Government College of Engineering, Karad

SCHEME OF INSTRUCTION & SYLLABI

Programme: Electronics & Telecommunication Engineering

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

Semester – V (w. e. f. 2025-26)

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Course Credits	EXAM SCHEME			
									MSE	ISE	ESE	TOTAL
1	PCC	EX3501	Analog & Digital Communication	3	--	--	3	3	20	20	60	100
2	PCC	EX3502	Digital Signal Processing	3	--	--	3	3	20	20	60	100
3	PCC	EX3503	Embedded System & RTOS	3	-	--	3	3	20	20	60	100
4	PEC	EX35*4	Program Elective -01	3	-	--	3	3	20	20	60	100
5	MDM	##	Multi-Disciplinary Minor-03	3	--	--	3	3	20	20	60	100
6	OEC	$D/O/I	Open Elective -03	2	--	--	2	2	20/NA/NA	20/NA/50	60/100/50	100
7	PCC	EX3507	Analog & Digital Communication Laboratory	--	--	2	2	1	-	25	25	50
8	PCC	EX3508	Digital Signal Processing Laboratory	--	--	2	2	1	-	25	-	25
9	PCC	EX3509	Embedded System & RTOS Laboratory	-	-	2	2	1		25	25	50
10	MDM	##	Multi-Disciplinary Minor -03 Laboratory	--	--	2	2	1	-	50	-	50
11	PEC	EX35*1	Program Elective -01 Laboratory	--	--	2	2	1	--	25	--	25
			Total	17	--	10	27	22	120	270	410	800

*Note: 1. Open Elective-03 (OE) can be offered as offline/Online mode (MOOC).

2. $D/O/I:- Any course offered by Department/Online/Institute OE bucket.

3. ## :- Any course offered from Dept./Inst. Level MDM buckets.

L- Lecture   T-Tutorial   P-Practical   MSE- Mid Semester Examination ISE/CA- In Semester Evaluation/Continuous Assessment
ESE- End Semester Examination (For Laboratory End Semester performance)

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Course Category	Basic Science Courses (BSC)	Engineering Science Courses (ESC)	Programme Core Course (PCC)	Programme Elective Course (PEC)	Open Elective other than particular program (OE/MDM)	Vocational and Skill Enhancement Course (VSEC)	Humanities Social Science and Management (HSSM)	Experiential Learning (EL)	Co-curricular And Extracurricular Activities (CCA)
Credits	-	-	12	04	06	-	-	-	-
Cumulative Sum	16	16	36	04	16	07	12	01	02

PROGRESSIVE TOTAL CREDITS: 88+22=110

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Government College of Engineering, Karad

SCHEME OF INSTRUCTION & SYLLABI

Programme: Electronics & Telecommunication Engineering

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

Semester – VI (w. e. f. 2025-26)

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Course Credits	EXAM SCHEME			
									MSE	ISE	ESE	TOTAL
1	PCC	EX3601	Electromagnetic Field Theory	2	1	--	3	3	20	20	60	100
2	PCC	EX3602	Power Electronics	3	--	--	3	3	20	20	60	100
3	PCC	EX3603	Computer Network	2	--	--	2	2	20	20	60	100
4	PEC	EX36*4	Program Elective -02	3	--	--	3	3	20	20	60	100
5	PEC	EX3605	Internet of Things	3	--	--	3	3	20	20	60	100
6	MDM	##	Multi-Disciplinary Minor -04	2	--	--	2	2	20	20	60	100
7	EL	EX3607	Mini Project	-	--	4	4	2	-	50	25	75
8	VSEC	EX3608	Power Electronics Laboratory	--	--	2	2	1	-	25	-	25
9	PCC	EX3609	Computer Network Laboratory	--	--	2	2	1	-	25	-	25
10	PEC	EX3610	Internet of Things Laboratory	--	--	2	2	1	-	25	25	50
11	PEC	EX36*1	Program Elective -02 Laboratory	--	--	2	2	1		25	-	25
			Total	15	1	12	28	22	120	270	410	**800**

:- Any course offered from Dept./Inst. Level MDM buckets.

L- Lecture   T-Tutorial   P-Practical

MSE- Mid Semester Examination   ISE/CA- In Semester Evaluation/Continuous Assessment

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

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Course Category	Basic Science Courses (BSC)	Engineering Science Courses (ESC)	Programme Core Course (PCC)	Programme Elective Course (PEC)	Open Elective other than particular (OE/MDM)	Vocational and Skill Enhancement Course (VSEC)	Humanities Social Science and Management (HSSM)	Experiential Learning (EL)	Co-curricular And Extracurricular Activities (CCA)
Credits	-	-	9	8	02	01	-	2	-
Cumulative Sum	16	16	45	12	18	08	12	03	02

PROGRESSIVE TOTAL CREDITS: 110+22 =132

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Exit option : Award of B. Vocational in Major with 132 credits and an additional 8 credits from following Exit Courses				
Sr. No	Course Code	Course Title	Mode	Credits
1	EX-EC-0301	Certified Network Engineer	Online/offline certification Course	8
OR				
2	EX-EC-0302	Advanced Mobile Communication		8

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List of Programme Elective Courses:

Specialization on	Electronics & Communication	Robotics & Automation	Signal Processing	Data Science	Software Testing
Elective-I	EX3514: Control System	EX3524: Drives & Control forAutomation	EX3534: Digital Speech Processing	EX3544: Machine Learning with Mathematica l Foundations	EX3554: Manual Testing
	EX3511: Control System Lab	EX3521: Drives & Control Laboratory	EX3531: Digital Speech Processing Laboratory	EX3541: Python Programming for Machine Learning	EX3551: Manual Testing Laboratory
Elective-II	EX3614:: Informati on Theory & Coding	EX3624: Programmable Logic Controllers (PLCs)	EX3634: Digital Image & Video Processing	EX3644: Neural Networks and Deep Learning	EX3654: API Testing
	EX3611: Information Theory & Coding Laboratory	EX3621: Programmable Logic Controller Laboratory	EX3631: Digital Image& Video Processing Laboratory	EX3641: Neural Networks and Deep Learning Laboratory	EX3651: API Testing Laboratory
Elective-III	EX3715: Satellite Communication	EX3725: Industrial Robotics	EX3735: Biomedical Signal Processing	EX3745: Generative AI	EX3755: Automation Testing-1
Elective-IV	EX3813: Wireless Communication	EX3823: Mobile Robot	EX3833: Computer Vision with AI	EX3843: Deep Learning for Computer Vision	EX3853: Automation Testing- 2

