

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

SCHEME OF TEACHING AND EXAMINATION - 2015-16
B.E. ELECTRICAL AND ELECTRONICS ENGINEERING
CHOICE BASED CREDIT SYSTEM (CBCS)

III SEMESTER

Sl. No	Subject Code	Subject (Course)	Title	Teaching Dept.	Teaching Hours /Week		Examination				Credits
					Theory	Practical/ Drawing	Duration in hours	I.A. Marks	Theory/ Practical Marks	Total Marks	
1	15MAT31	Core Subject	Engineering Mathematics-III	Mathematics	04	--	03	20	80	100	4
2	15EE32	Core Subject	Electric Circuit Analysis	EEE	04	--	03	20	80	100	4
3	15EE33	Core Subject	Transformers and Generators	EEE	04	--	03	20	80	100	4
4	15EE34	Core Subject	Analog Electronic Circuits	EEE	04	--	03	20	80	100	4
5	15EE35	Core Subject	Digital System Design	EEE	04	--	03	20	80	100	4
6	15EE36	Foundation Course	Electrical and Electronic Measurements	EEE	04	--	03	20	80	100	4
7	15EEL37	Laboratory	Electrical Machines Laboratory -1	EEE	01-Hour Instruction 02-Hour Practical		03	20	80	100	2
8	15EEL38	Laboratory	Electronics Laboratory	EEE	01-Hour Instruction 02-Hour Practical		03	20	80	100	2
TOTAL					Theory:24 hours Practical: 06 hours		24	160	640	800	28

1. Core subject: This is the course, which is to be compulsorily studied by a student as a core requirement to complete the requirement of a programme in a said discipline of study.

2. Foundation Course: The courses based upon the content that leads to Knowledge enhancement.

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IV SEMESTER

Sl. No	Subject Code	Subject (Course)	Title	Teaching Dept.	Teaching Hours /Week		Examination			Credits	
					Theory	Practical/ Drawing	Duration in hours	I.A. Marks	Theory/ Practical Marks		Total Marks
1	15MAT41	Core Subject	Engineering Mathematics-IV	Maths	04	--	03	20	80	100	4
2	15EE42	Core Subject	Power Generation and Economics	EEE	04	--	03	20	80	100	4
3	15EE43	Core Subject	Transmission and Distribution	EEE	04	--	03	20	80	100	4
4	15EE44	Core Subject	Electric Motors	EEE	04	--	03	20	80	100	4
5	15EE45	Core Subject	Electromagnetic Field Theory	EEE	04	--	03	20	80	100	4
6	15EE46	Foundation Course	Operational Amplifiers and Linear ICs	EEE	04	--	03	20	80	100	4
7	15EEL47	Laboratory	Electrical Machines Laboratory -2	EEE	01-Hour Instruction 02-Hour Practical		03	20	80	100	2
8	15EEL48	Laboratory	Op- amp and Linear ICs Laboratory	EEE	01-Hour Instruction 02-Hour Practical		03	20	80	100	2
TOTAL					Theory:24 hours Practical: 06 hours		24	160	640	800	28

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V SEMESTER

Sl. No	Subject Code	Subject (Course)	Title	Teaching Department	Teaching Hours /Week		Examination				Credits
					Theory	Practical/ Drawing	Duration in hours	Theory/ Practical Marks	I.A. Marks	Total Marks	
1	15EE51	Core Subject	Management and Entrepreneurship	EEE	04	--	03	80	20	100	4
2	15EE52	Core Subject	Microcontroller	EEE	04	--	03	80	20	100	4
3	15EE53	Core Subject	Power Electronics	EEE	04	--	03	80	20	100	4
4	15EE54	Core Subject	Signals and Systems	EEE	04	--	03	80	20	100	4
5	15EE55X	Professional Elective	Professional Elective – I	EEE	03	--	03	80	20	100	3
6	15EE56Y	Open Elective	Open Elective - I	EEE	03	--	03	80	20	100	3
7	15EEL57	Laboratory	Microcontroller Laboratory	EEE	01-Hour Instruction 02-Hour Practical		03	80	20	100	2
8	15EEL58	Laboratory	Power Electronics Laboratory	EEE	01-Hour Instruction 02-Hour Practical		03	80	20	100	2
TOTAL					Theory:22hours Practical: 06 hours		24	160	640	800	26

