SHIVAJI UNIVERSITY, KOLHAPUR

Electrical Engineering and Technology Structure (Second year to Final Year)

S E M E S T E R – III (Duration – 6 Months)																				
Sr. No.	Course (Subject) Title	TEACHING SCHEME									EXAMINATION SCHEME									
		THEORY			Tutorial			PRACTICAL			THEORY					PRACTICAL			
		Credits	No. of lectures	Hours	Credits	No. of lectures	Hours	Credits	No. of lectures	Hours	Hours	Mode	Marks	Total Marks	Min	TW		POE	
																Max	Min	Max	Min
1	Engg. M-III	4	4	4	1	1	1	-	-	-		CIE / ESE	30 70	100	40	-	-	-	-
2	EEMEC	3	3	3	-	-	-	-	-	-		CIE / ESE	30 70	100	40	25	10	-	-
3	AEE	4	4	4	-	-	-	1	2	2		CIE /ESE	30 70	100	40	25	10	50	20
4	EEC	4	4	4	1	1*	1	1	2*	2		CIE/ ESE	30 70	100	40	75	30	-	-
5	MI	4	4	4	-	-	-	1	2	2		CIE /ESE	30 70	100	40	25	10	50	20
6	C	-	-	-	-	-	-	1	2	2	-	-	-	-	-	50	20	-	-
TOTAL		19	19	19	2	2	2	4	8	8				500		200		100	

* For EEC Tutorial is based on Electromagnetic and Practical based on Electric Circuits

S E M E S T E R – IV (Duration – 6 Months)																				
Sr. No.	Course (Subject) Title	TEACHING SCHEME									EXAMINATION SCHEME									
		THEORY			Tutorial			PRACTICAL			THEORY					PRACTICAL			
		Credits	No. of lectures	Hours	Credits	No. of lectures	Hours	Credits	No. of lectures	Hours	Hours	Mode	Marks	Total Marks	Min	TW		POE	
																Max	Min	Max	Min
1	DCMT	4	4	4	-	-	-	1	2	2		CIE / ESE	30 70	100	40	25	10	50	20
2	PE	3	3	3	-	-	-	1	2	2		CIE / ESE	30 70	100	40	25	10	50	20
3	PS-I	4	4	4	-	-	-	1	2	2		CIE /ESE	30 70	100	40	50	20	-	-
4	NAS	3	3	3	1	1	1	-	-	-		CIE/ ESE	30 70	100	40	-	-	-	-
5	CS-I	3	3	3	-	-	-	1	2	2		CIE /ESE	30 70	100	40	50	20	-	-
6	ENV	3	3	3	-	-	-	-	-	-	-	-	-	-	-	50	20	-	-
TOTAL		20	20	20	1	1	1	4	8	8				500		200		100	

S E M E S T E R – V (Duration – 6 Months)																				
Sr. No.	Course (Subject) Title	TEACHING SCHEME									EXAMINATION SCHEME									
		THEORY			Tutorial			PRACTICAL			THEORY					PRACTICAL				
		Credits	No. of lectures	Hours	Credits	No. of lectures	Hours	Credits	No. of lectures	Hours	Hours	Mode	Marks	Total Marks	Min	TW		POE		
																Max	Min	Max	Min	
1	DEM	4	4	4	-	-	-	1	2	2		CIE / ESE	30 70	100	40	25	10	50	20	
2	ACM	3	3	3	-	-	-	1	2	2		CIE / ESE	30 70	100	40	25	10	50	20	
3	PS-II	4	4	4	-	-	-	1	2	2		CIE /ESE	30 70	100	40	50	20	-	-	
4	ACS	4	4	4	-	-	-	1	2	2		CIE/ ESE	30 70	100	40	-	-	-	-	
5	SS	3	3	3	1	1	1	-	-	-		CIE /ESE	30 70	100	40	25	10	-	-	
6	MATLAB	1	1	1	-	-	-	1	2	2	-	-	-	-	-	75	30	-	-	
TOTAL		19	19	19	1	1	1	5	10	10				500		200		100		

S E M E S T E R – VI (Duration – 6 Months)																				
Sr. No.	Course (Subject) Title	TEACHING SCHEME									EXAMINATION SCHEME									
		THEORY			Tutorial			PRACTICAL			THEORY					PRACTICAL				
		Credits	No. of lectures	Hours	Credits	No. of lectures	Hours	Credits	No. of lectures	Hours	Hours	Mode	Marks	Total Marks	Min	TW		POE		
																Max	Min	Max	Min	
1	DSP	4	4	4	-	-	-	-	-	-		CIE / ESE	30 70	100	40	-	-	-	-	
2	OE	3	3	3	-	-	-	1	2	2		CIE / ESE	30 70	100	40	25	10	-	-	
3	EMD	4	4	4	-	-	-	1	2	2		CIE /ESE	30 70	100	40	50	20	50	20	
4	PSSC	4	4	4	-	-	-	1	2	2		CIE/ ESE	30 70	100	40	50	20	-	-	
5	ED-I	3	3	3	-	-	-	1	2	2		CIE /ESE	30 70	100	40	25	10	50	20	
6	EITM	-	-	-	2	2	2	1	2	2	-	-	-	-	-	50	20	-	-	
TOTAL		18	18	18	2	2	2	5	10	10				500		200		100		

