

# Government College of Engineering, Karad

(an Autonomous Institute of Government of Maharashtra)

## Scheme of Instructions and Syllabus

Scheme of Instructions for First Year M. Tech. course in Electrical Power Systems  
Semester – I (w.e.f.: AY 2019-20)

Sr.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs / week	Credits	Exam Scheme				
									CT - 1	CT - 2	TA / CA	ESE	TOTAL
1.	PCC	PS1101	Power System Analysis	3	-	-	3	3	15	15	10	60	100
2.	PCC	PS1102	Power System Dynamics	3	-	-	3	3	15	15	10	60	100
3.	PEC	PS11*3	Program Elective - I	3	-	-	3	3	15	15	10	60	100
4.	PEC	PS11*4	Program Elective - II	3	-	-	3	3	15	15	10	60	100
5.	MDC	RM1105	Research Methodology	2	-	-	2	2	15	15	10	60	100
6.	PCC	PS1106	Power System Steady State Analysis Lab / Power Systems Dynamic Lab / Renewable Energy Lab	-	-	8	8	4	-	-	50	50	100
7.													
8.	OEC	OE11*8	Open Elective	3	-	-	3	3	15	15	10	60	100
9.	MNC	AU11*9	Audit Course - I	2	-	-	2	Audit	-	-	-	-	-
			<b>Total</b>	19	-	8	27	21	90	90	110	410	700

L- Lecture T-Tutorial P-Practical CT1- Class Test 1 CT2- Class Test 2 TA/CA- Teacher Assessment / Continuous Assessment  
ESE- End Semester Examination (For Laboratory: End Semester Performance)

\*- Program Elective / Audit Course / Open Elective (list is provided at the end of structure)

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## Scheme of Instructions and Syllabus

Scheme of Instructions for First Year M. Tech. course in Electrical Power Systems

Semester – II (w.e.f.: AY 2019-20)

Sr.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs / week	Credits	Exam Scheme				
									CT - 1	CT - 2	TA / CA	ESE	TOTAL
1.	PCC	PS1201	Digital Protection of Power Systems	3	-	-	3	3	15	15	10	60	100
2.	PCC	PS1202	Real Time Control of Power Systems	3	-	-	3	3	15	15	10	60	100
3.	PEC	PS12*3	Program Elective - III	3	-	-	3	3	15	15	10	60	100
4.	PEC	PS12*4	Program Elective – IV	3	-	-	3	3	15	15	10	60	100
5.	PEC	PS12*5	Program Elective - V	3	-	-	3	3	15	15	10	60	100
6.	PCC	PS1206	Power System Protection Lab / Power Quality Lab / AI Lab / PE Applications to PE Lab / Smart Grid Lab	-	-	8	8	4	-	-	50	50	100
7.													
8.	P / S/ IT	PS1208	Mini Project / Industrial Training	-	-	4	4	2	-	-	50	50	100
9.	MNC	AU12*9	Audit Course - II	2	-	-	2	Audit	-	-	-	-	-
			<b>Total</b>	17	-	12	29	21	90	90	110	410	700

L- Lecture    T-Tutorial    P-Practical    CT1- Class Test 1    CT2- Class Test 2    TA/CA- Teacher Assessment / Continuous Assessment  
 ESE- End Semester Examination (For Laboratory: End Semester Performance)

\*- Program Elective / Audit Course / Open Elective (list is provided at the end of structure)

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Semester – III (w.e.f.: AY 2019-20)

Sr.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs / week	Credits	Exam Scheme				
									CT - 1	CT - 2	TA / CA	ESE	TOTAL
1.	P / S / IT	PS1301	Dissertation - I	-	-	20	20	10	-	-	100	100	200
			<b>Total</b>	-	-	20	20	10	-	-	100	100	200

TA/CA- Teacher Assessment / Continuous Assessment

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

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## Scheme of Instructions and Syllabus

Scheme of Instructions for First Year M. Tech. course in Electrical Power Systems

Semester – IV (w.e.f.: AY 2019-20)

Sr.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs / week	Credits	Exam Scheme				
									CT - 1	CT - 2	TA / CA	ESE	TOTAL
1.	P / S / IT	PS1401	Dissertation - II	-	-	32	32	16	-	-	100	200	300
			<b>Total</b>	-	-	32	32	16	-	-	100	200	300

TA/CA- Teacher Assessment / Continuous Assessment

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

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## Scheme of Instructions and Syllabus

Scheme of Instructions for First Year M. Tech. course in Electrical Power Systems

### List of Program Elective Courses

Semester - I		Semester - II		
Program Elective - I	Program Elective - II	Program Elective - III	Program Elective - VI	Program Elective - V
<b>PS1113:</b> Renewable Energy Systems	<b>PS1114:</b> Electrical Power Distribution Systems	<b>PS1213:</b> Structured Power Systems	<b>PS1214:</b> Advanced Microcontroller Based Systems	<b>PS1215:</b> Power System Transients
<b>PS1123:</b> Smart Grids	<b>PS1124:</b> Mathematical Methods for Power Engineering	<b>PS1223:</b> Advanced DSP	<b>PS1124:</b> SCADA Systems and Applications	<b>PS1225:</b> FACTs and Custom Power Devices
<b>PS1133:</b> High Power Converters	<b>PS1134:</b> Pulse Width Modulation for PE Converters	<b>PS1233:</b> Dynamics of Electrical M/Cs	<b>PS1234:</b> Power Quality	<b>PS1235:</b> Industrial Load Modeling and Control
<b>PS1143:</b> Wind and Solar Systems	<b>PS1144:</b> Electric and Hybrid Vehicles	<b>PS1243:</b> Power Apparatus Design	<b>PS1244:</b> AI Techniques	<b>PS1245:</b> Dynamics of Linear Systems

### List of Open Electives and Audit Courses

Semester - I		Semester - II	
Open Electives	Audit Course - I	Audit Course - II	
<b>OE1118:</b> Business Analytics	<b>AU1119:</b> Research Paper Writing	<b>AU1219:</b> Constitution of India	
<b>OE1128:</b> Industrial Safety	<b>AU1129:</b> Disaster Management	<b>AU1229:</b> Pedagogy Studies	
<b>OE1138:</b> Operation Research	<b>AU1139:</b> Sanskrit for Technical Knowledge	<b>AU1239:</b> Stress Management by Yoga	
<b>OE1148:</b> Cost Management of Engineering Projects	<b>AU1149:</b> Value Education	<b>AU1249:</b> Personality Development through Life Enlightenment Skills	
<b>OE1158:</b> Composite Materials			
<b>OE1168:</b> Waste to Energy			