Elective**Professional Elective****Open Elective^{***}****Offered by the Department of Electrical and Electronics Engineering**

Courses under Code 15EE55X	Title	Courses under Code 15EE55X	Title
15EE551	Introduction to Nuclear Power	15EE561	Electronic Communication systems
15EE552	Electrical Engineering Materials	15EE562	Programmable Logic controllers
15EE553	Estimating and Costing	15EE563	Renewable Energy Systems
15EE554	Special Electrical Machines	15EE564	Business Communication

*** Students can select any one of the open electives offered by any Department (Please refer to consolidated list of VTU for open electives). Selection of an open elective is not allowed provided;

- The candidate has pre – requisite knowledge.
- The candidate has not studied during I and II year of the programme.
- The syllabus content of open elective is similar to that of Departmental core courses or professional electives.
- A similar course, under any category, is prescribed in the higher semesters.

Registration to electives shall be documented under the guidance of Programme Coordinator and Adviser.

1. Core subject: This is the course, which is to be compulsorily studied by a student as a core requirement to complete the requirement of a programme in a said discipline of study.

2. Professional Elective: Electives relevant to chosen specialization/ branch.

3. Open Elective: Electives from other technical and/ or emerging subject areas.

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VI SEMESTER

Sl. No	Subject Code	Subject (Course)	Title	Teaching Department	Teaching Hours /Week		Examination				Credits
					Theory	Practical/ Drawing	Duration in hours	Theory/ Practical Marks	I.A. Marks	Total Marks	
1	15EE61	Core Subject	Control Systems	EEE	04	--	03	80	20	100	4
2	15EE62	Core Subject	Power System Analysis – 1	EEE	04	--	03	80	20	100	4
3	15EE63	Core Subject	Digital Signal Processing	EEE	04	--	03	80	20	100	4
4	15EE64	Core Subject	Electrical Machine Design	EEE	04	--	03	80	20	100	4
5	15EE65X	Professional Elective	Professional Elective – II	EEE	03	--	03	80	20	100	3
6	15EE66Y	Open Elective	Open Elective - II	EEE	03	--	03	80	20	100	3
7	15EEL67	Laboratory	Control System Laboratory	EEE	01-Hour Instruction 02-Hour Practical		03	80	20	100	2
8	15EEL68	Laboratory	Digital Signal Processing Laboratory	EEE	01-Hour Instruction 02-Hour Practical		03	80	20	100	2
TOTAL					Theory:22 hours Practical: 06 hours		24	160	640	800	26

Elective

Professional Elective		Open Elective ^{***} Offered by the Department of Electrical and Electronics Engineering	
Courses under Code 15EE65X	Title	Courses under Code 15EE66Y	Title
15EE651	Computer Aided Electrical Drawing	15EE661	Artificial Neural Networks and Fuzzy logic
15EE652	Advanced Power Electronics	15EE662	Sensors and Transducers
15EE653	Energy Audit and Demand side Management	15EE663	Batteries and Fuel Cells for Commercial, Military and Space Applications
15EE654	Solar and Wind Energy	15EE664	Industrial Servo Control Systems

^{***} Students can select any one of the open electives offered by any Department (Please refer to consolidated list of VTU for open electives). Selection of an open elective is not allowed provided;

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- The candidate has not studied during I and II year of the programme.
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- A similar course, under any category, is prescribed in the higher semesters.

Registration to electives shall be documented under the guidance of Programme Coordinator and Adviser.

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2. Professional Elective: Electives relevant to chosen specialization/ branch.

