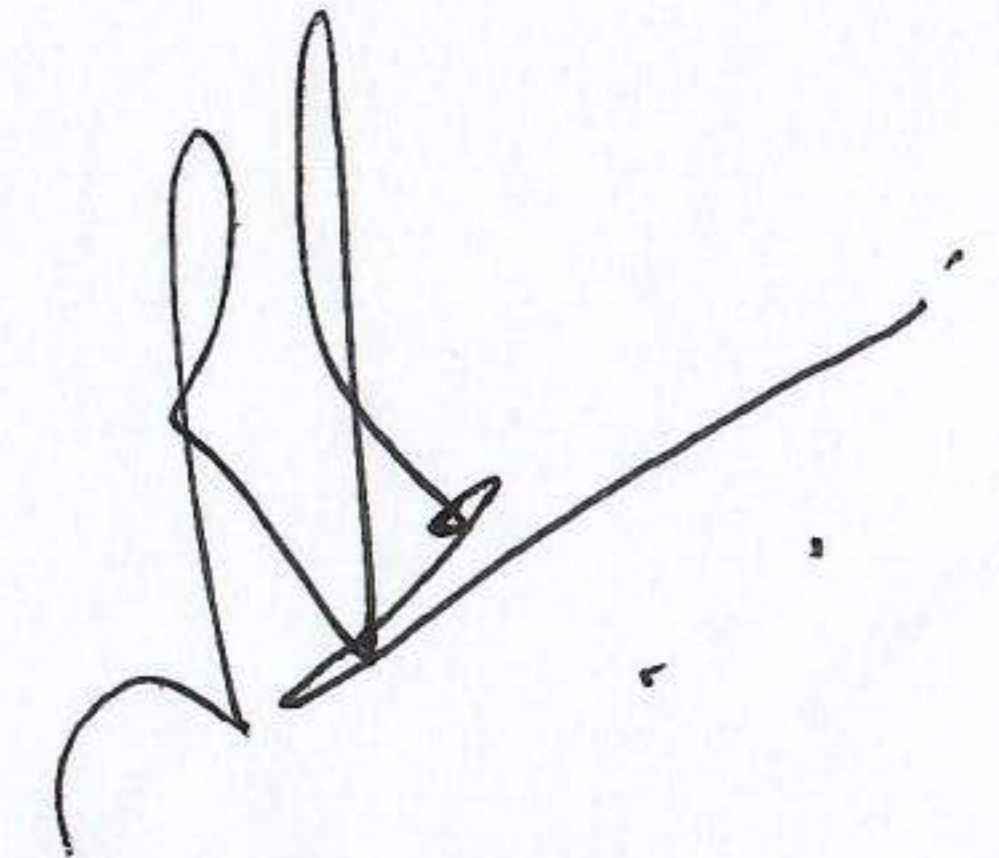
Sem.	Interdisciplinary Open Course (IOC)			
III	Course Code	230HFSB16_03		
	Course Name	Biology for Engineers		
V	Course Code	230GCSB168_05		
	Course Name	Fundamentals of Computer Networks		
VII	Course Code	230GMEB64_07		
	Course Name	Smart Materials		



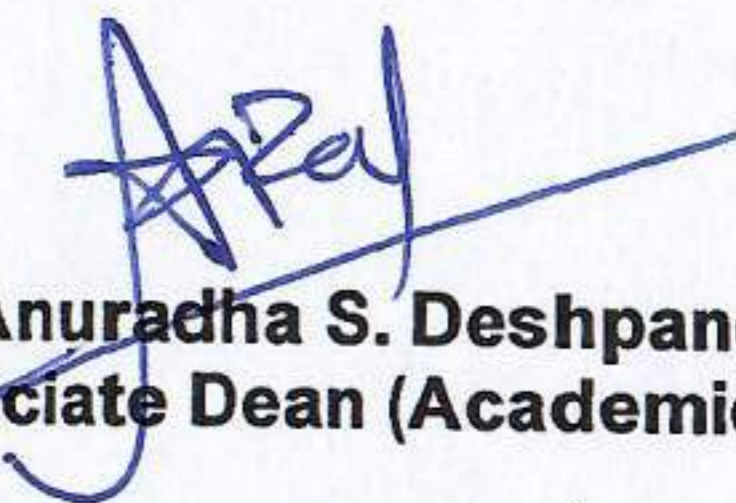
**Dr. Srinivas Nagaballi**  
Programme Coordinator, SECS



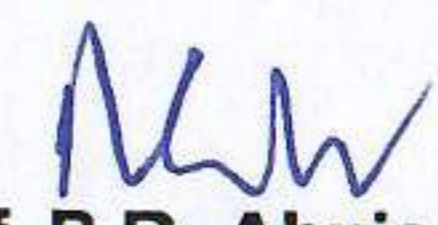
**Prof. Santoshkumar Hampannavar**  
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**Prof. R. S. Deshpande**  
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**COURSE STRUCTURE**  
**(NEP 2020 Aligned)**

