

Government College of Engineering, Karad

SCHEME OF INSTRUCTION & SYLLABI

Programme: Electronics and Telecommunication Engineering

Scheme of Instructions: Second Year B. Tech. in Electronics and Telecommunication Engineering

Semester – III

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Course Credits	EXAM SCHEME				
									CT-1	CT-2	TA/CA	ESE	TOTAL
1	HSMC	EX2301	Values and Ethics for Engineers	2	-	-	2	2	15	15	10	60	100
2	BSC	EX2302	Mathematics – III	3	-	-	3	3	15	15	10	60	100
3	ESC	EX2303	Analog Circuits	3	1	-	4	4	15	15	10	60	100
4	ESC	EX2304	Electronic Devices and Materials	4	-	-	4	4	15	15	10	60	100
5	PCC	EX2305	Digital Electronics	3	1	-	4	4	15	15	10	60	100
6	ESC	EX2306	Analog Circuits Lab	-	-	2	2	1	-	-	25	50	75
7	PCC	EX2307	Digital Electronics Lab	-	-	2	2	1	-	-	25	50	75
8	P/S/IT	EX2308	Industrial Training	-	-	2	2	1	-	-	25	25	50
9	MCC	EX2309	Programming Language Lab	-	-	2	2	Audit	-	-	-	-	-
Total				15	2	08	25	20	75	75	125	425	700

L-Lecture

T-Tutorial

P-Practical

CT1- ClassTest1

TA/CA- Teacher Assessment/ContinuousAssessment

CT2- ClassTest2

ESE- End Semester Examination (For Laboratory End Semesterperformance)

Course Category	HSMC (Hum., Soc. Sc, Mgmt.)	BSC (Basic Sc.)	ESC (Engg. Sc.)	PCC (Programme Core Courses)	PEC (Programme Elective Courses)	OEC (Open Elective courses from other discipline)	MCC (Mandatory Courses)	Project / Seminar / Industrial Training
Credits	02	03	09	05	--	--	Yes	01
Cumulative Sum	05	21	25	05	--	--	--	01

PROGRESSIVE TOTAL CREDITS : 37+20 =57

Government College of Engineering, Karad

SCHEME OF INSTRUCTION & SYLLABI

Programme: Electronics and Telecommunication Engineering

Scheme of Instructions: Second Year B. Tech. in Electronics and Telecommunication Engineering

Semester – IV

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Course Credits	EXAM SCHEME				
									CT-1	CT-2	TA/CA	ESE	TOTAL
1	OEC	EX2401	Transducers and Measurement	3	-	-	3	3	15	15	10	60	100
2	ESC	EX2402	Signals and Systems	3	-	-	3	3	15	15	10	60	100
3	PCC	EX2403	Analog Communication	3	-	-	3	3	15	15	10	60	100
4	PCC	EX2404	Microcontroller and Interfacing	3	-	-	3	3	15	15	10	60	100
5	PCC	EX2405	Network Analysis and Synthesis	3	-	-	3	3	15	15	10	60	100
6	OEC	EX2406	Transducers and Measurement Lab	-	-	2	2	1	-	-	25	-	25
7	PCC	EX2407	Analog Communication Lab	-	-	2	2	1	-	-	25	25	50
8	PCC	EX2408	Microcontroller and Interfacing Lab	-	-	2	2	1	-	-	25	25	50
9	PCC	EX2409	Signal, Network Analysis and Synthesis Lab	-	-	2	2	1	-	-	25	25	50
10	MCC	EX2410	Environmental Science	2	-	-	2	Audit	15	15	10	60	100
11	HSMC	EX2411	Technical Presentation	-	1	-	1	1			25	-	25
			Total	17	01	08	26	20	90	90	185	435	800

L-Lecture

T-Tutorial

P-Practical

CT1- ClassTest1

TA/CA- Teacher Assessment/ContinuousAssessment

CT2- ClassTest2

ESE- End Semester Examination (For Laboratory End Semesterperformance)

Course Category	HSMC (Hum., Soc. Sc, Mgmt.)	BSC (Basic Sc.)	ESC (Engg. Sc.)	PCC (Programme Core courses)	PEC (Programme Elective courses)	OEC (Open Elective courses from other discipline)	MCC (Mandatory Courses)	Project / Seminar / Industrial Training
Credits	01	--	03	12	--	04	Yes	--
Cumulative Sum	06	21	28	17	--	04	Yes	01