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Specialization	Cloud Computing	Embedded and RTOS	Semiconductor IC Design
Elective-I	EX 3564: Cloud Computing Foundation	EX3574: Advanced Embedded C Programming	EX3584: Digital CMOS Circuit Design
	EX3561: Cloud Computing Foundation Laboratory	EX3571: Advanced Embedded C Programming Laboratory	EX3581: Digital CMOS Circuit Design Lab
Elective-II	EX3664: Cloud Infrastructure Management and Automation	EX3674: Embedded System Design with ARM Processors	EX3684:CMOS Analog and Mixed Circuit Design
	EX3661: Cloud Infrastructure Management and Automation Laboratory	EX3671: Embedded System Design with ARM Processors Lab	EX3681 : CMOS Analog and Mixed Circuit Design Lab
Elective-III	EX3765: Cloud Application development and Deployment	EX3775: Automotive and industrial embedded system	EX3785:FPGA Based Design Using System VERILOG
Elective-IV	EX3863: Cloud Security, Management & Big Data Analytics.	EX3873: Security in Embedded system	EX3883::Physical IC Design

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List of Multi-disciplinary Minor (Departmental)

Offered by Department	Sr.No.	Course category	Course code & Title	Semester
Civil Engineering	1	Multi-disciplinary Minor - 01	CE3314: Basic civil engineering	III
	2	Multi-disciplinary Minor – 02	CE3414: Building materials	IV
	3	Multi-disciplinary Minor – 03	CE3515: Building planning and drawing	V
	4	Multi-disciplinary Minor Lab – 03	CE3511: Building planning and drawing lab	V
	5	Multi-disciplinary Minor – 04	CE3616: Building services	VI
	6	Multi-disciplinary Minor – 05	CE3715: Smart building I	VII
	7	Multi-disciplinary Minor - 06	CE3815: Smart building II	VIII
Mechanical Engineering	1	Multi-disciplinary Minor - 01	ME3314: Material Science	III
	2	Multi-disciplinary Minor – 02	ME3415: Analysis of Mechanical elements	IV
	3	Multi-disciplinary Minor – 03	ME3515: Thermal and Energy Engineering	V
	4	Multi-disciplinary Minor Lab – 03	ME3515: Mechanical Engineering Lab	V
	5	Multi-disciplinary Minor – 04	ME3616: Manufacturing Engineering	VI
	6	Multi-disciplinary Minor – 05	ME3715: Energy Conservation and Management	VII
	7	Multi-disciplinary Minor - 06	ME3815: Mechanical System Design	VIII
Electrical Engineering	1	Multi-disciplinary Minor - 01	DC Machines and Transformers	III
	2	Multi-disciplinary Minor – 02	AC Machines	IV
	3	Multi-disciplinary Minor – 03	Basics of Power System	V
	4	Multi-disciplinary Minor Lab – 03	Elecrical Machine Lab	V
	5	Multi-disciplinary Minor – 04	Electrical Drives	VI

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	6	Multi-disciplinary Minor – 05	Switchgear and Protection	VII
	7	Multi-disciplinary Minor - 06	Energy Management and Audit /Electrical Vehicle	VIII
Information Technology	1	Multi-disciplinary Minor - 01	IT3305: Basics of Data Structure	III
	2	Multi-disciplinary Minor – 02	IT3404:Software Essentials (OS and Application Software)	IV
	3	Multi-disciplinary Minor – 03	IT3505:Database Management Systems	V
	4	Multi-disciplinary Minor Lab – 03	IT3511:Database Management Systems Lab	V
	5	Multi-disciplinary Minor – 04	IT3604:Basics of AI and ML	VI
	6	Multi-disciplinary Minor – 05	IT3705:Python Programming	VII
	7	Multi-disciplinary Minor - 06	IT3805:Web Technology	VIII
Electronics & Telecommunicatio n Engineering	1	Multi-disciplinary Minor - 01	EX3304: Electronic Circuits	III
	2	Multi-disciplinary Minor – 02	EX3404: Digital Electronics	IV
	3	Multi-disciplinary Minor – 03	EX3505: Signals & Systems	V
	4	Multi-disciplinary Minor Lab – 03	EX3510: Signals & Systems Laboratory	V
	5	Multi-disciplinary Minor – 04	EX3606: Communication System	VI
	6	Multi-disciplinary Minor – 05	EX3706: Microprocessor & Microcontroller	VII
	7	Multi-disciplinary Minor - 06	EX3805: Mobile Communication	VIII

List of Multi-disciplinary Minor (Institute Level-Industrial)

Stream/Technology	Sr.No.	Course category	Course code & Title	Semester
Electrical Vehicle	1	Multi-disciplinary Minor - 01	IMI3311: Foundation of EV and Hybrid Vehicle	III

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(Electrical perspective Institute Level-Industrial)	2	Multi-disciplinary Minor – 02	IMI3412: EV Battery Technology and Powertrain Development	IV
	3	Multi-disciplinary Minor – 03	IMI3513: EV Power Electronics and Embedded System	V
	4	Multi-disciplinary Minor Lab – 03	IMI3514: Electric Vehicle Lab	V
	5	Multi-disciplinary Minor – 04	IMI3615: EV Charging Infrastructure, Vehicle Testing & Homologation	VI
	6	Multi-disciplinary Minor – 05	IMI3716: EV Vehicle Design & Analysis	VII
	7	Multi-disciplinary Minor - 06	IMI3817: EV PCB Design & Data Analytics	VIII
Image Processing(Institute Level-Industrial)	1	Multi-disciplinary Minor - 01	IMI3321: Fundamentals of Image.	III
	2	Multi-disciplinary Minor – 02	IMI3422: Basics of Image Processing for Healthcare	IV
	3	Multi-disciplinary Minor – 03	IMI3523:Particle Size Analysis using Image Processing	V
	4	Multi-disciplinary Minor Lab – 03	IMI3524: Particle Size Analysis using Image Processing Lab	V
	5	Multi-disciplinary Minor – 04	IMI3625: Particle Characterization in Healthcare	VI
	6	Multi-disciplinary Minor – 05	IMI3726:Particle Characterization in Formulation and Reverse Engineering	VII
	7	Multi-disciplinary Minor - 06	IMI3827:Project	VIII
Electrical Vehicle (Mechanical perspective Institute Level-Industrial)	1	Multi-disciplinary Minor - 01	IMI3331:Foundation of EV and Hybrid Vehicle	III
	2	Multi-disciplinary Minor – 02	IMI3432:Automotive Mechanics for EV	IV
	3	Multi-disciplinary Minor – 03	IMI3533:EV Design, Development and Analysis	V
	4	Multi-disciplinary Minor Lab – 03	IMI3534:3D modelling and simulation Lab	V
	5	Multi-disciplinary Minor – 04	IMI3635:EV Product Development, Homologation and Hydrogen FCEV	VI
	6	Multi-disciplinary Minor – 05	IMI3736:EV FEA ANALYSIS	VII

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7	Multi-disciplinary Minor - 06	IMI387:CYBER SECURITY AND DATA ANALYSIS	VIII

List of Multi-disciplinary Minor (Institute Level-Other Discipline)