**SECOND YEAR BACHELOR OF TECHNOLOGY**  
**(ELECTRICAL ENGINEERING) (REGULAR STUDENTS)**

**W. E. F.**  
**2024-2025**

**SEMESTER IV (LEVEL 5)**

**01/07/2024**

**REVISION NO.**  
**0.0 (NEP)**

TYPE	CODE	COURSE NAME	TEACHING SCHEME				EXAMINATION SCHEME AND MARKS							C R E D I T S	
			Hours / Week				THEORY (Equal Weightage for CIE and ESE)			PRACTICAL (Equal Weightage for CIE and ESE)		ORAL (Equal Weightage for CIE and ESE)			T O T A L
			L	T	P	EL	CONTINUOUS IN SEMESTER EVALUATION (100 Marks)		END SEMESTER EXAMINATION (100 / 50 Marks)	CONTINUOUS IN SEMESTER EVALUATION (50 Marks)	END SEMESTER EXAMINATION (50 Marks)	CONTINUOUS IN SEMESTER EVALUATION (50 Marks)	END SEMESTER EXAMINATION (50 Marks)		
							T1 (30 Marks)	T2 (30 Marks)							
BSC	230GMAB08_04	Vector Calculus and Partial Differential Equations	2	1	-	-	30	30	40	100	-	-	-	100	3
PCC	231GETB11_04	Signals and Systems	2	-	-	2	30	30	40	100	-	-	-	100	2.5
	240GEEB05_04	Transformers and DC Machines	2	-	-	-	30	30	40	50	-	-	-	50	2
	231GETB13_04	Control Systems	2	-	-	2	30	30	40	100	-	-	-	100	2.5
VEC/EEC	230GCEB02_04	Environment and Sustainability	2	-	-	-	30	30	40	50	-	-	-	50	2
MMC	-	Multidisciplinary Minor Course	1	-	2	-	-	-	-	-	50	-	-	50	2
SEC	240GCSB30_04	The Joy of Computing using Python	2	-	2	-	25		-	75	50	50	-	100	3
AEC (HSMC)	230UENB02_04	Communicative Proficiency Skills	1	-	2	-	30	30	40	50	-	-	-	50	2
LC	240GEEB06_04	Transformers and DC Machines Lab	-	-	2	-	-	-	-	50	50	-	-	50	1
IITP/FP/CEP	230GEEB34_04	Internship / Field Project / Community Programme	4 to 6 weeks				-	-	-	-	-	-	-	-	2
<b>TOTAL</b>			<b>12</b>	<b>1</b>	<b>8</b>	<b>4</b>	<b>120</b>	<b>120</b>	<b>160</b>	<b>750</b>	<b>750</b>	<b>750</b>	<b>750</b>	<b>750</b>	<b>22</b>
DSH	-	Domain Specific Honours	3	-	-	-	30	30	40	100	-	-	-	100	3
MLC	240GETB01_04	PCB Design and Fabrication	1	-	-	-	-	-	-	50	-	-	-	50	1
<b>GRAND TOTAL</b>			<b>16</b>	<b>1</b>	<b>8</b>	<b>4</b>	<b>150</b>	<b>150</b>	<b>200</b>	<b>900</b>	<b>900</b>	<b>900</b>	<b>900</b>	<b>900</b>	<b>26</b>



**Note: A Certificate will be awarded if a student exits after the First year.**

For "Exit" at the end of the First Year the student must complete a total of 8 additional credits.

a) An internship / OJT of 8 - 10 weeks (4 credits) over and above semester 2 internship of minimum 4 weeks.

b) Additional one Course of 4 credits (Course offered will be Vocational Skill Course (VSC) or Skill Enhancement Course (SEC) or a mini project).

Sem.	Multidisciplinary Minor Course (MMC)			
	Specialization			
III	Course Code	230GCSB111_03		
	Course Name	Basics of Data Structures and Algorithms		
IV	Course Code	230GCSB116_04		
	Course Name	Data Science and Analytics		
V	Course Code	230GMTB01_05		
	Course Name	Sensors and Actuators		
VI	Course Code	230GETB34_06		
	Course Name	IoT and Applications		
VII	Course Code	230GCSB133_07		
	Course Name	Foundations of Artificial Intelligence		
VII	Course Code	230GCSB117_07		
	Course Name	Machine Learning in Practice		



Sem.	Domain Specific Honours (DSH)			
	Specialization	EV Technology	Sustainable Energy Systems	Cyber Physical Systems
IV	Course Code	230GETB82_4	230GETB75_4	230GETB89_4
	Course Name	Electrical Vehicles-Policies and Regulations	Renewable Energy	Introduction to Cyber Physical Systems
V	Course Code	230GETB83_5	230GETB76_5	230GETB90_5
	Course Name	Introduction to Automobiles	Climate Change and Environmental Science	Communication for CPS
	Course Code	-	-	230GETB91_5
	Course Name	-	-	Communication for CPS Lab
VI	Course Code	230GETB84_6	230GETB77_6	230GETB92_6
	Course Name	EV Charging Technology	Sustainable and Green Technology	CPS System Design
VI	Course Code	230GETB85_6	230GETB78_6	230GETB93_6
	Course Name	EV Charging Technology Lab	Sustainable and Green Technology Lab	CPS System Design lab
VII	Course Code	230GETB86_7	230GETB79_7	230GETB94_7
	Course Name	Introduction of EV in Utility Grid	Smart Grid	Smart Infrastructure
VII	Course Code	230GETB87_7	230GETB80_7	-
	Course Name	Introduction of EV in Utility Grid Lab	Smart Grid Lab	-
VIII	Course Code	230GETB88_8	230GETB81_8	230GETB95_8
	Course Name	MOOC-I	MOOC-II	MOOC-III

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(NEP 2020 Aligned)

W. E. F.

2024-2025

RELEASE DATE

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(ELECTRICAL ENGINEERING) (LATERAL ENTRY)

