

GOVERNMENT COLLEGE OF ENGINEERING, JALGAON

Department of Electrical Engineering

Scheme for Semester I B. Tech. (Electrical Engineering) with effect from academic year 2023-24 (As per NEP 2020)

Course Code	Name of the Course	Component as per NEP	Teaching Scheme				Evaluation Scheme					Credit	
			L	T	P	Total	Theory			Practical			Total
							MSE	ISA	ESE	ICA	ESE		
SH100AN	Induction Program [Includes Universal Human Values (UHV - I module)]	Mandatory Audit Course as per AICTE	...	...	...	4	...	...	...	50	...	50	AU
SH101N	Engineering Mathematics I	BSC	3	1	...	4	30	10	60	...	...	100	4
SH102N	Engineering Chemistry	BSC	3	...	...	3	30	10	60	...	...	100	3
ME151N	Engineering Graphics	ESC	3	...	...	3	30	10	60	...	...	100	3
CO101N	Fundamentals of Computer Science and Engineering	ESC	3	...	...	3	30	10	60	...	...	100	3
ME152N	Engineering Exploration Workshop	VSEC (Skill)	...	...	4	4	...	...	...	50	...	50	2
SH103N	Engineering Chemistry Lab	BSC	...	...	2	2	...	...	...	50	...	50	1
ME153N	Engineering Graphics Lab	ESC	...	...	2	2	...	...	...	50	...	50	1
CO102N	Fundamentals of Computer Science and Engineering Lab	ESC	...	...	2	2	...	...	...	50	...	50	1
LL102N	Liberal Learning Course (Yoga and Nutrition)	LLC	...	...	4	4	...	...	..	50	...	50	2
SH100N	Ability Enhancement Course (English)	AEC (HSSM)	1	...	2	3	...	...	..	50	...	50	2
Total			13	1	16	30	120	40	240	300	...	700	22

L : Lecture	T: Tutorial	P: Practical	MSE: Mid Semester Examination
ISA :Internal Sessional Assessment	ESE: End Semester Examination		ICA : Internal Contineous Accessment

GOVERNMENT COLLEGE OF ENGINEERING, JALGAON

Department of Electrical Engineering

Scheme for Semester II B. Tech. (Electrical Engineering) with effect from academic year 2023-24 (As per NEP 2020)

Course Code	Name of the Course	Component as per NEP	Teaching Scheme				Evaluation Scheme						Credit
			L	T	P	Total	Theory			Practical		Total	
							MSE	ISA	ESE	ICA	ESE		
SH151N	Engineering Mathematics II	BSC	3	1	...	4	30	10	60	...	...	100	4
SH152N	Engineering Physics	BSC	3	...	...	3	30	10	60	...	...	100	3
EE101N	Basic Electrical Engineering	PCC	3	...	...	3	30	10	60	...	...	100	3
CO151N	Programming for Problem Solving	ESC	3	...	...	3	30	10	60	...	...	100	3
ME101N	Mechanical Workshop Practices	VSEC (Skill)	...	...	4	4	...	...	...	50	...	50	2
CO152N	Programming for Problem Solving Lab	ESC	...	...	2	2	...	...	...	50	...	50	1
IK103N	Essence of Indian Traditional Knowledge	HSSM (IKS)	2	...	...	2	30	10	60	...	...	100	2
SH153N	Engineering Physics Lab	BSC	...	...	2	2	...	...	...	50	...	50	1
EE102N	Basic Electrical Engineering lab	PCC	...	...	2	2	...	...	...	50	...	50	1
LL101N	Liberal Learning Course (NSS and Sports)	LLC	...	...	4	4	...	...	..	50	...	50	2
Total			14	1	14	29	150	50	300	250	...	750	22
L : Lecture		T: Tutorial	P: Practical				MSE: Mid Semester Examination						
ISA :Internal Sessional Assessment		ESE: End Semester Examination				ICA : Internal Contineous Accessment							
Exit Option for UG Certificate: 8 credits in work based Vocational Courses or Internship/apprentiship offered during summer Vacation (As per													
Note: Students securing CGPA 7.0 and above upto semester-II can opt for Double minor by registering additional courses [Semester-III													