Offered by Department	Sr.No.	Course category	Course code & Title	Semester
Law	1	Multi-disciplinary Minor - 01	IMO3311	III
	2	Multi-disciplinary Minor – 02	IMO3412	IV
	3	Multi-disciplinary Minor – 03	IMO3513	V
	4	Multi-disciplinary Minor Lab – 03	IMO3514	V
	5	Multi-disciplinary Minor – 04	IMO3615	VI
	6	Multi-disciplinary Minor – 05	IMO3716	VII
	7	Multi-disciplinary Minor - 06	IMO3817	VIII
Management & Finance	1	Multi-disciplinary Minor - 01	IMO3321	III
	2	Multi-disciplinary Minor – 02	IMO3422	IV
	3	Multi-disciplinary Minor – 03	IMO3523	V
	4	Multi-disciplinary Minor Lab – 03	IMO3524	V
	5	Multi-disciplinary Minor – 04	IMO3625	VI
	6	Multi-disciplinary Minor – 05	IMO3726	VII
	7	Multi-disciplinary Minor - 06	IMO3827	VIII

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Civil Engineering Department

List of Open Elective (Offline Mode)

Open Elective	Course Code	Course Title
Open Elective-I	CE3306	Environmental Chemistry
Open Elective-I lab	CE3311	Environmental Chemistry Lab
Open Elective-II	CE3405	Project Management
Open Elective-III	CE3506	Environmental Impact Assessment

List of Open Elective (MOOCs Mode)

Open Elective	Course Code	Course Title
Open Elective-I	CE3316	Environmental Chemistry
Open Elective-I lab	CE3321	Environmental Chemistry Lab
Open Elective-II	CE3415	Project Management
Open Elective-III	CE3516	Environmental Impact Assessment

Mechanical Engineering Department

List of Open Elective (Offline Mode)

Open Elective	Course Code	Course Title
Open Elective-I	ME3315	Industrial Instrumentation
Open Elective-I lab	ME3416	Industrial Safety
Open Elective-II	ME3516	Entrepreneurship Development
Open Elective-III		

List of Open Elective (MOOCs Mode)

Open Elective	Course Code	Course Title
Open Elective-I	ME3325	Control systems

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Open Elective-I lab	ME3426	Industrial Safety
Open Elective-II	ME3526	Entrepreneurship
Open Elective-III		

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Electrical Engineering Department
List of Open Elective (Offline Mode)

Open Elective	Course Code	Course Title
Open Elective-I	EE3315	Sustainable Energy Systems
Open Elective-I lab	EE3316	Sustainable Energy Systems Lab
Open Elective-II	EE3417	Robotics and Automation
Open Elective-III	EE3518	Optimization Techniques or Electrical vehicle system

List of Open Elective (MOOCs Mode)

Open Elective	Course Code	Course Title
Open Elective-I	EE3325	Energy Systems Engineering
Open Elective-I lab	EE3326	Energy Systems Engineering Lab
Open Elective-II	EE3427	Power Systems Engineering
Open Elective-III	EE3528	Optimization Techniques

Electronics & Telecommunications Engineering Department
List of Open Elective (Offline Mode)

Open Elective	Course Code	Course Title
Open Elective-I	EX3315	Digital Electronics
Open Elective-I lab	EX3310	Digital Electronics Laboratory
Open Elective-II	EX3415	Microcontroller Interfacing
Open Elective-III	EX3516	Embedded Systems and RTOS

List of Open Elective (MOOCs Mode)

Open Elective	Course Code	Course Title
Open Elective-I	EX3325	Digital Electronics
Open Elective-I lab	EX3320	Digital Electronics Laboratory

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Government College of Engineering, Karad
SCHEME OF INSTRUCTION & SYLLABI
Programme: Electronics & Telecommunication Engineering

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

Semester – IV (w.e.f. 2024-25)

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Course Credits	EXAM SCHEME			
									MSE	ISE	ESE	TOTAL
1	PCC	EX3401	Analog Circuits-II	3	1	--	4	4	20	20	60	100
2	PCC	EX3402	Signals & Systems	3	--	--	3	3	20	20	60	100
3	PCC	EX3403	Microcontroller & Interfacing	3	--	--	3	3	20	20	60	100
4	MDM	##	Multi-Disciplinary Minor-02	2	--	--	2	2	20	20	60	100
5	OEC	$D/O/I	Open Elective -02	2	--	--	2	2	20/NA/NA	20/NA/50	60/100/50	100
6	HSSM	EX3406	Strategic Management	2	--	--	2	2	-	25	-	25
7	HSSM	EX3407	Professional Ethics	2	--	--	2	2	-	25	-	25
8	PCC	EX3408	Analog Circuits-II Laboratory	--	--	2	2	1	-	50	50	100
9	VSEC	EX3409	Signals & Systems Laboratory	--	--	2	2	1	-	25	25	50
10	VSEC	EX3410	Microcontroller & Interfacing Laboratory	--	--	2	2	1	-	25	25	50
11	EL	EX3411	Community Engagement Project	--	--	2	2	1	-	50	-	50
12	BSC	EX3412	Environmental Science	2	--	--	2	Audit	-	-	-	-
			Total	19	1	8	28	22	100	300	400	800

*Note: 1. Open Elective-01 (OE) can be offered as offline/Online mode (MOOC).

2. $D/O/I:- Any course offered by Department/Online/Institute OE bucket.

3. ## :- Any course offered from Dept./Inst. Level MDM buckets.

L- Lecture   T-Tutorial   P-Practical

MSE- Mid Semester Examination   ISE/CA- In Semester Evaluation/Continuous Assessment

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

Course Category	Basic Science Courses (BSC)	Engineering Science Courses (ESC)	Programme Core Course (PCC)	Programme Elective Course (PEC)	Open Elective other than particular program (OE/MDM)	Vocational and Skill Enhancement Course (VSEC)	Humanities Social Science and Management (HSSM)	Experiential Learning (EL)	Co-curricular And Extracurricular Activities (CCA)
Credits	-	-	11	-	04	02	04	01	-
Cumulative Sum	16	16	24	-	10	07	12	01	02

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PROGRESSIVE TOTAL CREDITS: 66+22 =88

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Exit Course

Sr. No	Course Code	Course Title	Mode	Credits
Exit option : Award of UG Diploma in Major with 88 credits and an additional 8 credits from following Exit Courses			
1	EX-EC-0201	Data Communication Networking	Online/offline certification Course	8
OR			
2	EX-EC-0202	Advanced Electronics Gadgets Servicing & Maintenance		8

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Government College of Engineering, Karad
SCHEME OF INSTRUCTION & SYLLABI
Programme: Electronics & Telecommunication Engineering

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

Semester – V (w. e. f. 2025-26)

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Course Credits	MSE	ISE	ESE	TOTAL
									EXAM SCHEME			
1	PCC	EX3501	Analog & Digital Communication	3	--	--	3	3	20	20	60	100
2	PCC	EX3502	Digital Signal Processing	3	--	--	3	3	20	20	60	100
3	PCC	EX3503	Embedded System & RTOS	3	-	--	3	3	20	20	60	100
4	PEC	EX35*4	Program Elective -01	3	-	--	3	3	20	20	60	100
5	MDM	##	Multi-Disciplinary Minor-03	3	--	--	3	3	20	20	60	100
6	OEC	$D/O/I	Open Elective -03	2	--	--	2	2	20/NA/NA	20/NA/50	60/100/50	100
7	PCC	EX3507	Analog & Digital Communication Laboratory	--	--	2	2	1	-	25	25	50
8	PCC	EX3508	Digital Signal Processing Laboratory	--	--	2	2	1	-	25	-	25
9	PCC	EX3509	Embedded System & RTOS Laboratory	-	-	2	2	1		25	25	50
10	MDM	##	Multi-Disciplinary Minor -03 Laboratory	--	--	2	2	1	-	50	-	50
11	PEC	EX35*1	Program Elective -01 Laboratory	--	--	2	2	1	--	25	--	25
			Total	17	–	10	27	22	120	270	410	800

*Note: 1. Open Elective-03 (OE) can be offered as offline/Online mode (MOOC).