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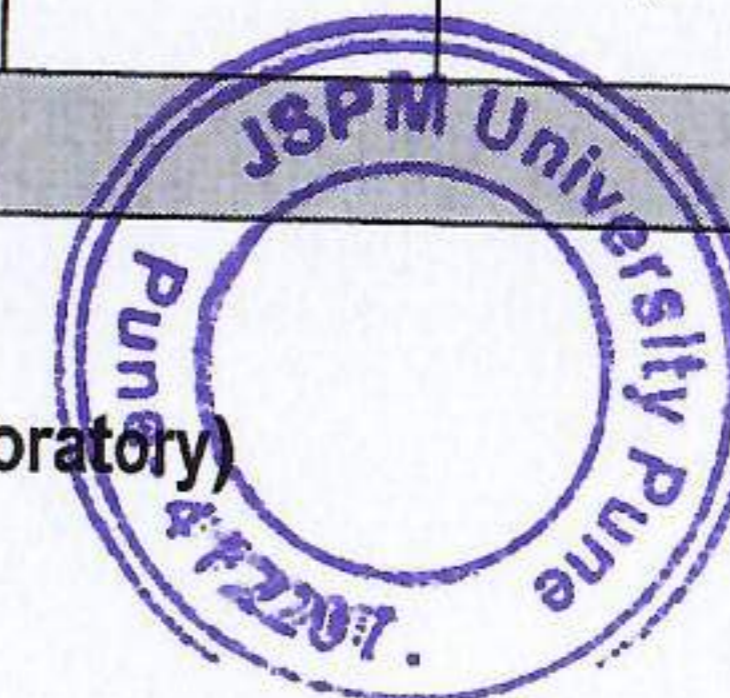
## SEMESTER IV (LEVEL 5)

COURSE			TEACHING SCHEME				EXAMINATION SCHEME AND MARKS										C R E D I T S
TYPE	CODE	COURSE NAME	Hours / Week				THEORY (Equal Weightage for CIE and ESE)				PRACTICAL (Equal Weightage for CIE and ESE)		ORAL (Equal Weightage for CIE and ESE)		T O T A L		
			L	T	P	EL	CONTINUOUS IN SEMESTER EVALUATION (100 Marks)			END SEMESTER EXAMINATION (100 / 50 Marks)	CONTINUOUS IN SEMESTER EVALUATION (50 Marks)	END SEMESTER EXAMINATION (50 Marks)	CONTINUOUS IN SEMESTER EVALUATION (50 Marks)	END SEMESTER EXAMINATION (50 Marks)			
							T1 (30 Marks)	T2 (30 Marks)	Assign- ments (40 Marks)								
BSC	230GMAL02_04	Multivariate Calculus and Differential Equations	3	1	-	-	30	30	40	100	-	-	-	-	100	4	
PCC	231GETB11_04	Signals and Systems	2	-	-	2	30	30	40	100	-	-	-	-	100	2.5	
	240GEEB05_04	Transformers and DC Machines	2	-	-	-	30	30	40	50	-	-	-	-	50	2	
	231GETB13_04	Control Systems	2	-	-	2	30	30	40	100	-	-	-	-	100	2.5	
VEC/EEC	230GCEB02_04	Environment and Sustainability	2	-	-	-	30	30	40	50	-	-	-	-	50	2	
MMC	-	Multidisciplinary Minor Course	1	-	2	-	-	-	-	-	50	50	50	50	100	2	
SEC	240GCSB30_04	The Joy of Computing using Python	-	-	2	-	25			75	50	50	-	-	100	3	
AEC (HSMC)	230UENB02_04	Communicative Proficiency Skills	1	-	2	-	30	30	40	50	-	-	-	-	50	2	
LC	240GEEB06_04	Transformers and DC Machines Lab	-	-	2	-	-	-	-	-	50	50	-	-	50	1	
IITP/ FP/ CEP	230GEEB34_04	Internship / Field Project / Community Engagement Programme	4 to 6 weeks				-	-	-	-	-	-	-	50	50	50	2
<b>TOTAL</b>			<b>13</b>	<b>1</b>	<b>8</b>	<b>4</b>									<b>750</b>	<b>23</b>	
DSH	-	Domain Specific Honours	3	-	-	-	30	30	40	100	-	-	-	-	100	3	
MLC	240GETB01_04	PCB Design and Fabrication	1	-	-	-	-	-	-	50	-	-	-	-	50	1	
<b>GRAND TOTAL</b>			<b>17</b>	<b>1</b>	<b>8</b>	<b>4</b>									<b>900</b>	<b>27</b>	

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Format No.: JSPMUni/ACAD/001

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EL-Experiential Learning  
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For "Exit" at the end of the First Year the student must complete a total of 8 additional credits.

a) An internship / OJT of 8 - 10 weeks (4 credits) over and above semester 2 internship of minimum 4 weeks.

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Sem.	Multidisciplinary Minor Course (MMC)			
III	Course Code	230GCSB111_03		
	Course Name	Basics of Data Structures and Algorithms		
IV	Course Code	230GCSB116_04		
	Course Name	Data Science and Analytics		
V	Course Code	230GMTB01_05		
	Course Name	Sensors and Actuators		
VI	Course Code	230GETB34_06		
	Course Name	IoT and Applications		
VII	Course Code	230GCSB133_07		
	Course Name	Foundations of Artificial Intelligence		
VII	Course Code	230GCSB117_07		
	Course Name	Machine Learning in Practice		

Sem.	Interdisciplinary Open Course (IOC)			
III	Course Code	230HFSB16_03		
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V	Course Code	230GCSB168_05		
	Course Name	Fundamentals of Computer Networks		
VII	Course Code	230GMEB64_07		
	Course Name	Smart Materials		



