

## B.Tech ECM 2014 Course Structure (CBCS)

### First Year - I Semester

Sl. No.	Code	Subject	L	T	P/D	C	Internal	External
1	4H101	English – I	2	1	-	2	30	70
2	4H111	Engineering Mathematics – I	3	2	-	3	30	70
3	4H121	Engineering Physics – I	3	1	-	3	30	70
4	4H131	Engineering Chemistry – I	3	1	-	3	30	70
5	4F101	Computer Programming	4	1	-	4	30	70
6	4B101	Engineering Drawing – I	2	-	4	4	30	70
7	4H171	English Language Lab – I	-	-	2	1	25	50
8	4H181	Engineering Physics Lab – I	-	-	3/2	1	25	50
9	4H186	Engineering Chemistry Lab	-	-	4/2	2	25	50
10	4F171	Computer Programming Lab	-	-	3	2	25	50
11	4B171	Engineering Workshop – I	-	-	3/2	1	25	50
12	4F172	IT Workshop – I	-	-	3/2	1	25	50
13	4D191	Technical Paper Writing and Seminar - I	-	-	2	1	25	
<b>Total :</b>			<b>17</b>	<b>6</b>	<b>17.5</b>	<b>28</b>	<b>355</b>	<b>720</b>

### First Year - II Semester

Sl. No.	Code	Subject	L	T	P/D	C	Internal	External
1	4H202	English – II	2	1	-	2	30	70
2	4H213	Engineering Mathematics-II	4	1	-	4	30	70
3	4H222	Engineering Physics-II	3	1	-	3	30	70
4	4E201	Data Structures & C++	4	1	-	4	30	70
5	4B202	Engineering Drawing - II	2	-	3	3	30	70
6	4H232	Engineering Chemistry – II	3	1	-	3	30	70
7	4AC43	Network Analysis	3	1	-	3	30	70
8	4H272	English Language Lab – II	-	-	2	1	25	50
9	4E271	Data Structures & C++ Lab	-	-	3	2	25	50
10	4B273	Engineering Workshop – II	-	-	3/2	1	25	50
11	4H282	Engineering Physics Lab - II	-	-	3/2	1	25	50
12	4D292	Technical Paper Writing and Seminar - II			2	1	25	
<b>Total :</b>			<b>21</b>	<b>6</b>	<b>13</b>	<b>28</b>	<b>335</b>	<b>690</b>

### Second Year - I Semester

Sl. No.	Code	Subject	L	T	P/D	C	Internal	External
1	4H315	Engineering Mathematics-III	3	2	-	3	30	70
2	4CC01	Electronic Devices and Circuits	4	1	-	4	30	70
3	4BC04	Basic Mechanical Engineering	3	2	-	3	30	70
4	4CC02	Switching Theory and Logic Design	4	1	-	4	30	70
5	4EC03	Object Oriented Programming Through Java	4	1	-	4	30	70
6	4DC01	Discrete Structures and Graph Theory	3	1	-	3	30	70
7	4D393	Technical Paper Writing and Seminar - III			2	1	25	
8	4HC73	Functional and Communicative Written English	-	-	3	2	25	50
9	4CC71	Electronic Devices and Circuits Lab	-	-	3	2	25	50
10	4EC74	Object Oriented Programming Through Java Lab	-	-	3	2	25	50
		<b>Total :</b>	<b>21</b>	<b>8</b>	<b>11</b>	<b>28</b>	<b>280</b>	<b>570</b>