2. $D/O/I:- Any course offered by Department/Online/Institute OE bucket.

3. ## :- Any course offered from Dept./Inst. Level MDM buckets.

L- Lecture   T-Tutorial   P-Practical   MSE- Mid Semester Examination ISE/CA- In Semester Evaluation/Continuous Assessment

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

Course Category	Basic Science Courses (BSC)	Engineering Science Courses (ESC)	Programme Core Course (PCC)	Programme Elective Course (PEC)	Open Elective other than particular program (OE/MDM)	Vocational and Skill Enhancement Course (VSEC)	Humanities Social Science and Management (HSSM)	Experiential Learning (EL)	Co-curricular And Extracurricular Activities (CCA)

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Credits	-	-	12	04	06	-	-	-	-
Cumulative Sum	16	16	36	04	16	07	12	01	02

PROGRESSIVE TOTAL CREDITS: 88+22=110

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Government College of Engineering, Karad

SCHEME OF INSTRUCTION & SYLLABI

Programme: Electronics & Telecommunication Engineering

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

Semester – VI (w. e. f. 2025-26)

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Course Credits	MSE	ISE	ESE	TOTAL
1	PCC	EX3601	Electromagnetic Field Theory	2	1	--	3	3	20	20	60	100
2	PCC	EX3602	Power Electronics	3	--	--	3	3	20	20	60	100
3	PCC	EX3603	Computer Network	2	--	--	2	2	20	20	60	100
4	PEC	EX36*4	Program Elective -02	3		--	3	3	20	20	60	100
5	PEC	EX3605	Internet of Things	3	--	--	3	3	20	20	60	100
6	MDM	##	Multi-Disciplinary Minor -04	2	--	--	2	2	20	20	60	100
7	EL	EX3607	Mini Project	-	--	4	4	2	-	50	25	75
8	VSEC	EX3608	Power Electronics Laboratory	--	--	2	2	1	-	25	-	25
9	PCC	EX3609	Computer Network Laboratory	--	--	2	2	1	-	25	-	25
10	PEC	EX3610	Internet of Things Laboratory	--	--	2	2	1	-	25	25	50
11	PEC	EX36*1	Program Elective -02 Laboratory	--	--	2	2	1		25	-	25
			Total	15	1	12	28	22	120	270	410	800

:- Any course offered from Dept./Inst. Level MDM buckets.

L- Lecture   T-Tutorial   P-Practical

MSE- Mid Semester Examination   ISE/CA- In Semester Evaluation/Continuous Assessment

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

Course Category	Basic Science Courses (BSC)	Engineering Science Courses (ESC)	Programme Core Course (PCC)	Programme Elective Course (PEC)	Open Elective other than particular (OE/MDM)	Vocational and Skill Enhancement Course (VSEC)	Humanities Social Science and Management (HSSM)	Experiential Learning (EL)	Co-curricular And Extracurricular Activities (CCA)
Credits	-	-	9	8	02	01	-	2	-

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Cumulative Sum	16	16	45	12	18	08	12	03	02

PROGRESSIVE TOTAL CREDITS: 110+22 =132

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Exit option : Award of B. Vocational in Major with 132 credits and an additional 8 credits from following Exit Courses				
Sr. No	Course Code	Course Title	Mode	Credits
1	EX-EC-0301	Certified Network Engineer	Online/offline certification Course	8
OR				
2	EX-EC-0302	Advanced Mobile Communication		8

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Government College of Engineering, Karad

SCHEME OF INSTRUCTION & SYLLABI

Programme: Electronics & Telecommunication Engineering

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

Semester – VII

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Course Credits	EXAM SCHEME			
									MSE	ISE	ESE	TOTAL
1	PCC	EX3701	VLSI Design	3	--	--	3	3	20	20	60	100
2	PCC	EX3702	Antenna & Wave Propagation	3	--	--	3	3	20	20	60	100
3	EL	EX3703	Robotics & Automation	3	--	--	3	3	20	20	60	100
4	EL	EX3704	Research Methodology	3	--	--	3	3	20	20	60	100
5	PEC	EX37*5	Program Elective -03	2	--	--	2	2	20	20	60	100
6	MDM	##	Multi-Disciplinary Minor -05	2	--	--	2	2	20	20	60	100
7	PCC	EX3707	Antenna & Wave Propagation Laboratory	--	--	2	2	Audit	-	--	--	--
8	PCC	EX3708	VLSI Design Lab	--	--	2	2	1	--	25	25	50
9	PCC	EX3709	Robotics & Automation Laboratory	--	--	2	2	Audit	--	--	--	--
10	EL	EX3710	Project Phase - I	--	--	10	10	5	-	75	75	150
			Total	16	0	16	32	22	120	220	460	800

:- Any course offered from Dept./Inst. Level MDM buckets.

L- Lecture   T-Tutorial   P-Practical

MSE- Mid Semester Examination   ISE/CA- In Semester Evaluation/Continuous Assessment

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

Course Category	Basic Science Courses (BSC)	Engineering Science Courses (ESC)	Programme Core Course (PCC)	Programme Elective Course (PEC)	Open Elective other than particular program (OE/MDM)	Vocational and Skill Enhancement Course (VSEC)	Humanities Social Science and Management (HSSM)	Experiential Learning (EL)	Co-curricular And Extracurricular Activities (CCA)
Credits	-	-	07	02	02	-	-	11	-

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Cumulative Sum	16	16	52	14	20	08	12	14	02

PROGRESSIVE TOTAL CREDITS: 132+22 =154

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SCHEME OF INSTRUCTION & SYLLABI

Programme: Electronics & Telecommunication Engineering

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

Semester – VIII (Academic Mode)

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Course Credits	EXAM SCHEME			
									MSE	ISE	ESE	TOTAL
1	PCC	EX3801	Microwave & Radar Engineering	2	--	--	2	2	20	20	60	100
2	PCC	EX3802	Mobile Communication & Networks	3	--	--	3	3	20	20	60	100
3	PEC	EX38*3	Program Elective -04	2	--	--	2	2	20	20	60	100
4	PEC	EX3804	Fiber Optics Communication	3	--	--	3	3	20	20	60	100
5	MDM	##	Multi-Disciplinary Minor -06	2	--	--	2	2	20	20	60	100
6	PCC	EX3806	Fiber Optics Design Lab	--	--	2	2	1	-	25	25	50
8	EL	EX3807	Project Phase - II	--	--	18	18	9	-	125	125	250
			Total	12	0	20	32	22	100	250	450	800

:- Any course offered from Dept./Inst. Level MDM buckets.

