

GOVERNMENT COLLEGE OF ENGINEERING, JALGAON

Department of Electronics and Telecommunication Engineering

Scheme for Semester I B. Tech. (Electronics and Telecommunication 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				...	...	...	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	0	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 Electronics and Telecommunication Engineering

Scheme for Semester II B. Tech. (Electronics and Telecommunication 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
ET151N	Basic Electronics 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
ET152N	Basic Electronics 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	0	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: Additional 8 credits shall be earned in work based Vocational Courses or Internship/apprentiship offered during summer Vacation (As per exit policy approved by Board of Studies (Electronics and Telecommunication Engineering) in its meeting held on 06 July, 2023.)

Note: Students securing CGPA 7.0 and above upto semester-II can opt for Double minor by registering additional courses [Semester-III onwards] and earning these additional 18 credits . Students need to submit written application through respective HoD to Academic and Examination Cell. This double minor track should be different than multidisciplinary minor track opted by students from semester-III as per Multi Discixiplinay Minor (MDM) courses. For example: If Mechanical Engineering student opted for Civil Engineering track for MDM, then he/she should register for additional credits other than Mechnaical and Civil Engineering courses for double minor. Students opting for double minor can not opt for either Honors or Honors with research degree.

GOVERNMENT COLLEGE OF ENGINEERING, JALGAON

Department of Electronics and Telecommunication Engineering

Scheme for Semester III B. Tech. (Electronics and Telecommunication 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		
ET201N	Electronic Devices and Circuits	PCC	3	...	...	3	30	10	60	...	...	100	3
ET202N	Electronic Materials and Components	PCC	2	...	...	2	30	10	60	...	...	100	2
ET203N	Digital Circuits and System Design	PCC	3	...	...	3	30	10	60	...	...	100	3
ET204N	Open Elective -I	OE (MDC)	3	1	...	4	30	10	60	...	...	100	4
XXMYYYN	Multi Disciplinary Minor-I	MDM-I (MDC)	2	...	...	2	30	10	60	...	...	100	2
ET206N	Electronic Devices and Circuits Lab	PCC	...	...	2	2	...	...	...	30	20	50	1
ET207N	Digital Circuits and System Design Lab	PCC	...	...	2	2	...	...	...	30	20	50	1
SH202N	Entrepreneur Development	EEMC	2	...	...	2	30	10	60	...	...	100	2
SH204N	Universal Human Values - II	VEC (HSSM)	2	...	...	2	30	70	...	...	...	100	2
ET250N	Community Engineering Project	CEP (ELC)	...	...	2	2	...	...	...	30	20	50	2
HV300R	Case Study on local / Regional Issues (Optional Course)		<i>Mentoring by the faculty member and student is expected to work 4 hrs/week</i>				...	...	...	50	...	50	2
Total			17	1	6	24	210	130	360	90	60	850	22
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 -I [For other than E&Tc]													
	ET204NX Digital Electronics												
	ET204NY Principles of Electronics Engineering												

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Department of Electronics and Telecommunication Engineering

Scheme for Semester IV B. Tech. (Electronics and Telecommunication 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		
ET251N	Electronic Circuit Analysis	PCC	3	...	...	3	30	10	60	...	...	100	3
ET252N	Signals and Systems	PCC	3	...	...	3	30	10	60	...	...	100	3
ET253N	Network Analysis and Synthesis	PCC	3	...	...	3	30	10	60	...	...	100	3
ET254N	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
ET256N	Electronic Circuit Analysis Lab	VSEC	...	...	2	2	...	...	...	30	20	50	1
ET257N	Signals and Systems Lab	PCC	...	...	2	2	...	...	...	30	20	50	1
ET258N	Network Analysis and Synthesis 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	6	25	240	100	360	90	60	850	22

* 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 [For other than E&Tc]			
ET254NX Fundamentals of Microprocessor and Microcontroller			
ET254NY Fundamentals of Telecommunication			

Exit Option for UG Diploma: Additional 8 credits shall be earned in Skill based Vocational Courses/Internship/apprentiship/MiniProject offered during summer vacation after Second Year (As per exit policy approved by Board of Studies (Electronics and Telecommunication Engineering) in its meeting held on 06 July, 2023).