S E M E S T E R – VII (Duration – 6 Months)																				
Sr. No.	Course (Subject) Title	TEACHING SCHEME									EXAMINATION SCHEME									
		THEORY			Tutorial			PRACTICAL			THEORY					PRACTICAL			
		Credits	No. of lectures	Hours	Credits	No. of lectures	Hours	Credits	No. of lectures	Hours	Hours	Mode	Marks	Total Marks	Min	TW		POE	
																Max	Min	Max	Min
1	IT	-	-	-	1	1	1	-	-	-	-	-	-	-	-	50	20	-	-
2	EE	2	2	2	-	-	-	-	-	-		CIE / ESE	15 35	50	20	-	-	-	-
3	ASP	4	4	4	-	-	-	1	2	2		CIE /ESE	30 70	100	40	25	10	50	20
4	PQH	3	3	3	1	1	1	-	-	-		CIE/ ESE	30 70	100	40	25	10	-	-
5	CMPS	4	4	4	-	-	-	1	2	2		CIE /ESE	30 70	100	40	25	10	25	10
6	E-I	4	4	4	-	-	-	1	2	2	-	CIE / ESE	30 70	100	40	-	-	-	-
7	SEMINAR	-	-	-	-	-	-	1	2	2	-	-	-	-	-	25	10		
8	PW-I	-	-	-	-	-	-	2	2	4	-	-	-	-	-	25	10	50	20
TOTAL		17	17	17	2	2	2	6	10	12				450		175		125	

S E M E S T E R – VIII (Duration – 6 Months)																				
Sr. No.	Course (Subject) Title	TEACHING SCHEME									EXAMINATION SCHEME									
		THEORY			Tutorial			PRACTICAL			THEORY					PRACTICAL			
		Credits	No. of lectures	Hours	Credits	No. of lectures	Hours	Credits	No. of lectures	Hours	Hours	Mode	Marks	Total Marks	Min	TW		POE	
																Max	Min	Max	Min
1	LE	2	2	2	-	-	-	-	-	-		CIE / ESE	15 35	50	20	-	-	-	-
2	HVDC	4	4	4	-	-	-	1	2	2		CIE / ESE	30 70	100	40	-	-	50	20
3	EHVAC	4	4	4	1	1	1	-	-	-		CIE /ESE	30 70	100	40	-	-	-	-
4	EGU	4	4	4	-	-	-	1	2	2		CIE/ ESE	30 70	100	40	50	20	-	-
5	E-II	3	3	3	-	-	-	1	2	2		CIE /ESE	30 70	100	40	50	20	-	-
6	PW-II	-	-	-	-	-	-	4	2	6	-	-	-	-	-	100	40	100	40
TOTAL		17	17	17	1	1	1	7	8	12				450		200		150	

COURSE CODE AND DEFINITION

Sr. No.	Course code	Definitions
1	BSC	BASIC SCIENCE COURSES
2	PCC	PROFESSIONAL CORE COURSES
3	MC	MANDATORY COURSE
4	ESC	ENGINEERING SCIENCE COURSES
5	PCE	PROFESSIONAL CORE ELECTIVES
6	SI	SUMMER INTERNSHIP
7	PW	PROJECT Work
8	MP	MINI PROJECT WORK
9	OEC	OPEN ELECTIVE COURSES
10	HM	Humanities and Management

Semester I

Sl. No	Code No.	Subject	Semester	Credits
1.	BSC-P101	Engineering Physics	1	4
2.	BSC-M101	Engineering Mathematics-I	1	4
3.	ESC-P101	Basic Electrical Engineering	1	4
4.	ESC-P102	Basic Civil Engineering	1	4
5.	ESC-P103	Engineering Graphics	1	4
6.	ESC-W101	Workshop Practice-I	1	2
7.	HM-01	Professional Communication-I	1	2
			Total	**24**

Sl. No	Code No.	Subject	Semester	Credits
1.	BSC-C101	Engineering Chemistry	1	4
2.	BSC-M101	Engineering Mathematics-I	1	4
3.	ESC-C101	Fundamentals of Electronics and Computer Programming	1	4
4.	ESC-C102	Applied Mechanics	1	4
5.	ESC-C103	Basic Mechanical Engineering	1	4
6.	ESC-W101	Workshop Practice-I	1	2
7.	HM-01	Professional Communication-I	1	2
			Total	**24**