Sem.	Domain Specific Honours (DSH)			
	Specialization	EV Technology	Sustainable Energy Systems	Cyber Physical Systems
IV	Course Code	230GETB82_4	230GETB75_4	230GETB89_4
	Course Name	Electrical Vehicles-Policies and Regulations	Renewable Energy	Introduction to Cyber Physical Systems
V	Course Code	230GETB83_5	230GETB76_5	230GETB90_5
	Course Name	Introduction to Automobiles	Climate Change and Environmental Science	Communication for CPS
	Course Code	-	-	230GETB91_5
	Course Name	-	-	Communication for CPS Lab
VI	Course Code	230GETB84_6	230GETB77_6	230GETB92_6
	Course Name	EV charging Technology	Sustainable and Green Technology	CPS System Design
VI	Course Code	230GETB85_6	230GETB78_6	230GETB93_6
	Course Name	EV charging Technology Lab	Sustainable and Green Technology Lab	CPS System Design lab
VII	Course Code	230GETB86_7	230GETB79_7	230GETB94_7
	Course Name	Introduction of EV in Utility Grid	Smart Grid	Smart Infrastructure
VII	Course Code	230GETB87_7	230GETB80_7	-
	Course Name	Introduction of EV in Utility Grid Lab	Smart Grid Lab	-
VIII	Course Code	230GETB88_8	230GETB81_8	230GETB95_8
	Course Name	MOOC	MOOC	MOOC

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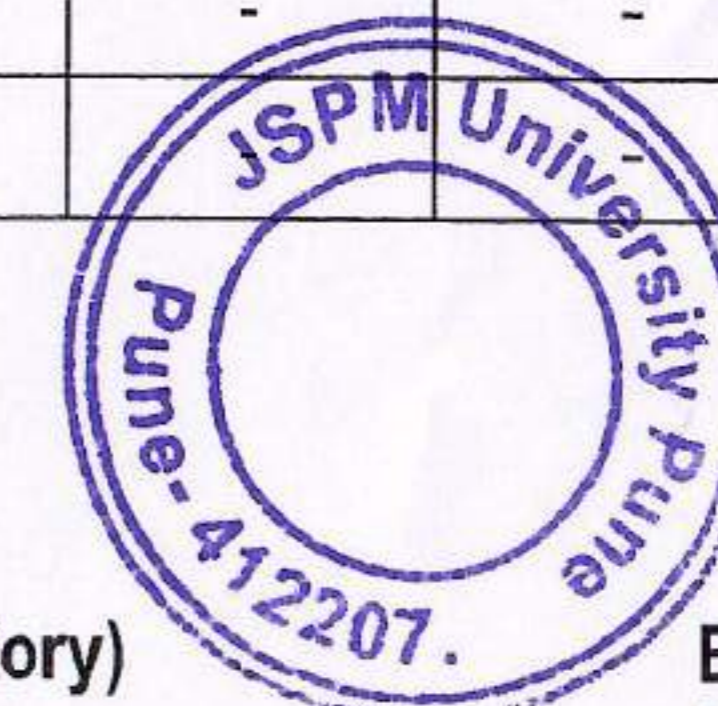
SECOND YEAR BACHELOR OF TECHNOLOGY  
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REVISION NO.

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### SEMESTER V (LEVEL 5.5)

COURSE			TEACHING SCHEME				EXAMINATION SCHEME AND MARKS										CREDITS
TYPE	CODE	COURSE NAME	Hours / Week				THEORY (Equal Weightage for CIE and ESE)				PRACTICAL (Equal Weightage for CIE and ESE)		ORAL (Equal Weightage for CIE and ESE)		TOTAL		
			L	T	P	EL	CONTINUOUS IN SEMESTER EVALUATION (100 Marks)			END SEMESTER EXAMINATION (100 / 50 Marks)	CONTINUOUS IN SEMESTER EVALUATION (50 Marks)	END SEMESTER EXAMINATION (50 Marks)	CONTINUOUS IN SEMESTER EVALUATION (50 Marks)	END SEMESTER EXAMINATION (50 Marks)			
							T1 (30 Marks)	T2 (30 Marks)	Assignments (40 Marks)								
BSC	230GETB97_05	Electromagnetic Theory	2	1	-	-	30	30	40	100	-	-	-	-	100	3	
PCC	240GEEB07_05	Power Systems	2	-	-	-	30	30	40	50	-	-	-	-	50	2	
	230GETB17_05	Microprocessors and Microcontrollers	2	-	-	-	30	30	40	50	-	-	-	-	50	2	
	240GEEB08_05	Alternating Current Machines	2	-	-	2	30	30	40	100	-	-	-	-	100	2.5	
PEC	-	Programme Elective Course	3	-	-	-	30	30	40	100	-	-	-	-	100	3	
MMC	-	Multidisciplinary Minor Course	1	-	2	-	-	-	-	-	50	50	50	50	100	2	
IOC	-	Interdisciplinary Open Course	2	-	-	-	30	30	40	100	-	-	-	-	100	2	
HSSM	231VBCB27_05	Finance for Engineers	1	-	-	4	-	-	-	-	-	-	50	50	50	2	
VSC	230IINB02_05	Innovation	1	-	-	2	-	-	-	-	-	-	50	50	50	1.5	
LC	230GETB21_05	Microprocessors and Microcontrollers Lab	-	-	2	-	-	-	-	-	50	50	-	-	50	1	
	240GEEB10_05	Alternating Current Machines Lab	-	-	2	-	-	-	-	-	50	50	-	-	50	1	
<b>TOTAL</b>			<b>16</b>	<b>1</b>	<b>6</b>	<b>8</b>									<b>800</b>	<b>22</b>	
DSH	-	Domain Specific Honours	4	-	-	-	30	30	40	100	-	-	-	-	100	4	
MLC#	-	Audit Course	1	-	-	-	-	-	-	50	-	-	-	-	50	1	