## B.Tech ECM 2014 CBCS Course Structure

### Second Year – II Semester

Sl. No.	Code	Subject	L	T	P/D	C	Internal	External
1	4FC04	Design and Analysis of Algorithms	3	1	-	3	30	70
2	4CC05	Pulse and Digital Circuits	4	1	-	4	30	70
3	4HC16	Probability and Statistics	3	1	-	3	30	70
4	4AC42	Electrical Technology	3	1	-	3	30	70
5		<b>Professional Elective - I</b>	3	1	-	3	30	70
6	4FC03	Database Management Systems	4	1	-	4	30	70
7	4HC74	Effective English Communication and Soft Skills	-	-	3	2	25	50
8	4D481	Comprehensive Viva-Voce - I	-	-	-	1	-	50
9	4CC73	Pulse & Digital Circuits Lab	-	-	4/2	1	25	50
10	4AC94	Electrical Technology Lab	-	-	4/2	1	25	50
11	4FC74	Database Management Systems Lab			4	2	25	50
12	4D494	Technical Paper Writing and Seminar - IV	-	-	2	1	25	
<b>Total :</b>			<b>20</b>	<b>6</b>	<b>11</b>	<b>28</b>	<b>305</b>	<b>670</b>

STREAM	CODE	PROFESSIONAL ELECTIVE – I
<b>Advanced Embedded Systems</b>	4DC50	Digital System Design
<b>Advanced VLSI</b>	4DC50	Digital System Design
<b>Signal Processing</b>	4CC04	Signals and Systems
<b>Databases</b>		DBMS (Being offered as a Compulsory Course)
<b>Software Engineering</b>	4DC14	Software Engineering ( <b>Opted</b> )
<b>Machine Learning</b>		Computer Graphics
<b>Manufacturing Engineering</b>		Engineering Mechanics
<b>Financial Management</b>		Financial Management

### THIRD YEAR – I SEMESTER

S. No.	Code	Subject	L	T	P/D	C	Internal	External
1		<b>Open Elective- I</b>	3	0	-	3	30	70
2	4CC09	Linear and Digital IC Applications	3	1	-	3	30	70
3	4DC11	Computer Organization and Architecture	3	1	-	3	30	70
4		<b>Professional Elective – II</b>	4	1	-	4	30	70
5	4ZC01	Managerial Economics and Financial Analysis	3	1	-	3	30	70
6	4D516	Signals and Modulation Theory	3	1	-	3	30	70
7	4HC76	Quantitative Aptitude	-	-	3	2	25	50
8	4D577	Group Project	-	-	3	1	25	50
9	4CC76	Linear and Digital IC Applications Lab	-	-	3	2	25	50
10	4F585	Multimedia and Application Development Lab	-	-	3	2	25	50
11	4D595	Technical Paper Writing and Seminar - V			2	1	25	
		<b>Total :</b>	<b>19</b>	<b>5</b>	<b>14</b>	<b>27</b>	<b>305</b>	<b>620</b>

<b>PROFESSIONAL ELECTIVE – II</b>
Computer Organization and Architecture
Digital System Design and verification through Verilog
Distributed Databases
Software Requirements and Estimation
Multimedia and Application Development (4F520 - Opted)
Metallurgy and Material Sciences
Financial Institutions, Markets and Services

<b>OPEN ELECTIVE – I</b>
Applied Biology
General Management and Entrepreneurship
Banking Operations, Insurance and Risk Management (4ZC03 - Opted)
Product and Service Design (4BC15 - Opted)
Operations Research for Allied Branches
Basic Spanish Language
Basic French Language
Basic German Language
SAP – I (4EC26 – Opted)

## Third Year – II Semester

S. No.	Code	Subject	L	T	P/D	C	Internal	External
1		<b>Open Elective-II</b>	3	-	-	3	30	70
2	4DC17	Microcontrollers and Applications	3	1	-	3	30	70
3		<b>Professional Elective-III</b>	4	1	-	4	30	70
4	4EC07	Operating Systems	4	1	-	4	30	70
5	4DC04	Data Communications and Computer networks	4	1	-	4	30	70
6	4FC17	Theory of Computation	3	1	-	3	30	70
7	4HC77	Logical Reasoning	-	-	3	2	25	50
8	4D682	Comprehensive viva voce - II	-	-	-	1	-	50
9	4D684	Microcontrollers and Applications Lab	-	-	3	2	25	50
10	4FC79	Shell Programming and Scripting Languages Lab	-	-	3	2	25	50
11	4D696	Technical Paper Writing and Seminar - VI			2	1	25	
		<b>Total :</b>	<b>21</b>	<b>5</b>	<b>11</b>	<b>29</b>	<b>255</b>	<b>620</b>