Semester II

Sl. No	Code No.	Subject	Semester	Credits
1.	BSC-P102	Engineering Physics	2	4
2.	BSC-M102	Engineering Mathematics-II	2	4
3.	ESC-P104	Basic Electrical Engineering	2	4
4.	ESC-P105	Basic Civil Engineering	2	4
5.	ESC-P106	Engineering Graphics	2	4
6.	ESC-W102	Workshop Practice-II	2	2
7.	HM-102	Professional Communication-II	2	2
			Total	**24**

Sl. No	Code No.	Subject	Semester	Credits
1.	BSC-P102	Engineering Chemistry	2	4
2.	BSC-M102	Engineering Mathematics-II	2	4
3.	ESC-C104	Fundamentals of Electronics and Computer Programming	2	4
4.	ESC-C105	Applied Mechanics	2	4
5.	ESC-C106	Basic Mechanical Engineering	2	4
6.	ESC-W102	Workshop Practice-II	2	2
7.	HM-102	Professional Communication-II	2	2
			Total	**24**

Semester III

Sr. No	Code No.	Subject	Semester	Credits
1.	PCC-EE201	Engg. Maths III	3	5
2.	PCC-EE202	Electrical Engineering Materials and Energy Conversion	3	3
3.	PCC-EE203	Analog Electronic Engineering	3	5
4.	PCC-EE204	Electromagnetic and Electrical Circuits	3	6
5.	PCC-EE205	Measurements and Instruments	3	5
6.	BSC-EE102	Programming in C	3	1
			Total	**25**

Semester IV

Sr. No	Code No.	Subject	Semester	Credits
1.	PCC-EE206	DC Machines and Transformers	4	5
2.	PCC-EE207	Power Electronics	4	4
3.	PCC-EE208	Power Systems - I	4	5
4.	PCC-EE209	Network Analysis and Synthesis	4	4
5.	PCC-EE210	Control Systems - I	4	4
6.	MC-EE201	Environmental Studies	4	3
			Total	**25**

Semester V

Sr. No	Code No.	Subject	Semester	Credits
1.	PCC-EE301	Digital Electronics and Microcontroller	5	5
2.	PCC-EE302	AC Machines	5	4
3.	PCC-EE303	Power Systems - II	5	5
4.	PCC-EE304	Advanced Control Systems	5	5
5.	PCC-EE305	Signals and Systems	5	4
6.	BSC-EE306	MATLAB Programming	5	2
			Total	**25**

Semester VI

Sr. No	Code No.	Subject	Semester	Credits
1.	PCC-EE307	Digital Signal Processing	6	4
2.	OCE-EE301	Open Elective	6	4
3.	PCC-EE308	Electrical Machine Design	6	5
4.	PCC-EE309	Power System Stability and Control	6	5
5.	PCC-EE310	Electrical Drives - I	6	4
6.	PCC-EE311	Electrical Maintenance and Electrical Energy Audit	6	3
			Total	**25**

Semester VII

Sr. No	Code No.	Subject	Semester	Credits
1.	PCC-EE401	Industrial Training	7	1
2.	BSC-EE402	Economics for Engineers	7	2
3.	PCC-EE403	Advanced Switchgear and Protection	7	5
4.	PCC-EE404	Power Quality and Harmonics	7	4
5.	PCC- EE405	Computer Methods in Power Systems	7	5
6.	PCE-EE401	Elective – I	7	5
7.	MC-EE401	Seminar	7	1
8.	PW-EE401	Project Work	7	2
			Total	**25**

Semester VIII

Sr. No	Code No.	Subject	Semester	Credits
1.	BSC-EE402	Law for Engineers	8	2
2.	PCC-EE406	HVDC	8	5
3.	PCC-EE407	EHVAC	8	5
4.	PCC-EE408	Electrical Generation and Utilization	8	5
5.	PCE-EE402	Elective – II	8	4
6.	PW-EE402	Project Work	8	4
			Total	**25**

List of Electives

List of Open Elective

(The open elective is a subject taken up by the students from other discipline. The list of subjects provided here is a sample list. On students demand and need of particular Industry the custom made syllabus can be made and submitted to University for approval. The Open Elective is introduced to widen the knowledge base of a student as well as providing the additional skills to the student, The syllabus submitted should contain list of laboratory experiments.)

1. Thermal Engineering
2. Fluid Mechanics
3. Machine design
4. Artificial Intelligence and Robotics
5. Mechatronics
6. Data base Management
7. Rural Technology and Community Development
8. Digital Communication Engineering
9. Infrastructure Management
10. Disaster Management

Elective I

1. FACTS
2. Signal Processing For Electrical Engg.
3. Industrial Automation and SCADA
4. Restructured Power Systems

Elective II

1. Embedded Systems
2. High Voltage Engineering
3. Advanced Relaying