Sem.	Multidisciplinary Minor Course (MMC)	
III	Course Code	230GCSB111_03
	Course Name	Basics of Data Structures and Algorithms
IV	Course Code	230GCSB116_04
	Course Name	Data Science and Analytics
V	Course Code	230GMTB01_05
	Course Name	Sensors and Actuators
VI	Course Code	230GETB34_06
	Course Name	IoT and Applications
VII	Course Code	230GCSB133_07
	Course Name	Foundations of Artificial Intelligence
VII	Course Code	230GCSB117_07
	Course Name	Machine Learning in Practice

Sem.	Programme Elective Courses		
V	Course Code	240GEEB11_05	240GETB05_05
	Course Name	Renewable Energy Technology /	Introduction to Digital Signal Processing
	Course Code	240GEEB13_05	240GEEB15_05
	Course Name	Advanced Control System	Electrical Estimation and Costing
VI	Course Code	230GETB23_06	240GEEB20_06
	Course Name	Embedded Systems	Extra High Voltage AC & HVDC Transmission
	Course Code	240GEEB14_06	230GETB32_06
	Course Name	Energy Storage Systems	Cyber Physical Systems
VII	Course Code	240GEEB22_07	240GEEB23_07
	Course Name	Soft Computing Techniques	Industrial Automation
	Course Code	240GEEB18_07	240GEEB12_07
	Course Name	Advanced Power Electronics	Automotive Electronics
VIII	Course Code	240GEEB24_08	240GEEB25_08
	Course Name	Smart Grid Technologies	Hybrid electric Vehicle Design
	Course Code	240GEEB19_08	240GEEB27_08
	Course Name	Advanced Electrical Mobility	Energy Management
	Course Code	240GEEB26_08	240GEEB28_08
	Course Name	Deregulated Power Systems	ANN and Fuzzy Logic Applications in Power Engineering

Sem.	Interdisciplinary Open Course (IOC)		
III	Course Code	230HFSB16_03	
	Course Name	Biology for Engineers	
V	Course Code	230GCSB168_05	
	Course Name	Fundamentals of Computer Networks	
VII	Course Code	230GMEB64_07	
	Course Name	Smart Materials	

Sem.	Mandatory Learning Course (MLC#) Audit Course		
IV	Course Code	241GETB01_04	
	Course Name	PCB Design and Fabrication	
V	Course Code	240GETB02_05	
	Course Name	Drone Technology: Quadcopter Design and Control	
VI	Course Code	240GETB03_06	240GETB04_06
	Course Name	Amateur Radio: Theory and Practice	Android App Development
VII	Course Code	230UPOB02_07	
	Course Name	Introduction to Indian Constitution	



Sem.	Domain Specific Honours (DSH)			
	Specialization	EV Technology	Sustainable Energy Systems	Cyber Physical Systems
IV	Course Code	230GETB82_4	230GETB75_4	230GETB89_4
	Course Name	Electrical Vehicles-Policies and Regulations	Renewable Energy	Introduction to Cyber Physical Systems
V	Course Code	230GETB83_5	230GETB76_5	230GETB90_5
	Course Name	Introduction to Automobiles	Climate Change and Environmental Science	Communication for Cyber Physical Systems
	Course Code	-	-	230GETB91_5
	Course Name	-	-	Communication for Cyber Physical Systems Lab
VI	Course Code	230GETB84_6	230GETB77_6	230GETB92_6
	Course Name	EV Charging Technology	Sustainable and Green Technology	Cyber Physical System Design
VI	Course Code	230GETB85_6	230GETB78_6	230GETB93_6
	Course Name	EV Charging Technology Lab	Sustainable and Green Technology Lab	Cyber Physical System lab
VII	Course Code	230GETB86_7	230GETB79_7	230GETB94_7
	Course Name	Introduction of EV in Utility Grid	Smart Grid	Smart Infrastructure
VII	Course Code	230GETB87_7	230GETB80_7	-
	Course Name	Introduction of EV in Utility Grid Lab	Smart Grid Lab	-
VIII	Course Code	230GETB88_8	230GETB81_8	230GETB95_8
	Course Name	MOOC-I	MOOC-II	MOOC-III

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*B. B. Ahuja*

Prof. B.B. Ahuja  
Vice Chancellor, JSPM University Pune

**Vice Chancellor  
JSPM University  
Pune**



# JSPM UNIVERSITY PUNE

Recognized by UGC u/s 2 (f) of UGC Act 1956 and enacted by the  
State Government of Maharashtra - JSPM University Act, 2022 (Mah.IV of 2023)

To,

Date: 23/06/2025

The Honorable Vice Chancellor,  
JSPM university Pune.

Subject: Details of NPTEL courses offered in Odd semester of ay 2025-26.

Respected sir,

In alignment with the National Education Policy 2020 and to enhance flexible learning, we propose to replace the following course(s) in the current curriculum structure with equivalent MOOC / NPTEL online certification course(s) for the academic year 2025-26.

Name of Programme: B.Tech. Electrical Engineering

Semester: V Sem

Sr. No.	Existing Course in the Curriculum structure			Suggested equivalent MOOC Course			
	Course Code	Course Name	Credits	Course Code	Course Name	Credits	MOOC duration in weeks
1.	240GEEB11_05	Renewable Energy Technology	03	NOC25-PH50	Physics of Renewable Energy System	03	12 Weeks

The teaching and evaluation scheme for the suggested MOOC course is follows.