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Scheme for Semester IV B. Tech. (Electrical Engineering) with effect from academic year 2023-24 (As per NEP 2020)

Course Code	Name of the Course	Component as per NEP	Teaching Scheme				Evaluation Scheme					Credit	
			L	T	P	Total	Theory			Practical			Total
							MSE	ISA	ESE	ICA	ESE		
EE251N	DC Machines & Transformer	PCC	3	...	...	3	30	10	60	...	...	100	3
EE252N	Power Generation, Transmission & Distribution	PCC	3	...	...	3	30	10	60	...	...	100	3
EE253N	Digital Circuits	PCC	3	...	...	3	30	10	60	...	...	100	3
EE254N	Open Elective-II	OE (MDC)	2	...	...	2	30	10	60	...	...	100	2
XXMYYYN	Multi Disciplinary Minor-II	MDM-II (MDC)	2	...	...	2	30	10	60	...	...	100	2
EE256N	DC Machines & Transformer Lab	PCC	...	...	2	2	...	...	...	30	20	50	1
EE257N	Digital Circuits Lab	VSEC	...	...	2	2	...	...	...	30	20	50	1
SH201N	Project and Finance Management	EEMC (Mgmt)	2	...	...	2	30	10	60	...	...	100	2
SH203N	Environmental Science	VEC (HSSM)	2	...	...	2	30	20	...	...	...	50	2
SH205N	मराठी लेखनकौशल्य (Writing Skills)*	AEC (HSSM)	2	...	...	2	30	20	...	...	...	50	2
Total			19	0	4	23	240	100	360	60	40	800	21

* Students are permitted to earn credits of this course for any other Modern Indian Language (other than English) through MOOC courses, as per credit transfer policy of the institute.

L : Lecture	T: Tutorial	P: Practical	MSE: Mid Semester Examination
ISA :Internal Sessional Assessment	ESE: End Semester Examination		ICA : Internal Contineous Accessment
List of Open Elective -II			
EE254NX	Electrification of Building		
EE254NY	Wind and Solar Power System		

Exit Option for UG Diploma: 8 credits in Skill based Vocational Courses/Internship/apprenticeship/MiniProject offered during summer vacation

Note: Students having CGPA more than 8.0, can register for additional 18 credits departmental honours courses from semester-V to earn the

GOVERNMENT COLLEGE OF ENGINEERING, JALGAON

Department of Electrical Engineering

Scheme for Semester V B. Tech. (Electrical Engineering) with effect from academic year 2023-24 (As per NEP 2020)

Course Code	Name of the Course	Component as per NEP	Teaching Scheme				Evaluation Scheme						Credit
			L	T	P	Total	Theory			Practical		Total	
							MSE	ISA	ESE	ICA	ESE		
EE301N	AC Machines	PCC	3		...	3	30	10	60	...	...	100	3
EE302N	Power System Analysis	PCC	3	...	...	3	30	10	60	...	...	100	3
EE303N	Microcontroller and Applications	PCC	3	...	...	3	30	10	60	...	...	100	3
EE304N	Programme Elective- I	PEC	3		...	3	30	10	60	...	...	100	3
EE305N	Open Elective-III	OE (MDC)	2	...	...	2	30	10	60	...	...	100	2
XXMYYYN	Multi Disciplinary Minor-III	MDM-III (MDC)	3	1	...	4	30	10	60	...	...	100	4
EE307N	AC Machines Lab	PCC	...	...	2	2	...	...	...	30	20	50	1
EE308N	Power System Analysis Lab	PCC	...	...	2	2	...	...	...	30	20	50	1
EE309N	Microcontroller and Applications Lab	PCC	...	...	2	2	...	...	...	30	20	50	1
EE310N	Programme Elective- I Lab	PEC			2	2				30	20	50	1
		Total	17	1	8	26	180	60	360	120	80	800	22
EE311N	Special Machines	DHC-I	3	...	...	3	30	10	60	...	...	100	3
	List of Open Elective -III		List of Program Elective-I							List of Program Elective-I Lab			
	EE305NX Energy Audit & Conservation		EE304NA Electrical Measurements							EE310NA Electrical Measurements Lab			
	EE305NY Energy Storage Systems		EE304NB Electrical Materials and Transformer Design							EE310NB Electrical Materials and Transformer Design Lab			
DHC:Departmental Honours Course													
L : Lecture		T: Tutorial		P: Practical		MSE: Mid Semester Examination							
ISA :Internal Sessional Assessment		ESE: End Semester Examination				ICA : Internal Contineous Accessment							