L- Lecture   T-Tutorial   P-Practical

MSE- Mid Semester Examination   ISE/CA- In Semester Evaluation/Continuous Assessment

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

Course Category	Basic Science Courses (BSC)	Engineering Science Courses (ESC)	Programme Core Course (PCC)	Programme Elective Course (PEC)	Open Elective other than particular program (OE/MDM)	Vocational and Skill Enhancement Course (VSEC)	Humanities Social Science and Management (HSSM)	Experiential Learning (EL)	Co-curricular And Extracurricular Activities (CCA)
Credits	-	-	06	05	02	-	-	09	-
Cumulative Sum	16	16	58	19	22	08	12	23	02

PROGRESSIVE TOTAL CREDITS: 154+22 =176

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Government College of Engineering, Karad
SCHEME OF INSTRUCTION & SYLLABI
Programme: Electronics & Telecommunication Engineering

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

Semester – VIII (Industry Mode)

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Course Credits	EXAM SCHEME			
									MSE	ISE	ESE	TOTAL
1	MOOC	EX3809	MOOC - I	-	-	-		4			100	100
2	MOOC	EX3810	MOOC - II	-	-	-		4			100	100
3	MOOC	EX3811	Multi-disciplinary Minor – 06 (MOOC)	--	--	--	--	2			100	100
4	EL	EX3812	Internship	--	--	--	-	12	-	250	250	500
			Total	0	-	-	0	22	-	250	550	800

L- Lecture   T-Tutorial   P-Practical

MSE- Mid Semester Examination   ISE/CA- In Semester Evaluation/Continuous Assessment

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

Course Category	Basic Science Courses (BSC)	Engineering Science Courses (ESC)	Programme Core Course (PCC)	Programme Elective Course (PEC)	Open Elective other than particular program (OE/MDM)	Vocational and Skill Enhancement Course (VSEC)	Humanities Social Science and Management (HSSM)	Experiential Learning (EL)	Co-curricular And Extracurricular Activities (CCA)
Credits	-	-		08	02	-	-	12	-
Cumulative Sum	16	16	52	22	22	08	12	23	02

<u>PROGRESSIVE TOTAL CREDITS: 154+22 =176</u>

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Government College of Engineering, Karad

SCHEME OF INSTRUCTION & SYLLABI

Programme: Electronics & Telecommunication Engineering

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

Semester – VIII (Research Mode)

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Course Credits	EXAM SCHEME			
									MSE	ISE	ESE	TOTAL
1	MOOC	EX3813	MOOC - I					4			100	100
2	MOOC	EX3814	MOOC - II					4			100	100
3	MOOC	EX3815	Multi-disciplinary Minor – 06 (MOOC)	--	--	--	--	2			100	100
4	EL	EX3816	Research Project	--	--	--	-	12	-	250	250	500
			Total	--	-	-	--	22	20	250	550	800

L- Lecture   T-Tutorial   P-Practical

MSE- Mid Semester Examination   ISE/CA- In Semester Evaluation/Continuous Assessment

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

Course Category	Basic Science Courses (BSC)	Engineering Science Courses (ESC)	Programme Core Course (PCC)	Programme Elective Course (PEC)	Open Elective other than particular program (OE/MDM)	Vocational and Skill Enhancement Course (VSEC)	Humanities Social Science and Management (HSSM)	Experiential Learning (EL)	Co-curricular And Extracurricular Activities (CCA)
Credits	-	-		8	02	-		12	-
Cumulative Sum	16	16	52	22	22	08	12	23	02

PROGRESSIVE TOTAL CREDITS: 154+22 =176

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List of Programme Elective Courses:

Specialization on	Electronics & Communication	Robotics & Automation	Signal Processing	Data Science	Software Testing
Elective-I	EX3514: Control System	EX3524: Drives & Control forAutomation	EX3534: Digital Speech Processing	EX3544: Machine Learning with Mathematica l Foundations	EX3554: Manual Testing
	EX3511: Control System Lab	EX3521: Drives & Control Laboratory	EX3531: Digital Speech Processing Laboratory	EX3541: Python Programming for Machine Learning	EX3551: Manual Testing Laboratory
Elective-II	EX3614:: Informati on Theory & Coding	EX3624: Programmable Logic Controllers (PLCs)	EX3634: Digital Image & Video Processing	EX3644: Neural Networks and Deep Learning	EX3654: API Testing
	EX3611: Information Theory & Coding Laboratory	EX3621: Programmable Logic Controller Laboratory	EX3631: Digital Image& Video Processing Laboratory	EX3641: Neural Networks and Deep Learning Laboratory	EX3651: API Testing Laboratory
Elective-III	EX3715: Satellite Communication	EX3725: Industrial Robotics	EX3735: Biomedical Signal Processing	EX3745: Generative AI	EX3755: Automation Testing-1
Elective-IV	EX3813: Wireless Communication	EX3823: Mobile Robot	EX3833: Computer Vision with AI	EX3843: Deep Learning for Computer Vision	EX3853: Automation Testing- 2

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Specializati on	Cloud Computing	Embedded and RTOS	Semiconductor IC Design
Elective-I	EX 3564: Cloud Computing Foundation	EX3574: Advanced Embedded C Programming	EX3584: Digital CMOS Circuit Design
	EX3561: Cloud Computing Foundation Laboratory	EX3571: Advanced Embedded C Programming Laboratory	EX3581: Digital CMOS Circuit Design Lab
Elective-II	EX3664: Cloud Infrastructure Management and Automation	EX3674: Embedded System Design with ARM Processors	EX3684:CMOS Analog and Mixed Circuit Design
	EX3661: Cloud Infrastructure Management and Automation Laboratory	EX3671: Embedded System Design with ARM Processors Lab	EX3681 : CMOS Analog and Mixed Circuit Design Lab
Elective-III	EX3765: Cloud Application development and Deployment	EX3775: Automotive and industrial embedded system	EX3785:FPGA Based Design Using System VERILOG
Elective-IV	EX3863: Cloud Security, Management & Big Data Analytics.	EX3873: Security in Embedded system	EX3883::Physical IC Design

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List of Multi-disciplinary Minor (Departmental)