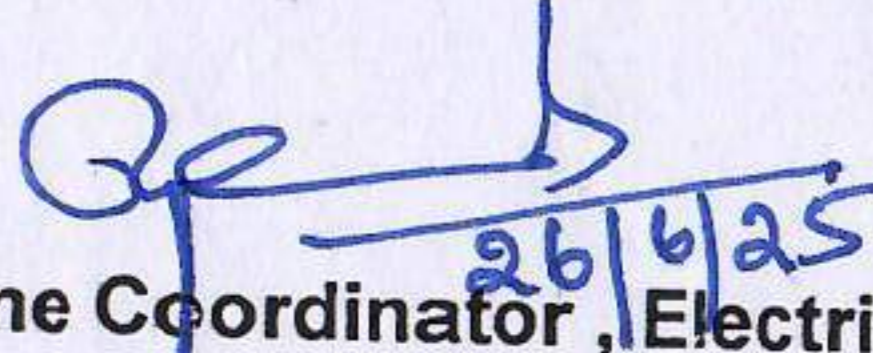


# JSPM UNIVERSITY PUNE

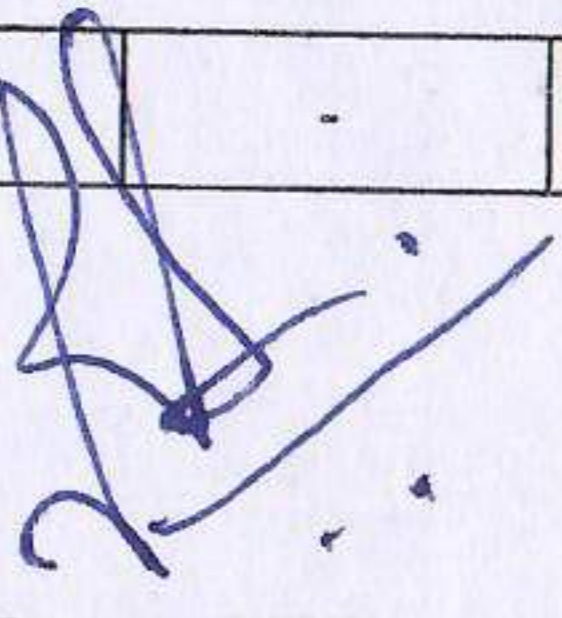
Recognized by UGC u/s 2 (f) of UGC Act 1956 and enacted by the State Government of Maharashtra - JSPM University Act, 2022 (Mah.IV of 2023)

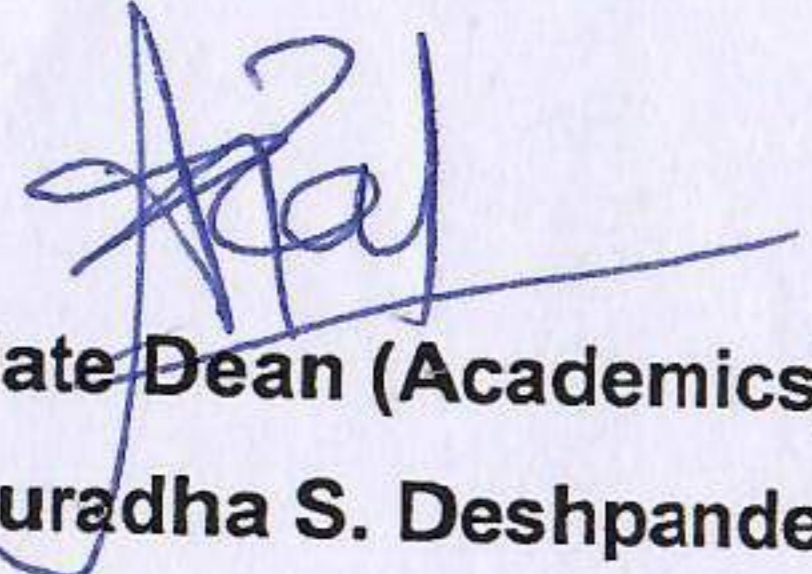
OURSE			TEACHING SCHEME				EXAMINATION SCHEME AND MARKS								TOTAL	CREDITS
TYPE	CODE	COURSE NAME	Hours / Week				THEORY (Equal Weightage for CIE and ESE)			PRACTICAL (Equal Weightage for CIE and ESE)		ORAL (Equal Weightage for CIE and ESE)				
			L	T	P	EL	CONTINUOUS INSEMESTER EVALUATION (100/ 25 Marks)			END SEMESTER EXAMINATION (100 / 50/ 75 Marks)	CONTINUOUS INSEMESTER EVALUATION (50 Marks)	END SEMESTER EXAMINATION (50 Marks)	CONTINUOUS INSEMESTER EVALUATION (50 Marks)	END SEMESTER EXAMINATION (50 Marks)		
							T1 (30 Marks)	T2 (30 Marks)	Assignments (40 Marks)							
Course to be replaced from the curriculum structure																
PEC	240GEEB11_05	Renewable Energy Technology	3	-	-	-	30	30	40	100	-	-	-	-	100	3
Equivalent MOOC course																
PEC	250GEEB01_05	Physics of Renewable Energy Systems	3	-	-	-	25			75	-	-	-	-	100	3