Note: Students having CGPA more than 8.0, can register for additional 18 credits departmental honours courses from semester-V to earn the credits which will lead to honours degree in that major program with MDM

GOVERNMENT COLLEGE OF ENGINEERING, JALGAON

Department of Electronics and Telecommunication Engineering

Scheme for Semester V B. Tech. (Electronics and Telecommunication 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			
ET301N	Analog and Digital Communication	PCC	4	...	...	4	30	10	60	...	...	100	4
ET302N	Microprocessors and Microcontrollers	PCC	3	...	...	3	30	10	60	...	...	100	3
ET303N	Electromagnetic Engineering	PCC	3	1	...	4	30	10	60	...	...	100	3
ET304N	Program Elective- I	PEC	3	...	...	3	30	10	60	...	...	100	3
ET305N	Open Elective-III	OE (MDC)	2	...	...	2	30	10	60	...	...	100	2
XXMYYYN	Multi Disciplinary Minor-III	MDM-III (MDC)	4	...	...	4	30	10	60	...	...	100	4
ET307N	Microprocessors and Microcontrollers Lab	PCC	...	...	2	2	...	...	...	30	20	50	1
ET308N	Analog and Digital Communication Lab	PCC	...	...	2	2	...	...	...	30	20	50	1
ET310N	Program Elective- I Lab	PEC	...	...	2	2	...	...	...	30	20	50	1
HV350R	Rural Water Supply (Optional Course)		<i>Mentoring by the faculty member and student is expected to work 2 hrs/week</i>				...	...	...	50	...	50	1
Total			19	1	6	26	180	60	360	90	60	750	22	
ET311N	Biomedical Engineering	DHC-I	3	...	...	3	30	10	60	...	...	100	3
ET312N	Biomedical Engineering Lab	DHC-II	...	...	2	2	...	...	...	30	20	50	1
	List of Open Elective -III [For other than E&Tc]		List of Program Elective-I											
	ET305NX Internet of Things		A. Telematics											
	ET305NY Mobile Communication		B. Data Structure and Files											
			C. Information Theory and Coding Techniques											
DHC: Departmental Honours Course														
L : Lecture		T: Tutorial		P: Practical				MSE: Mid Semester Examination						
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Department of Electronics and Telecommunication Engineering

Scheme for Semester VI B. Tech. (Electronics and Telecommunication 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			
ET351N	Digital Signal Processing	PCC	3	...	...	3	30	10	60	...	...	100	3
ET352N	Mobile Communication	PCC	2	...	...	2	30	10	60	...	...	100	2
ET353N	Linear Integrated Circuits	PCC	2	...	...	2	30	10	60	...	...	100	2
XXMYYYN	Multi Disciplinary Minor-IV	MDM-IV (MDC)	2	...	...	2	30	10	60	...	...	100	2
ET355N	Program Elective- II	PEC	3	...	...	3	30	10	60	...	...	100	3
ET356N	Program Elective- III	PEC	3	...	...	3	30	10	60	...	...	100	3
ET357N	Digital Signal Processing Lab	PCC	...	...	2	2	...	...	...	30	20	50	1
ET358N	Mobile Communication Lab	PCC	...	...	2	2	...	...	...	30	20	50	1
ET359N	Linear Integrated Circuits Lab	PCC	...	...	2	2	...	...	...	30	20	50	1
ET360N	Program Elective- II Lab	PEC	...	...	2	2	...	...	...	30	20	50	1
ET361N	Program Elective- III Lab	PEC	...	...	2	2	...	...	...	30	20	50	1
ET362N	Mini Project	VSEC (Skill)	...	...	4	4	...	...	...	30	20	50	2
Total			15	0	14	29	180	60	360	180	120	900	22	
ET363N	Nanoelectronics	DHC-III	3	...	...	3	30	10	60	...	...	100	3
List of Program Elective-II			List of Program Elective-III											
A. Computer Networks			A. Audio Video Engineering											
B. Wireless Sensor Networks			B. VLSI Design											
C. Digital Audio Processing			C. Power Electronics											
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.: Additional 8 credits shall be earned in Skill based Vocational Courses/Internship/apprenticeship/MiniProject offered during summer vacation after Third Year (As per exit policy approved by Board of Studies (Electronics and Telecommunication Engineering) in its meeting held on 06 July, 2023.)														