Offered by Department	Sr.No.	Course category	Course code & Title	Semester
Civil Engineering	1	Multi-disciplinary Minor - 01	CE3314: Basic civil engineering	III
	2	Multi-disciplinary Minor – 02	CE3414: Building materials	IV
	3	Multi-disciplinary Minor – 03	CE3515: Building planning and drawing	V
	4	Multi-disciplinary Minor Lab – 03	CE3511: Building planning and drawing lab	V
	5	Multi-disciplinary Minor – 04	CE3616: Building services	VI
	6	Multi-disciplinary Minor – 05	CE3715: Smart building I	VII
	7	Multi-disciplinary Minor - 06	CE3815: Smart building II	VIII
Mechanical Engineering	1	Multi-disciplinary Minor - 01	ME3314: Material Science	III
	2	Multi-disciplinary Minor – 02	ME3415: Analysis of Mechanical elements	IV
	3	Multi-disciplinary Minor – 03	ME3515: Thermal and Energy Engineering	V
	4	Multi-disciplinary Minor Lab – 03	ME3515: Mechanical Engineering Lab	V
	5	Multi-disciplinary Minor – 04	ME3616: Manufacturing Engineering	VI
	6	Multi-disciplinary Minor – 05	ME3715: Energy Conservation and Management	VII
	7	Multi-disciplinary Minor - 06	ME3815: Mechanical System Design	VIII
Electrical Engineering	1	Multi-disciplinary Minor - 01	DC Machines and Transformers	III
	2	Multi-disciplinary Minor – 02	AC Machines	IV
	3	Multi-disciplinary Minor – 03	Basics of Power System	V
	4	Multi-disciplinary Minor Lab – 03	Elecrical Machine Lab	V
	5	Multi-disciplinary Minor – 04	Electrical Drives	VI
	6	Multi-disciplinary Minor – 05	Switchgear and Protection	VII
	7	Multi-disciplinary Minor - 06	Energy Management and Audit /Electrical Vehicle	VIII

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Information Technology	1	Multi-disciplinary Minor - 01	IT3305: Basics of Data Structure	III
	2	Multi-disciplinary Minor – 02	IT3404:Software Essentials (OS and Application Software)	IV
	3	Multi-disciplinary Minor – 03	IT3505:Database Management Systems	V
	4	Multi-disciplinary Minor Lab – 03	IT3511:Database Management Systems Lab	V
	5	Multi-disciplinary Minor – 04	IT3604:Basics of AI and ML	VI
	6	Multi-disciplinary Minor – 05	IT3705:Python Programming	VII
	7	Multi-disciplinary Minor - 06	IT3805:Web Technology	VIII
Electronics & Telecommunication Engineering	1	Multi-disciplinary Minor - 01	EX3304: Electronic Circuits	III
	2	Multi-disciplinary Minor – 02	EX3404: Digital Electronics	IV
	3	Multi-disciplinary Minor – 03	EX3505: Signals & Systems	V
	4	Multi-disciplinary Minor Lab – 03	EX3510: Signals & Systems Laboratory	V
	5	Multi-disciplinary Minor – 04	EX3606: Communication System	VI
	6	Multi-disciplinary Minor – 05	EX3706: Microprocessor & Microcontroller	VII
	7	Multi-disciplinary Minor - 06	EX3805: Mobile Communication	VIII

List of Multi-disciplinary Minor (Institute Level-Industrial)

Stream/Technology	Sr.No.	Course category	Course code & Title	Semester
Electrical Vehicle (Electrical perspective Institute Level-Industrial)	1	Multi-disciplinary Minor - 01	IMI3311: Foundation of EV and Hybrid Vehicle	III
	2	Multi-disciplinary Minor – 02	IMI3412: EV Battery Technology and Powertrain Development	IV
	3	Multi-disciplinary Minor – 03	IMI3513: EV Power Electronics and Embedded System	V
	4	Multi-disciplinary Minor Lab – 03	IMI3514: Electric Vehicle Lab	V

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	5	Multi-disciplinary Minor – 04	IMI3615: EV Charging Infrastructure, Vehicle Testing & Homologation	VI
	6	Multi-disciplinary Minor – 05	IMI3716: EV Vehicle Design & Analysis	VII
	7	Multi-disciplinary Minor - 06	IMI3817: EV PCB Design & Data Analytics	VIII
Image Processing(Institute Level-Industrial)	1	Multi-disciplinary Minor - 01	IMI3321: Fundamentals of Image.	III
	2	Multi-disciplinary Minor – 02	IMI3422: Basics of Image Processing for Healthcare	IV
	3	Multi-disciplinary Minor – 03	IMI3523:Particle Size Analysis using Image Processing	V
	4	Multi-disciplinary Minor Lab – 03	IMI3524: Particle Size Analysis using Image Processing Lab	V
	5	Multi-disciplinary Minor – 04	IMI3625: Particle Characterization in Healthcare	VI
	6	Multi-disciplinary Minor – 05	IMI3726:Particle Characterization in Formulation and Reverse Engineering	VII
	7	Multi-disciplinary Minor - 06	IMI3827:Project	VIII
Electrical Vehicle (Mechanical perspective Institute Level-Industrial)	1	Multi-disciplinary Minor - 01	IMI3331:Foundation of EV and Hybrid Vehicle	III
	2	Multi-disciplinary Minor – 02	IMI3432:Automotive Mechanics for EV	IV
	3	Multi-disciplinary Minor – 03	IMI3533:EV Design, Development and Analysis	V
	4	Multi-disciplinary Minor Lab – 03	IMI3534:3D modelling and simulation Lab	V
	5	Multi-disciplinary Minor – 04	IMI3635:EV Product Development, Homologation and Hydrogen FCEV	VI
	6	Multi-disciplinary Minor – 05	IMI3736:EV FEA ANALYSIS	VII
	7	Multi-disciplinary Minor - 06	IMI387:CYBER SECURITY AND DATA ANALYSIS	VIII

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List of Multi-disciplinary Minor (Institute Level-Other Discipline)

Offered by Department	Sr.No.	Course category	Course code & Title	Semester
Law	1	Multi-disciplinary Minor - 01	IMO3311	III
	2	Multi-disciplinary Minor – 02	IMO3412	IV
	3	Multi-disciplinary Minor – 03	IMO3513	V
	4	Multi-disciplinary Minor Lab – 03	IMO3514	V
	5	Multi-disciplinary Minor – 04	IMO3615	VI
	6	Multi-disciplinary Minor – 05	IMO3716	VII
	7	Multi-disciplinary Minor - 06	IMO3817	VIII
Management & Finance	1	Multi-disciplinary Minor - 01	IMO3321	III
	2	Multi-disciplinary Minor – 02	IMO3422	IV
	3	Multi-disciplinary Minor – 03	IMO3523	V
	4	Multi-disciplinary Minor Lab – 03	IMO3524	V
	5	Multi-disciplinary Minor – 04	IMO3625	VI
	6	Multi-disciplinary Minor – 05	IMO3726	VII
	7	Multi-disciplinary Minor - 06	IMO3827	VIII

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Civil Engineering Department

List of Open Elective (Offline Mode)