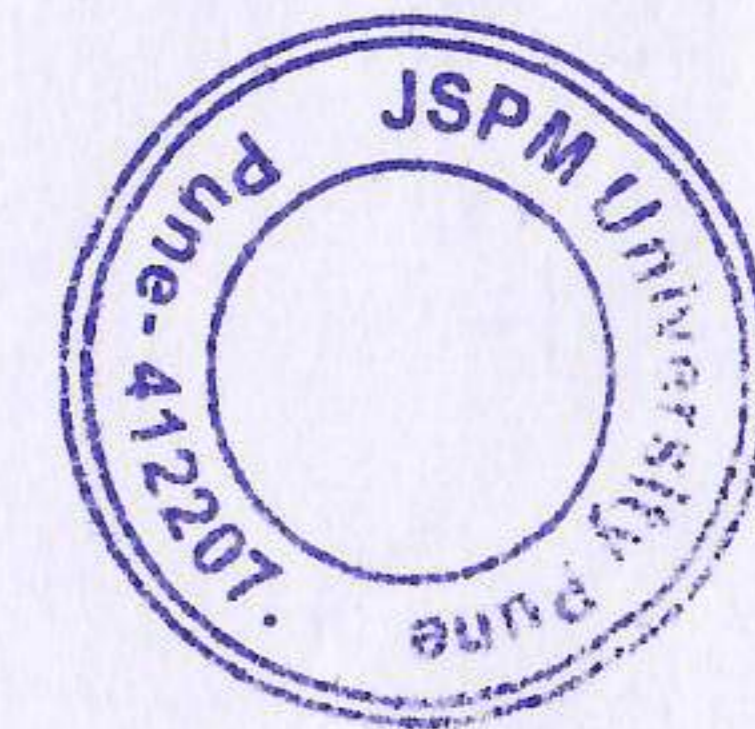
We kindly request your approval for the proposed replacement.

  
 Programme Coordinator, Electrical  
 Dr Rajin M. Linus

  
 Director, SECS  
 Prof. Dr. Rajendrakumar A. Patil

  
 Dean, FST  
 Prof. R. S. Deshpande

  
 Associate Dean (Academics)  
 Dr. Anuradha S. Deshpande





# JSPM University Pune

FACULTY OF SCIENCE & TECHNOLOGY  
SCHOOL OF ELECTRICAL AND COMMUNICATION SCIENCES

## COURSE STRUCTURE (NEP 2020 Aligned)

W. E. F.

2025-2026

RELEASE DATE

01/07/2024

THIRD YEAR BACHELOR OF TECHNOLOGY  
(ELECTRICAL ENGINEERING)

REVISION NO.

0.0 (NEP)

### SEMESTER VI (LEVEL 5.5)

COURSE			TEACHING SCHEME				EXAMINATION SCHEME AND MARKS								TOTAL	CREDITS	
TYPE	CODE	COURSE NAME	Hours / Week				THEORY (Equal Weightage for CIE and ESE)				PRACTICAL (Equal Weightage for CIE and ESE)		ORAL (Equal Weightage for CIE and ESE)				
			L	T	P	EL	CONTINUOUS IN SEMESTER EVALUATION (100 Marks)			END SEMESTER EXAMINATION (100 / 50 Marks)	CONTINUOUS IN SEMESTER EVALUATION (50 Marks)	END SEMESTER EXAMINATION (50 Marks)	CONTINUOUS IN SEMESTER EVALUATION (50 Marks)	END SEMESTER EXAMINATION (50 Marks)			
							T1 (30 Marks)	T2 (30 Marks)	Assignments (40 Marks)								
PBSC	230GETB96_06	Probability, Statistics and Queuing Theory	2	1	-	-	30	30	40	100	-	-	-	-	100	3	
PCC	240GETB22_06	Power Electronics	2	-	-	2	30	30	40	100	-	-	-	-	100	2.5	
	240GEEB16_06	Power System Analysis	2	-	-	-	30	30	40	50	-	-	-	-	50	2	
PEC	-	Programme Elective Course	3	-	-	-	30	30	40	100	-	-	-	-	100	3	
AEC	230UENB03_06	Soft Skill Development	1	-	2	-	30	30	40	50	-	-	-	-	50	2	
HSMC	230UEEB19_06	Engineering Economics	2	-	-	-	30	30	40	50	-	-	-	-	50	2	
MMC	-	Multidisciplinary Minor Course	1	-	2	-	-	-	-	-	50	50	50	50	100	2	
VSC	230IESB03_06	Entrepreneurship	1	-	-	2	-	-	-	-	-	-	50	50	50	1.5	
LC	240GETB26_06	Power Electronics Lab	-	-	2	-	-	-	-	-	50	50	-	-	50	1	
LC	240GEEB17_06	Power System Analysis lab	-	-	2	-	-	-	-	-	50	50	-	-	50	1	
IITP/ FP/ CEP	240GEEB21_06	Internship / Field Project / Community Engagement Programme	4 to 6 weeks				-	-	-	-	-	-	-	50	50	50	2
<b>TOTAL</b>			<b>13</b>	<b>1</b>	<b>8</b>	<b>8</b>									<b>750</b>	<b>22</b>	
DSH	-	Domain Specific Honours	3	-	-	-	30	30	40	100	-	-	-	-	100	3	
DSHLC	-	Domain Specific Honours Lab	-	-	2	-	-	-	-	-	50	50	-	-	50	1	
MLC#	-	Audit Course	1	-	-	-	-	-	-	50	-	-	-	-	50	1	

