

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI**  
**CHOICE BASED CREDIT SYSTEM (CBCS)**  
**SCHEME OF TEACHING AND EXAMINATION 2015-2016 (APPROVED)**

**B.E. Electronics and Instrumentation Engineering**

**V SEMESTER**

Sl. No	Subject Code	Title	Teaching Dept.	Teaching Hours /Week		Examination				Credits
				Theory	Practical/ Drawing	Duration	Theory/ Practical Marks	I.A. Marks	Total Marks	
1	15ES51	Management and Entrepreneurship Development	EI	04	-	03	80	20	100	4
2	15EI52	Fundamentals of Signals & DSP	EI	04	-	03	80	20	100	4
3	15EI53	Process Control Systems	EI	04	-	03	80	20	100	4
4	15EI54	Biomedical Instrumentation	EI	04	-	03	80	20	100	4
5	15EI55X	Professional Elective-I	EI	03	-	03	80	20	100	3
6	15EI56X	Open Elective-I	EI	03	-	03	80	20	100	3
7	15EIL57	Signal Conditioning Circuits and Data Acquisition Lab	EI	-	1I+2P	03	80	20	100	2
8	15EIL58	Digital Signal Processing Lab	EI	-	1I+2P	03	80	20	100	2
<b>TOTAL</b>				<b>22</b>	<b>06</b>	<b>24</b>	<b>640</b>	<b>160</b>	<b>800</b>	<b>26</b>

Professional Elective-I		Open Elective-I	
15EI551	VLSI Design	15EI561	Computer Organization
15EI552	Aeronautical Instrumentation	15EI562	Material Science
15EI553	Remote Sensing and Telemetry	15EI563	Operating Systems
15EI554	Product Design Technology & Ergonomics	15EI564	Fundamentals of Nanotechnology
		15NC561	Essentials of NCC (common to all branches)

- 1. Core Subject:** This is the course which is compulsorily need to be studied by the 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. Open Elective:** Electives from other technical and/or emerging subject areas.

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**VI SEMESTER**

Sl. No	Subject Code	Title	Teaching Dept.	Teaching Hours /Week		Examination				Credits
				Theory	Practical/ Drawing	Duration	Theory/ Practical Marks	I.A. Marks	Total Marks	
1	15EI61	Analog and Digital Communication Systems	EI	04	-	03	80	20	100	4
2	15EI62	Power and Industrial Electronics	EI	04	-	03	80	20	100	4
3	15EI63	OOPs with C++	EI	04	-	03	80	20	100	4
4	15EI64	Robotics and Automation	EI	04	-	03	80	20	100	4
5	15EI65X	Professional Elective-II	EI	03	-	03	80	20	100	3
6	15EI66X	Open Elective-II	EI	03	-	03	80	20	100	3
7	15EIL67	Power Electronics, Controls and Communication Lab	EI	-	1I+2P	03	80	20	100	2
8	15EIL68	OOPs with C++ Lab	EI	-	1I+2P	03	80	20	100	2
<b>TOTAL</b>				<b>22</b>	<b>6</b>	<b>24</b>	<b>640</b>	<b>160</b>	<b>800</b>	<b>26</b>

Professional Elective-II		Open Elective-II	
15EI651	Mechatronics	15EI661	Mobile Communication
15EI652	Power Plant Instrumentation	15EI662	MEMS and NEMS
15EI653	Advanced Control Systems	15EI663	Embedded System Design and Programming
15EI654	Electrical Machines and Drives	15EI664	Statistics and Numerical Methods
		15CS661	Mobile Application Development (common to all branches)

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

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**VII SEMESTER**

Sl. No	Subject Code	Title	Teaching Dept.	Teaching Hours /Week		Examination				Credits
				Theory	Practical/ Drawing	Duration	I.A. Marks	Theory/ Practical Marks	Total Marks	
1	15EI71	Automation in Process Control	EI	04		03	20	80	100	4
2	15EI72	Digital Image Processing	EI	04		03	20	80	100	4
3	15EI73	ARM Processor	EI	04		03	20	80	100	4
4	15EI74X	Professional Elective-III	EI	03		03	20	80	100	3
5	15EI75X	Professional Elective-IV	EI	03		03	20	80	100	3
6	15EIL76	Process Control and Virtual Instrumentation Lab	EI	-	1I+2P	03	20	80	100	2
7	15EIL77	ARM Processor Lab	EI	-	1I+2P	03	20	80	100	2
8	15EIP78	Project Work Phase-I + Project Seminar	EI	-	1I+2P	-	100	-	100	2
<b>TOTAL</b>				<b>18</b>	<b>9</b>	<b>21</b>	<b>240</b>	<b>560</b>	<b>800</b>	<b>24</b>

Professional Elective-III		Professional Elective-IV	
15EI741	Smart Sensors and Intelligent Instrumentation	15EI751	Distributed Sensor Networks
15EI742	Biomedical Signal Processing	15EI752	Medical Imaging Techniques
15EI743	Computer Communication Networks	15EI753	Virtual Instrumentation
15EI744	Real-time Operating Systems	15EI754	Big Data and Cloud Computing

**1. Core Subject:** This is the course which is compulsorily need to be studied by the 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 Work Phase-I + Project Seminar:** Literature Survey, Problem Identification, Objectives & Methodology, Submission of synopsis & seminar presentation

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**VIII SEMESTER**

Sl. No	Subject Code	Title	Teaching Dept.	Teaching Hours /Week		Examination				Credit
				Theory	Practical/ Drawing	Duration	I.A. Marks	Theory/ Practical Marks	Total Marks	
1	15EI81	Neural Network and Fuzzy Logic Systems	EI	4	-	3	20	80	100	4
2	15EI82	Lasers and Optical Instrumentation	EI	4	-	3	20	80	100	4
3	15EI83X	Professional Elective-V	EI	3	-	3	20	80	100	3
4	15EI84	Internship / Professional Practice	EI	Industry Oriented		3	50	50	100	2
5	15EIP85	Project Work Phase-II	EI	-	6	3	100	100	200	6
6	15EIS86	Seminar	EI	-	4	-	100	-	100	1
<b>TOTAL</b>				<b>11</b>	<b>10</b>	<b>15</b>	<b>310</b>	<b>390</b>	<b>700</b>	<b>20</b>

<b>Professional Elective-V</b>	
15EI831	Instrumentation Buses and Industrial Data Networks
15EI832	Industrial Process Instrumentation
15EI833	Biosensors and Bio-instrumentation
15EI834	Programmable System on Chip (PSoC)

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- 2. Professional Elective:** Elective relevant to chosen specialization/ branch.
- 3. Internship / Professional Practice:** To be carried between the 6<sup>th</sup> and 7<sup>th</sup> semester vacation or 7<sup>th</sup> and 8<sup>th</sup> semester vacation period.
- 4. Project Work Phase –II:** Design, Development, Implementation, Demonstration, Testing, Presentation and Project Report Submission.
- 5. Seminar:** On current topics of Engineering & Technology related to said discipline of study. Preparation of Seminar Report and Presentation.