PROGRESSIVE TOTAL CREDITS : 57+20 =77

Government College of Engineering, Karad

SCHEME OF INSTRUCTION & SYLLABI

Programme: Electronics and Telecommunication Engineering

Scheme of Instructions: Third Year B. Tech. in Electronics and Telecommunication Engineering

Semester – V

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Course Credits	EXAM SCHEME				
									CT-1	CT-2	TA/CA	ESE	TOTAL
1	OEC	EX2501	Embedded Systems& RTOS	3	-	-	3	3	15	15	10	60	100
2	PCC	EX2502	Digital Communication	3	-	-	3	3	15	15	10	60	100
3	PCC	EX2503	Digital Signal Processing	3	-	-	3	3	15	15	10	60	100
4	PCC	EX2504	Electromagnetic Engineering and WP	3	1	-	4	4	15	15	10	60	100
5	PEC	EX25*5	Elective – I	2	1	-	3	3	15	15	10	60	100
6	OEC	EX2506	Embedded Systems & RTOS Lab	-	-	2	2	1	-	-	25	25	50
7	PCC	EX2507	Digital Communication. Lab	-	-	2	2	1	-	-	25	25	50
8	PCC	EX2508	Digital Signal Processing Lab	-	-	2	2	1			25	25	50
9	P/S/IT	EX2509	Mini Project	-	-	4	4	2	-	-	50	50	100
10	MCC	EX2510	Industrial Training and Evaluation	-	1	-	1	Audit			50	-	50
			Total	14	03	10	27	21	75	75	225	425	800

L-Lecture

T-Tutorial

P-Practical

CT1- ClassTest1

TA/CA- Teacher Assessment/Continuous Assessment

CT2- ClassTest2

ESE- End Semester Examination (For Laboratory End Semester performance)

Course Category	HSMC (Hum., Soc. Sc, Mgmt.)	BSC (Basic Sc.)	ESC (Engg. Sc.)	PCC (Programme Core courses)	PEC (Programme Elective courses)	OEC (Open Elective courses from other discipline)	MCC (Mandatory Courses)	Project / Seminar / Industrial Training
Credits	--	--	--	12	03	04	Yes	02
Cumulative Sum	06	21	28	29	03	08	Yes	03

PROGRESSIVE TOTAL CREDITS : 77+21= 98

Government College of Engineering, Karad

SCHEME OF INSTRUCTION & SYLLABI

Programme: Electronics and Telecommunication Engineering

Scheme of Instructions: Third Year B. Tech. in Electronics and Telecommunication Engineering

Semester – VI

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs / Wk	Course Credits	EXAM SCHEME				
									CT-1	CT-2	TA/CA	ESE	TOTAL
1	HSMC	EX2601	Economics for Engineers	2	-	-	2	2	15	15	10	60	100
2	OEC	EX2602	Internet of Things	3	-	-	3	3	15	15	10	60	100
3	PCC	EX2603	Computer Network	3	-	-	3	3	15	15	10	60	100
4	PCC	EX2604	Antenna and Microwave	3	-	-	3	3	15	15	10	60	100
5	PCC	EX2605	VLSI Design	3	-	-	3	3	15	15	10	60	100
6	PEC	EX26*6	Elective – II	2	1	-	3	3	15	15	10	60	100
7	OEC	EX2607	Internet of Things Lab	-	-	2	2	1	-	-	25	25	50
8	PCC	EX2608	Computer Network Lab	-	-	2	2	1	-	-	25	25	50
9	PCC	EX2609	Antenna and Microwave Lab	-	-	2	2	1	-	-	25	-	25
10	PCC	EX2610	VLSI Design Lab	-	-	2	2	1			25	25	50
11	HSMC	EX2611	Technical Presentation		1		1	1	-	-	25	-	25
12	MCC	EX2612	Probability Random Process and Linear Algebra			2	2	Audit	-	-	-	-	-
Total				16	02	10	28	22	90	90	185	435	800

L-Lecture

T-Tutorial

P-Practical

CT1- ClassTest1

TA/CA- Teacher Assessment/ContinuousAssessment

CT2- ClassTest2

ESE- End Semester Examination (For Laboratory End Semesterperformance)