Open Elective	Course Code	Course Title
Open Elective-I	CE3306	Environmental Chemistry
Open Elective-I lab	CE3311	Environmental Chemistry Lab
Open Elective-II	CE3405	Project Management
Open Elective-III	CE3506	Environmental Impact Assessment

List of Open Elective (MOOCs Mode)

Open Elective	Course Code	Course Title
Open Elective-I	CE3316	Environmental Chemistry
Open Elective-I lab	CE3321	Environmental Chemistry Lab
Open Elective-II	CE3415	Project Management
Open Elective-III	CE3516	Environmental Impact Assessment

Mechanical Engineering Department

List of Open Elective (Offline Mode)

Open Elective	Course Code	Course Title
Open Elective-I	ME3315	Industrial Instrumentation
Open Elective-I lab	ME3416	Industrial Safety
Open Elective-II	ME3516	Entrepreneurship Development
Open Elective-III		

List of Open Elective (MOOCs Mode)

Open Elective	Course Code	Course Title
Open Elective-I	ME3325	Control systems
Open Elective-I lab	ME3426	Industrial Safety

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Open Elective-II	ME3526	Entrepreneurship
Open Elective-III		

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Electrical Engineering Department
List of Open Elective (Offline Mode)

Open Elective	Course Code	Course Title
Open Elective-I	EE3315	Sustainable Energy Systems
Open Elective-I lab	EE3316	Sustainable Energy Systems Lab
Open Elective-II	EE3417	Robotics and Automation
Open Elective-III	EE3518	Optimization Techniques or Electrical vehicle system

List of Open Elective (MOOCs Mode)

Open Elective	Course Code	Course Title
Open Elective-I	EE3325	Energy Systems Engineering
Open Elective-I lab	EE3326	Energy Systems Engineering Lab
Open Elective-II	EE3427	Power Systems Engineering
Open Elective-III	EE3528	Optimization Techniques

Electronics & Telecommunications Engineering Department
List of Open Elective (Offline Mode)

Open Elective	Course Code	Course Title
Open Elective-I	EX3315	Digital Electronics
Open Elective-I lab	EX3310	Digital Electronics Laboratory
Open Elective-II	EX3415	Microcontroller Interfacing
Open Elective-III	EX3516	Embedded Systems and RTOS

List of Open Elective (MOOCs Mode)

Open Elective	Course Code	Course Title
Open Elective-I	EX3325	Digital Electronics
Open Elective-I lab	EX3320	Digital Electronics Laboratory
Open Elective-II	EX3425	Microprocessor and Microcontroller
Open Elective-III	EX3526	Embedded Systems

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Information Technology Department
List of Open Elective (Offline Mode)

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Open Elective	Course Code	Course Title
Open Elective-I	IT3316	Internet of Things
Open Elective-I lab	IT3311	Internet of Things Lab
Open Elective-II	IT3415	Robotics and Automation
Open Elective-III	IT3516	Augmented Reality and Virtual Reality

List of Open Elective (MOOCs Mode)

Open Elective	Course Code	Course Title
Open Elective-I	IT3326	Sensors and Internet of Things
Open Elective-I lab	IT3321	Sensors and Internet of Things Lab
Open Elective-II	IT3425	Robotics and Automation
Open Elective-III	IT3526	Multimedia and Reality

Institute Level- Industrial orientated Open Elective
AIDSML

Open Elective	Course Code	Course Title	Sem
Open Elective-I	IOE3311	Foundations of AI, Data Science, and Data Engineering"	III
Open Elective-I lab	IOE3312	Foundations for AI, Data Science, and Data Engineering Lab"	III
Open Elective-II	IOE3413	Advanced AI Integration	IV
Open Elective-III	IOE3514	AI Applications and Emerging Technologies	V

<u>AIOT</u>

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Open Elective	Course Code	Course Title	Sem
Open Elective-I	IOE3321	IoT Hardware and Sensors	III
Open Elective-I lab	IOE3322	IoT Hardware and Sensors lab	III
Open Elective-II	IOE3423	Fundamentals of AIoT	IV
Open Elective-III	IOE3524	Cloud Services for IoT	V

ARVR

Open Elective	Course Code	Course Title	Sem
Open Elective-I	IOE3331	AR/VR Application Development	III
Open Elective-I lab	IOE3332	AR/VR Application Development lab	III
Open Elective-II	IOE3433	Fundamentals of Real-time Rendering	IV
Open Elective-III	IOE3534	Game Development with Unreal Engine	V

ERP-SAP

Open Elective	Course Code	Course Title	Sem
Open Elective-I	IOE3341	ABAP Programming for SAP HANA	III
Open Elective-I lab	IOE3342	ABAP programming in Eclipse LAB	III
Open Elective-II	IOE3443	SAP HANA	IV
Open Elective-III	IOE3544	SAP PEOJECT	V

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BASKET OF BASIC SCIENCE COURSES (BSC)

LIST OF BSC COURSES OFFERED SEMESTER WISE						
SEMESTER I						
Sr. No	Course Code	Course	L	T	P	Credits
1.	EX3101	Engineering Chemistry	3	--	--	3
2.	EX3102	Matrix Algebra and Calculus	3	1	--	4
3.	EX3106	Engineering Chemistry Laboratory	--	--	2	1
SEMESTER II						
4.	EX3201	Engineering Physics	3	--	--	3
5.	EX3202	Differential and Integral Calculus	3	1	--	4
6.	EX3206	Engineering Physics Laboratory	-	-	2	1

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		SEMESTER IV				
7.	EX3412	Environmental Science	2	--	--	Audit
		Total				**16**

BASKET OF ENGINEERING SCIENCE COURSES (ESC)

	LIST OF ESC COURSES OFFERED SEMESTER WISE					
	SEMESTER I					
Sr. No	**Course Code**	**Course**	**L**	**T**	**P**	**Credits**
1.	EX3103	Basic Electrical & Electronics Engineering	3	--	--	3
2.	EX3104	Engineering Graphics	2	--	--	2
3.	EX3105	Design Thinking	2	--	--	2
4.	EX3107	Engineering Graphics Laboratory	--	--	2	1
5.	EX3108	Programming for problem solving Laboratory -I	1	--	2	2

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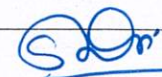
			SEMESTER II				
1.	EX3203	Engineering Mechanics		3	--	--	3
2.	EX3207	Programming for problem solving Laboratory -2		2	--	2	3
Total							16

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BASKET OF PROGRAMME CORE COURSE (PCC)