Sem.	Domain Specific Honours (DSH)			
	Specialization	EV Technology	Sustainable Energy Systems	Cyber Physical Systems
IV	Course Code	230GETB82_4	230GETB75_4	230GETB89_4
	Course Name	Electrical Vehicles-Policies and Regulations	Renewable Energy	Introduction to Cyber Physical Systems
V	Course Code	230GETB83_5	230GETB76_5	230GETB90_5
	Course Name	Introduction to Automobiles	Climate Change and Environmental Science	Communication for Cyber Physical Systems
	Course Code	-	-	230GETB91_5
	Course Name	-	-	Communication for Cyber Physical Systems Lab
VI	Course Code	230GETB84_6	230GETB77_6	230GETB92_6
	Course Name	EV Charging Technology	Sustainable and Green Technology	Cyber Physical System Design
VI	Course Code	230GETB85_6	230GETB78_6	230GETB93_6
	Course Name	EV Charging Technology Lab	Sustainable and Green Technology Lab	Cyber Physical System lab
VII	Course Code	230GETB86_7	230GETB79_7	230GETB94_7
	Course Name	Introduction of EV in Utility Grid	Smart Grid	Smart Infrastructure
VII	Course Code	230GETB87_7	230GETB80_7	-
	Course Name	Introduction of EV in Utility Grid Lab	Smart Grid Lab	-
VIII	Course Code	230GETB88_8	230GETB81_8	230GETB95_8
	Course Name	MOOC-I	MOOC-II	MOOC-III

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Vice Chancellor  
JSPM University  
Pune

L-Lecture  
Format No.: JSPMUni/ACAD/001

T-Tutorial  
Rev. No.:0.0

P-Practical Session (Laboratory)  
Rev. Date:01/07/2025

EL-Experiential Learning  
Page 1 of 10

Sem.	Multidisciplinary Minor Course (MMC)	Course Code	230GCSB111_03	Course Name	Basics of Data Structures and Algorithms
		Course Code	230GCSB116_04	Course Name	Data Science and Analytics
		Course Code	230GMTB01_05	Course Name	Sensors and Actuators
		Course Code	230GETB34_06	Course Name	IoT and Applications
		Course Code	230GCSB133_07	Course Name	Foundations of Artificial Intelligence
		Course Code	230GCSB117_07	Course Name	Machine Learning in Practice
		Course Code	230GCSB117_07	Course Name	Machine Learning in Practice
		Course Code	230GCSB117_07	Course Name	Machine Learning in Practice
		Course Code	230GCSB117_07	Course Name	Machine Learning in Practice
		Course Code	230GCSB117_07	Course Name	Machine Learning in Practice

Sem.	Programme Elective Courses	Course Code	240GEEB11_05	Course Name	Renewable Energy / Technology / Introduction to Digital Signal Processing
		Course Code	240GEEB13_05	Course Name	Advanced Control System Estimation and Costing
		Course Code	230GETB23_06	Course Name	Embedded Systems AC & HVDC Extra High Voltage Transmission
		Course Code	240GEEB14_06	Course Name	Energy Storage Systems Cyber Physical Systems
		Course Code	240GEEB22_07	Course Name	Soft Computing Techniques Automation
		Course Code	240GEEB12_07	Course Name	Advanced Power Electronics Automotive Electronics
		Course Code	240GEEB24_08	Course Name	Smart Grid Technologies Hybrid electric Vehicle Design
		Course Code	240GEEB19_08	Course Name	Advanced Electrical Mobility Energy Management
		Course Code	240GEEB27_08	Course Name	ANN and Fuzzy Logic Applications in Power Engineering
		Course Code	240GEEB26_08	Course Name	Deregulated Power Systems
		Course Code	240GEEB28_08	Course Name	Power Systems
		Course Code	240GEEB25_08	Course Name	Advanced Power Electronics Automotive Electronics
		Course Code	240GEEB24_08	Course Name	Smart Grid Technologies Hybrid electric Vehicle Design
		Course Code	240GEEB19_08	Course Name	Advanced Electrical Mobility Energy Management
		Course Code	240GEEB27_08	Course Name	ANN and Fuzzy Logic Applications in Power Engineering
		Course Code	240GEEB26_08	Course Name	Deregulated Power Systems
		Course Code	240GEEB28_08	Course Name	Power Systems
		Course Code	240GEEB25_08	Course Name	Advanced Power Electronics Automotive Electronics
		Course Code	240GEEB24_08	Course Name	Smart Grid Technologies Hybrid electric Vehicle Design
		Course Code	240GEEB19_08	Course Name	Advanced Electrical Mobility Energy Management
		Course Code	240GEEB27_08	Course Name	ANN and Fuzzy Logic Applications in Power Engineering
		Course Code	240GEEB26_08	Course Name	Deregulated Power Systems
		Course Code	240GEEB28_08	Course Name	Power Systems

Sem.	Interdisciplinary Open Course (IOC)	Course Code	230HFSB16_03	Course Name	Biology for Engineers
		Course Code	230GCSB168_05	Course Name	Fundamentals of Computer Networks
		Course Code	230GMEB64_07	Course Name	Smart Materials
		Course Code	230GCSB168_05	Course Name	Fundamentals of Computer Networks
		Course Code	230GMEB64_07	Course Name	Smart Materials
		Course Code	230GCSB168_05	Course Name	Fundamentals of Computer Networks

Sem.	Mandatory Learning Course (MLC#) Audit Course	Course Code	241GETB01_04	Course Name	PCB Design and Fabrication
		Course Code	240GETB02_05	Course Name	Drone Technology: Quadcopter Design and Control
		Course Code	240GETB03_06	Course Name	Amateur Radio: Theory and Practice
		Course Code	240GETB04_06	Course Name	Android App Development
		Course Code	230UPOB02_07	Course Name	Introduction to Indian Constitution
		Course Code	230UPOB02_07	Course Name	Introduction to Indian Constitution
		Course Code	230UPOB02_07	Course Name	Introduction to Indian Constitution
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