Course Category	HSMC (Hum., Soc. Sc, Mgmt.)	BSC (Basic Sc.)	ESC (Engg. Sc.)	PCC (Programme Core courses)	PEC (Programme Elective courses)	OEC (Open Elective courses from other discipline)	MCC (Mandatory Courses)	Project / Seminar / Industrial Training
Credits	03	--	--	12	03	04	Yes	--
Cumulative Sum	9	21	28	41	06	12	Yes	03

PROGRESSIVE TOTAL CREDITS : 98+22=120

Government College of Engineering, Karad

SCHEME OF INSTRUCTION & SYLLABI

Programme: Electronics and Telecommunication Engineering

Scheme of Instructions: Final Year B. Tech. in Electronics and Telecommunication Engineering

Semester – VII

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Course Credits	EXAM SCHEME				
									CT-1	CT-2	TA/CA	ESE	TOTAL
1	OEC	EX2701	Data and Network Security	3	-	-	3	3	15	15	10	60	100
2	PCC	EX2702	Image and video processing	3	-	-	3	3	15	15	10	60	100
3	PCC	EX2703	Fiber Optics & Optical Networks	2	-	-	2	2	15	15	10	60	100
4	PCC	EX2704	Artificial Intelligence & Machine Learning	3	-	-	3	3	15	15	10	60	100
5	PEC	EX27*5	Elective – III	2	1	-	3	3	15	15	10	60	100
6	PEC	EX27*6	Elective – IV	2	1	-	3	3	15	15	10	60	100
7	PCC	EX2707	Image and video processing lab	-	-	2	2	1	-	-	25	25	50
8	PCC	EX2708	Fiber Optics & Optical Networks Lab	-	-	2	2	1	-	-	25	25	50
9	P/S/IT	EX2709	Industrial Training	-	-	2	2	1	-	-	25	25	50
10	P/S/IT	EX2710	Project Work Phase 1			2	2	1			25	25	50
11	Audit	EX2711	Artificial Intelligence & Machine Learning Lab	-	-	2	2	Audit	-	-	-	-	-
Total				15	02	10	27	21	90	90	160	460	800

L-Lecture

T-Tutorial

P-Practical

CT1- ClassTest1

TA/CA- Teacher Assessment/Continuous Assessment

CT2- ClassTest2

ESE- End Semester Examination (For Laboratory End Semester performance)

Course Category	HSMC (Hum., Soc. Sc, Mgmt.)	BSC (Basic Sc.)	ESC (Engg. Sc.)	PCC (Programme Core courses)	PEC (Programme Elective courses)	OEC (Open Elective courses from other discipline)	MCC (Mandatory Courses)	Project / Seminar / Industrial Training
Credits	--	--	--	10	06	03	Yes	02
Cumulative Sum	9	21	28	51	12	15	Yes	05

PROGRESSIVE TOTAL CREDITS : 120+21 = 141

Government College of Engineering, Karad

SCHEME OF INSTRUCTION & SYLLABI

Programme: Electronics and Telecommunication Engineering

Scheme of Instructions: Final Year B. Tech. in Electronics and Telecommunication Engineering (ACADEMIC MODE)

Semester – VIII

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Course Credits	EXAM SCHEME				
									CT-1	CT-2	TA/CA	ESE	TOTAL
1	HSMC	EX2801	Legal regulatory and compliance	3	-	-	3	3	15	15	10	60	100
2	OEC	EX2802	Robotics	3	1	-	4	4	15	15	10	60	100
3	PEC	EX28*3	Elective – V	2	1	-	3	3	15	15	10	60	100
4	OEC	EX2804	Robotics Lab	-	-	2	2	1	-	-	50	50	100
5	P/S/IT	EX2805	Project Work Phase 2	-	-	16	16	8	-	-	150	150	300
Total				08	02	18	28	19	45	45	230	380	700

L-Lecture

T-Tutorial

P-Practical

CT1- ClassTest1

TA/CA- Teacher Assessment/Continuous Assessment

CT2- ClassTest2

ESE- End Semester Examination (For Laboratory End Semester performance)

Course Category	HSMC (Hum., Soc. Sc, Mgmt.)	BSC (Basic Sc.)	ESC (Engg. Sc.)	PCC (Programme Core courses)	PEC (Programme Elective courses)	OEC (Open Elective courses from other discipline)	MCC (Mandatory Courses)	Project / Seminar / Industrial Training
Credits	03	--	--	---	03	05	--	08
Cumulative Sum	12	21	28	51	15	20	Yes	13