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Department of Electrical Engineering

Scheme for Semester VI B. Tech. (Electrical Engineering) with effect from academic year 2023-24 (As per NEP 2020)

Course Code	Name of the Course	Component as per NEP	Teaching Scheme				Evaluation Scheme					Credit	
			L	T	P	Total	Theory			Practical			Total
							MSE	ISA	ESE	ICA	ESE		
EE351N	Control System	PCC	3		...	3	30	10	60	...	...	100	3
EE352N	Power Electronics	PCC	3	...	...	3	30	10	60	...	...	100	3
EE353N	Switchgear & Protection	PCC	2	...	...	2	30	10	60	...	...	100	2
XXMYYYN	Multi Disciplinary Minor-IV	MDM-IV (MDC)	2	...	...	2	30	10	60	...	...	100	2
EE355N	Programme Elective- II	PEC	4	...	...	4	30	10	60	...	...	100	4
EE356N	Programme Elective- III	PEC	4	...	...	4	30	10	60	...	...	100	4
EE357N	Control System Lab	PCC	...	...	2	2				30	20	50	1
EE358N	Power Electronics Lab	PCC	...	...	2	2	...	...	...	30	20	50	1
EE359N	Relay and Circuit Breaker Lab	VSEC	1		2	3	...	...	...	30	20	50	2
Total			19	0	6	25	180	60	360	90	60	750	22
EE360N	Computer Aided Power System Analysis	DHC-II	3	...	...	3	30	10	60	...	...	100	3
EE361N	Electric Machine Modeling and Analysis	DHC-III	3	...	...	3	30	10	60	...	...	100	3
List of Program Elective-II			List of Program Elective-III										
EE355NA Energy Conseravtion & Management			EE356NA Rotating Machine Design										
EE355NB Utilization of Electric Energy			EE356NB Power Quality										
EE355NC Electrical Maintenance			EE356NC Electric Vehicles										
DHC:Deptamental Honours Course													
L : Lecture		T: Tutorial		P: Practical			MSE: Mid Semester Examination						
ISA :Internal Sessional Assessment		ESE: End Semester Examination					ICA : Internal Contineous Accessment						
Exit Option for B.Voc.: 8 credits in Skill based Vocational Courses/Internship/apprentiship/MiniProject offered during summer vacation after Third Year (As per exit policy approved by Board of Studies (Electrical Engineering) in its meeting held on 06 July,													

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Department of Electrical Engineering

Scheme for Semester VII B. Tech. (Electrical Engineering) with effect from academic year 2023-24 (As per NEP 2020)

Course Code	Name of the Course	Component as per NEP	Teaching Scheme				Evaluation Scheme					Credit	
			L	T	P	Total	Theory			Practical			Total
							MSE	ISA	ESE	ICA	ESE		
EE401N	Renewable Energy Technology/ (NPTEL Course)	PCC	4	...	...	4	30	10	60	...	...	100	4
As per NPTEL examination scheme and institute policy for credit transfer													
EE402N	NPTEL Course /(Program Elective-IV)	PEC	2	...	...		30	10	60	...	...	100	2
As per NPTEL examination scheme and institute policy for credit transfer													
XXMYYYN	Multi Disciplinary Minor-V	MDM-V (MDC)	2	...	...		30	10	60	...	...	100	2
per NPTEL examination scheme and institute policy for credit trans													
EE404N	Professional Internship/On Job Training	ELC	...	...	24	24	...	...	...	100	...	100	12
Total			8	0	24	28	90	30	180	100	...	400	20
EE405N	Modern Power Electronics/(8/12 Weeks NPTEL Course)	DHC-IV	As per NPTEL examination scheme and institute policy for credit transfer									100	3
EE406N	Modern Control System/ (8/12 Weeks NPTEL Course)	DHC-V	As per NPTEL examination scheme and institute policy for credit transfer									100	3
A Program Internship of one semester is to be completed by the students. One semester means 12 weeks minimum (Engagement hours of student for internship should be 18-20 hours per week.)													
List of Program Elective-IV													
EE402NA Illumination Engineering													
EE402NB Power System Operation & Control													
EE402NC Smart Grid Technology													
DHC:Departmental Honours Course													
L : Lecture		T: Tutorial		P: Practical				MSE: Mid Semester Examination					
ISA :Internal Sessional Assessment		ESE: End Semester Examination				ICA : Internal Contineous Accessment							
Note: Mentor faculty/Course Teacher shall be allotted for each online course for smooth evaluation and completion of the course. Mentor faculty/course Teacher need to enrol the course alongwith students													