GOVERNMENT COLLEGE OF ENGINEERING, JALGAON

Department of Electronics and Telecommunication Engineering

Scheme for Semester VII B. Tech. (Electronics and Telecommunication 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		
ET401N	Optical Fiber Communication (NPTEL Course)	PCC	As per NPTEL Teaching Scheme				As per NPTEL examination scheme and institute policy for credit transfer					100	4
ET402N	NPTEL Course (Program Elective-IV)	PEC	As per NPTEL Teaching Scheme				As per NPTEL examination scheme and institute policy for credit transfer					100	2
XXMYYYY	Multi Disciplinary Minor-V	MDM-V (MDC)	As per NPTEL Teaching Scheme				As per NPTEL examination scheme and institute policy for credit transfer					100	2
ET410N	Professional Internship	ELC	...	...	24	24	...	...	...	100	...	100	12
Total			...	...	24	24	...	...	...	100	...	400	20
ET411N	Real Time Digital Signal Processing (12 Weeks NPTEL Course)	DHC-IV	As per NPTEL Teaching Scheme				examination scheme and institute policy for					100	4
ET412N	Principles of Modern CDMA / MIMO / OFDM Wireless Communications (8 Weeks NPTEL course)	DHC-V	3	...	...	3	30	10	60	...	...	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

A. Introduction to Adaptive Signal Processing (8 Weeks NPTEL Course)

B. 5G Technology (NPTEL Course / offered in online mode by in-house faculty)

C. Any other NPTEL/MOOC course as approved by BoS from time to time

L : Lecture

T: Tutorial

P: Practical

MSE: Mid Semester Examination

ISA :Internal Sessional Assessment

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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

GOVERNMENT COLLEGE OF ENGINEERING, JALGAON

Department of Electronics and Telecommunication Engineering

Scheme for Semester VIII B. Tech. (Electronics and Telecommunication 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		
ET451N	Microwave Communication	PCC	3	...	...	3	30	10	60	...	...	100	3
ET452N	Program Elective - V	PEC	2	...	...	2	30	10	60	...	...	100	2
XXMYYYN	Multi Disciplinary Minor-VI	MDM-VI (MDC)	2	...	...	2	30	10	60	...	...	100	2
ET454N	Research Methodology and IPR	ELC	3	1	...	4	30	10	60	...	...	100	4
ET455N	Program Elective - VI	PEC	3	...	...	3	30	10	60	...	...	100	3
ET456N	Microwave Communication Lab	PCC	...	...	2	2	...	...	...	30	20	50	1
ET457N	Program Elective-VI Lab	PEC	...	...	2	2	...	...	...	30	20	50	1
ET458N	Project	ELC	...	...	8	8	...	...	...	50	100	150	4
Total			13	1	12	26	150	50	300	110	140	750	20
ET460N	Networking in IoT	DHC-VI	4	...	...	4	30	10	60	...	...	100	4

List of Program Elective-V

A. Fundamentals of IoT

B. Antennas and Propagation

C. Satellite Communication

List of Program Elective-VI

A. Digital Image Processing

B. Embedded Systems

C. Analog and Digital CMOS Design

L : Lecture

T: Tutorial

P: Practical

MSE: Mid Semester Examination

ISA :Internal Sessional Assessment

ESE: End Semester Examination

ICA : Internal Contineous Accessment

Total Credits: 172 for BTech in Electronics & Telecommunication (E&Tc) Engineering with MDM

Total Credits: 172 + 18 = 190 for BTech in E&Tc Engineering with MDM and specialization minor [Double Minor]

Total Credits: 172 + 18 = 190 for BTech in E&Tc Engineering with MDM and Honours in E&Tc

Total Credits: 172 + 18 = 190 for BTech in E&Tc Engineering with MDM and Honours with Research