PROGRESSIVE TOTAL CREDITS : 141+19= 160

Government College of Engineering, Karad

SCHEME OF INSTRUCTION & SYLLABI

Programme: Electronics and Telecommunication Engineering

Scheme of Instructions : Final Year B. Tech. in Electronics and Telecommunication Engineering (**INDUSTRY MODE**)

Semester – VIII

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Course Credits	EXAM SCHEME				
									CT-1	CT-2	TA/CA	ESE	TOTAL
1	HSMC	EX2801	Legal regulatory and compliance	3	-	-	3	3	15	15	10	60	100
2	OEC	EX2802	(MOOC – 1)					4				100	100
3	PEC	EX2803	(MOOC – 2)					4				100	100
4	P/S/IT	EX2804	Project Work Phase 2					8			200	200	400
Total				-	-	-	-	19	15	15	210	460	700

L-Lecture

T-Tutorial

P-Practical

CT1- ClassTest1

TA/CA- Teacher Assessment/Continuous Assessment

CT2- ClassTest2

ESE- End Semester Examination (For Laboratory End Semester Performance)

Course Category	HSMC (Hum., Soc. Sc, Mgmt.)	BSC (Basic Sc.)	ESC (Engg. Sc.)	PCC (Programme Core courses)	MOOCS	OEC (Open Elective courses from other discipline)	MCC (Mandatory Courses)	Project / Seminar / Industrial Training
Credits	03	--	--	---	08	--	--	08
Cumulative Sum	12	21	28	51	20	15	Yes	13

PROGRESSIVE TOTAL CREDITS : 141+19= 160

List of PROGRAM ELECTIVE courses:

Elective I	Elective II
5 th Semester	6 th Semester
Power Electronics	Satellite Communication and Remote sensing
Control System	Broadband Communication
Computer Organization And System Programming	Wireless and Mobile Communication
Industrial Automation	Information Theory, Coding and Compression Techniques

Specialization	Elective III	Elective IV	Elective V
	7 th Semester	7 th Semester	8 th Semester
Signal processing and communication	Multirate Signal Processing and Wavelet	Speech Processing	DSP Processor Architecture and Algorithms
Data science	Soft computing	Big data and data Mining	Cloud Computing
VLSI and Embedded	Mixed signal IC Designing	RF IC Designing	Real Time System Design and Applications
Automation	Automotive Electronics	Medical Electronics	1. Agro Instrumentation OR 2. Computer Vision
Communication	4G/5G communication Technology	Radar Engineering	Cyber Security

* Elective list will be updated according to cutting edge Technology.

COMMONINSTRUCTIONs

Departments shall suggest& execute

1. *Bridge courses* for the *Students Admitting to Direct Second year via Lateral Entry scheme in the III semester.* (Diploma students)
2. *Bridge courses* for the students who may be *Admitted in Autonomous mode from University mode.*
3. *MOOCs* for students adapting *Industry Mode* to fulfil the credit requirements. Copy of certificates / grade card shall be submitted to Controller of Examinations, GCE Karad through Program Coordinator prior to ESE.

Semester VII

Sr.No	Course Category	Course Code	Elective III
1	PEC	EX2715	Multirate Signal Processing and Wavelet
2	PEC	EX2725	Soft computing
3	PEC	EX2735	Mixed signal IC Designing
4	PEC	EX2745	Automotive Electronics
5	PEC	EX2755	4G/5G communication Technology

Semester VII

Sr.No	Course Category	Course Code	Elective IV
1	PEC	EX2716	Speech Processing
2	PEC	EX2726	Big data and data Mining
3	PEC	EX2736	RF IC Designing
4	PEC	EX2746	Medical Electronics
5	PEC	EX2756	Radar Engineering

Semester VIII

Sr.No	Course Category	Course Code	Elective V
1	PEC	EX2813	DSP Processor Architecture and Algorithms
2	PEC	EX2823	Cloud Computing
3	PEC	EX2833	Real Time System Design and Applications
4	PEC	EX2843	Agro Instrumentation/Computer Vision
5	PEC	EX2853	Cyber Security