3. Open Elective: Electives from other technical and/ or emerging subject areas.

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SCHEME OF TEACHING AND EXAMINATION - 2015-16 B.E. ELECTRICAL AND ELECTRONICS ENGINEERING CHOICE BASED CREDIT SYSTEM (CBCS)

VII SEMESTER

Sl. No	Course Code	Subject (Course)	Title	Teaching Department	Teaching Hours/Week		Examination				Credits
					Theory	Practical/ Drawing	Duration in hours	I.A. Marks	Theory/ Practical Marks	Total Marks	
1	15EE71	Core Subject	Power System Analysis - 2	EEE	04	--	03	20	80	100	4
2	15EE72	Core Subject	Power System Protection	EEE	04	--	03	20	80	100	4
3	15EE73	Core Subject	High Voltage Engineering	EEE	04	--	03	20	80	100	4
4	15EE74X	Professional Elective	Professional Elective – III	EEE	04	--	03	20	80	100	3
5	15EE75Y	Professional Elective	Professional Elective – IV	EEE	04	--	03	20	80	100	3
6	15EEL76	Laboratory	Power system Simulation Laboratory	EEE	01-Hour Instruction 02-Hour Practical		03	20	80	100	2
7	15EEL77	Laboratory	Rely and High Voltage Laboratory	EEE	01-Hour Instruction 02-Hour Practical		03	20	80	100	2
8	15EEP78	Project Phase – I + Seminar		EEE	--		--	100	--	100	2
TOTAL					Theory:24 hours Practical: 06 hours		21	240	560	800	24

Elective

Professional Elective – III

Professional Elective – IV

Courses under Code 15EE74X	Title	Courses under Code 15EE75Y	Title
15EE741	Advanced Control Systems	15EE751	FACTs and HVDC Transmission
15EE742	Utilization of Electrical Power	15EE752	Testing and Commissioning of Power System Apparatus
15EE743	Carbon Capture and Storage	15EE753	Spacecraft Power Technologies
15EE744	Power System Planning	15EE754	Industrial Heating

- 1. Core subject:** This is the course, which is to be compulsorily studied by a student as a core requirement to complete the requirement of a programme in a said discipline of study.
- 2. Professional Elective:** Elective relevant to chosen specialization/ branch.
- 3. Project Phase –I + Seminar:** Literature Survey, Problem Identification, objectives and Methodology. Submission of synopsis and seminar.
- 4. Internship / Professional Practice:** To be carried between the VI and VII semester vacation or VII and VIII semester vacation period.

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VIII SEMESTER

Sl. No	Course Code	Subject (Course)	Title	Teaching Department	Teaching Hours /Week		Examination				Credits
					Theory	Practical/ Drawing	Duration in hours	I.A. Marks	Theory/ Practical Marks	Total Marks	
1	15EE81	Core Subject	Power System Operation and Control	EEE	04	--	03	20	80	100	4
2	15EE82	Core Subject	Industrial Drives and Applications	EEE	04	--	03	20	80	100	4
3	15EE83X	Professional Elective	Professional Elective – V	EEE	03	--	03	20	80	100	3
4	15EE84	Core Subject	Internship / Professional Practice	EEE	Industry Oriented		03	50	50	100	2
5	15EEP85	Core Subject	Project Work Phase -II	EEE	--	06	03	100	100	200	6
6	15EES86	Core Subject	Seminar	EEE	--	04	--	100	--	100	1
TOTAL					Theory:11 hours Practical: 10 hours		15	310	390	700	20

Professional Elective – V

Courses under Code 15EE83X	Title
15EE831	Smart Grid
15EE832	Operation and Maintenance of Solar Electric Systems
15EE833	Integration of Distributed Generation
15EE834	Power System in Emergencies

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2. Professional Elective: Elective relevant to chosen specialization/ branch.

3. Internship / Professional Practice: To be carried between the VI and VII semester vacation or VII and VIII semester vacation period.