<b>PROFESSIONAL ELECTIVE – III</b>
Introduction to Embedded Systems
Introduction to VLSI
Digital Image Processing (4C627)
<b>Shell Programming and Scripting Languages (4FC07)</b>
Unified Modeling Language (4E696)
Human Computer Interaction (4EC17)
Thermodynamics and Heat Transfer (4BC02)
Security Analysis and Portfolio Management

<b>OPEN ELECTIVE – II</b>
Fundamentals of Bio Informatics (4GC42)
Logistics and Supply Chain Management
<b>Project Management and Structured Finance (Opted)</b>
<b>SAP – II (4EC27)</b>

### Fourth Year – I Semester

	Code	Subject	L	T	P/D	C	Internal	External
1	4DC06	Embedded and Real Time Systems	4	1	-	4	30	70
2	4DC07	VLSI Design	4	1	-	4	30	70
3	4FC05	Data Warehousing and Data Mining	4	1	-	4	30	70
4		<b>Open Elective - III</b>	4	1	-	4	30	70
5	4GC33	Culture, Values, Professional Ethics and IPR	2	1		2	30	70
6	4GC06	Environmental Studies	3	1		3	30	70
7		<b>Professional Elective – IV</b>	4	1	-	4	30	70
8	4D779	Main Project Phase - I	-	-	2	1	50	-
9	4D778	Industry Oriented Mini Project	-	-	-	2	25	50
10	4DC72	Embedded Systems Lab	-	-	3	2	25	50
11	4DC73	VLSI Lab (VHDL and Verilog)	-	-	3	2	25	50
12	4D797	Technical Paper Writing and Seminar - VII			2	1	25	
		<b>Total:</b>	<b>25</b>	<b>7</b>	<b>10</b>	<b>33</b>	<b>360</b>	<b>640</b>

<b>PROFESSIONAL ELECTIVE – IV</b>
Wireless Sensor Networks
Reconfigurable Computing Design and Architecture
Digital Speech Signal Processing
Information Retrieval Systems (4EC14)
<b>Software Testing (4E709) - Opted</b>
Artificial Intelligence (4EC11)
Manufacturing Process - I
Strategic Management Accounting

<b>OPEN ELECTIVE – III</b>
Bio-medical Instrumentation
Enterprise Resource Planning
<b>Legal and Economic Environment of Business – (4ZC10) – Opted</b>
<b>Total Quality Management – (4ZC09) – Opted</b>
Introduction to Nano Technology (4BC25)

### Fourth Year – II Semester

	<b>Code</b>	<b>Subject</b>	<b>L</b>	<b>T</b>	<b>P/D</b>	<b>C</b>	<b>Internal</b>	<b>External</b>
1	4ZC02	Management Science	4	1	-	4	30	70
2		<b>Professional Elective - V</b>	4	1	-	4	30	70
3	4D880	Main Project Phase - II	-	-	15	12	50	150
4	4D883	Comprehensive viva voce - III	-	-	-	2	-	50
5	4D898	Technical Paper Writing and Seminar - VIII			2	1	25	
		<b>Total :</b>	<b>8</b>	<b>2</b>	<b>17</b>	<b>23</b>	<b>135</b>	<b>340</b>

<b>PROFESSIONAL ELECTIVE – V – (To be Opted)</b>
Internet of Things (IoT)
Low power VLSI
Bio-Medical Signal Processing
Big Data Analytics (4FC22) / Cloud Computing (4EC15)
Software Project Management (4EC12)
Image Processing (4FC23)
Manufacturing Process – II
Financial Risk Management