	LIST OF PCC COURSES OFFERED SEMESTER WISE						
	SEMESTER II						
Sr. No	**Course Code**	**Course**	**L**	**T**	**P**	**Credits**	
1.	EX3204	Transducers & Measurement	3	--	--	**3**	
	SEMESTER III						
2.	EX3301	Digital System Design	3	--	--	3	
3.	EX3302	Network Analysis & Synthesis	3	--	--	3	
4.	EX3303	Electronics Devices & Circuits	3	--	--	3	
5.	EX3308	Digital System Design Laboratory	--	--	2	1	
	SEMESTER IV						
7.	EX3401	Analog Circuit	3	-	--	3	
8.	EX3402	Signals & Systems	3	--	--	3	
9.	EX3403	Microcontroller & Interfacing	3	--	--	3	
10.	EX3408	Analog Circuit Laboratory	--	--	2	2	
	SEMESTER V						
11.	EX3501	Analog & Digital Communication	3	--	--	3	
12.	EX3502	Digital Signal Processing	3	--	--	3	
13.	EX3503	Embedded System & RTOS	3	-	--	3	

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#	Code	Subject				
14	EX3507	Analog & Digital Communication Laboratory	--	--	2	1
15	EX3508	Digital Signal Processing Laboratory	--	--	2	1
16	EX3509	Embedded System & RTOS Laboratory	-	-	2	1
SEMESTER VI						
17	EX3601	Electromagnetic Field Theory	3	--	--	3
18	EX3602	Fiber Optical Communication	3	--	--	3
19	EX3603	Computer Network	3	--	--	3
20	EX3310	Computer Network Laboratory	--	--	2	1
SEMESTER VII						
21	EX3701	Mobile Communication & Networks	3	--	--	3
22	EX3702	Antenna & Wave Propagation	3	--	--	3
23	EX3706	Antenna & Wave PropagationLaboratory	--	--	2	1
SEMESTER VIII						
24	EX3801	Microwave & Radar Engineering	2	--	--	2
25	EX3802	Robotics & Automation	3	--	--	3
26	EX3806	Robotics & Automation Laboratory	--	--	2	1

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Total	59

BASKET OF PROGRAMME ELECTIVE COURSE (PEC)

LIST OF PEC COURSES OFFERED SEMESTER WISE

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		SEMESTER V				
Sr. No	Course Code	Course	L	T	P	Credits
1.	EX35*4	Program Elective -01	3	1	--	4
		SEMESTER VI				
2.	EX36*4	Program Elective -02	3	1	--	4
3.	EX3605	Internet of Things	3	--	--	3
4.	EX3311	Internet of Things Laboratory	--	--	2	1
		SEMESTER VII				
5.	EX37*3	Program Elective -03	2	--	--	2
		SEMESTER VIII				
6.	EX38*3	Program Elective -04	2	--	--	2
7.	EX3804	VLSI Design	3	--	--	3
8.	EX3807	VLSI Design Lab	--	--	2	Audit
		Total				19

BASKET OF OPEN ELECTIVE OTHER THAN PARTICULAR PROGRAM (OE/MDM)

LIST OF OE/MDM COURSES OFFERED SEMESTER WISE
SEMESTER III

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Sr. No	Course Code	Course	L	T	P	Credits
1.	EX3304	Multi-Disciplinary Minor-01	2	--	--	2
2.	EX3305	Open Elective -01	3	--	--	3
3.	EX3311	Open Elective -01 Laboratory	--	--	2	1
SEMESTER IV						
4.	EX3404	Multi-Disciplinary Minor-02	2	--	--	2
5.	EX3405	Open Elective -02	2	--	--	2
SEMESTER V						
7.	EX3505	Multi-Disciplinary Minor-03	3	--	--	3
8.	EX3506	Open Elective -03	2	--	--	2
9.	EX3510	MDM-03 Laboratory	--	--	2	1
SEMESTER VI						
10.	EX3606	Multi-Disciplinary Minor -04	2	--	--	2
SEMESTER VII						
11.	EX3705	Multi-Disciplinary Minor -05	2	--	--	2
SEMESTER VIII (Academic Mode)						
12.	EX3805	Multi-Disciplinary Minor -06	2	--	--	2
SEMESTER VIII (Industry Mode)						

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13.	EX3810	Multi-disciplinary Minor – 06 (MOOC)	--	--	--	2
		SEMESTER VIII (Research Mode)				
14.	EX3814	Multi-disciplinary Minor – 06 (MOOC)	--	--	--	2
		Total				**22**

BASKET OF VOCATIONAL AND SKILL ENHANCEMENT COURSE (VSEC)

LIST OF VSEC COURSES OFFERED SEMESTER WISE						
SEMESTER I						
Sr. No	Course Code	Course	L	T	P	Credits
1.	EX3110	Electronics Workshop and PCB Laboratory	--	--	2	1
SEMESTER II						

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			L	T	P	Credits
1.	EX3208	Engineering Exploration	-	--	4	2
SEMESTER III						
1.	EX3309	Network Analysis & Synthesis Laboratory	--	--	2	1
2.	EX3310	Electronics Devices & Circuits Laboratory	--	--	2	1
SEMESTER IV						
1.	EX3409	Signals & Systems Laboratory	--	--	2	1
2.	EX3410	Microcontroller & Interfacing Laboratory	--	--	2	1
SEMESTER VI						
1.	EX3609	Fiber Optical Communication Laboratory	--	--	2	1
Total						**08**

BASKET OF HUMANITIES SOCIAL SCIENCE AND MANAGEMENT (HSSM)

LIST OF HSSM COURSES OFFERED SEMESTER WISE						
SEMESTER I						
Sr. No	Course Code	Course	L	T	P	Credits
1.	EX3109	Professional Communication Skills	1	--	2	2

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		SEMESTER II				
1.	EX3205	Indian Knowledge Systems (MOOC)	-	-	-	2
		SEMESTER III				
1.	EX3306	Universal Human Values	2	--	--	2
2.	EX3307	Economics for Engineers	2	--	--	2
		SEMESTER IV				
	EX3406	Strategic Management	2	--	--	2
	EX3407	Professional Ethics	2	--	--	2
		Total				12

BASKET OF EXPERIENTIAL LEARNING (EL)

LIST OF EL COURSES OFFERED SEMESTER WISE						
SEMESTER IV						
Sr. No	Course Code	Course	L	T	P	Credits
1.	EX3411	Micro Project	--	--	4	2
SEMESTER VI						

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1.	EX3607	Mini Project	-	--	2	1
SEMESTER VII						
1.	EX3704	Research Methodology	3	--	--	3
2.	EX3707	Project Phase - I	--	--	16	**8**
SEMESTER VIII (Academic Mode)						
1.	EX3808	Project Phase - II	--	--	18	9
SEMESTER VIII (Industry Mode)						
1.	EX3811	Internship	--	--	--	12
SEMESTER VIII (Research Mode)						
1.	EX3815	Research Project	--	--	--	12
Total						23

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BASKET OF CO-CURRICULAR AND EXTRACURRICULAR ACTIVITIES (CCA)

LIST OF CCA COURSES OFFERED SEMESTER WISE						
SEMESTER I						
Sr. No	Course Code	Course	L	T	P	Credits
1.	EX3111	Yoga	--	--	2	1
SEMESTER II						
1.	EX3209	NCC/NSS/CSP/E-Cell.	--	--	2	1
Total						2

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