Sl. No.	Semester	OE Level	Course Code and Name of Course	Credits
Open Elective (OE) Courses offered by EE Department (For Students of departments other than EE Engineering)				
1	III	OE-I	EE204NX Material Science	4
2			EE204NY Industrial Safety	
3	IV	OE-II	EE254NX Electrification of Building	2
4			EE254NY Wind and Solar Power System	
5	V	OE-III	EE305NX Energy Audit & Conservation	4
6			EE305NY Energy Storage Systems	
Total OE Credits				10
List of Multidisciplinary Minor (MDM) Courses offered by Department of Electrical Engineering Engineering (For Students of departments other than Electrical Engineering)				
Sl. No.	Semester	MDM Level	Course Code and Name of Course	Credits
1	III	MDM-I	EEM205N:DC Machines & Transformer	2
2	IV	MDM-II	EEM255N:Power system-I	2
3	V	MDM-III	EEM306N:AC Machines	4
4	VI	MDM-IV	EEM354N:Power system-II	2
5	VII	MDM-V	EEM403N:Switchgear & Protection	2
6	VIII	MDM-VI	EEM453N:Illumination Engineering	2
Total Credits for MDM Courses				14
List of Specialization Minor Courses offered by Department of Electrical Engineering Engineering (For Students of departments other than Electrical Engineering; who have not opted for EE track in MDM) - Applicable only for Double Minor Degree				
Sl. No.	Semester	Course Code and Name of Course		Credits
1	III	EEM205N:DC Machines & Transformer		2
2	IV	EEM255N:Power system-I		2
3	V	EEM306N:AC Machines		4
4	VI	EEM354N:Power system-II		2
5	VII	EEM403N:Switchgear & Protection		2
6	VIII	EEM453N:Illumination Engineering		2
7	VIII	EEM457N:Renewable Energy Technology		4
Total Specialization Minor Credits				18
List of additional courses for B. Tech. Honours Degree offered by Department of Electrical Engineering (For Students of Electrical Engineering Department) - Applicable only for Honours				
Sl. No.	Semester	Course Code and Name of Course		Credits
1	V	EE310N: Special Machines		3
2	VI	EE360N: Computer Aided Power System Analysis		3
3	VI	EE361N: Electric Machine Modeling and Analysis		3
4	VII	EE405N: Modern Power Electronics (NPTEL COURSE 8 week/Online)		3
5	VII	EE406N: Modern Control System (NPTEL COURSE 8 week/Online Mode)		3
6	VIII	EE457N: Modern Protective Relaying		3
Total Credits for Honours Degree				18
List of additional courses for B. Tech. multidisciplinary minor and Honors with Research Degree offered by Department of Electrical Engineering (For Students of Department of Electrical Engineering) - Applicable only for Honours with Research Degree				
Sl. No.	Semester	Course Code and Name of Course		Credits
1	VII	EE407N: Optimization Techniques (NPTEL COURSE 8 week/ Online Mode)		4
2	VII	EE408N: Power Quality (NPTEL COURSE 8 week/ Online Mode)		3
3	VII	EE409N: Research Project Phase-I		2
4	VIII	EE458N: Circuit Simulation Lab		1
5	VIII	EE459N: Research Project Phase-II		8
Total Credits for Honours with Research Degree				18