

## ECM (A18 Regulation) CBCS Course Structure

## B. Tech. I Year I Semester

S. No.	Course Category	Dept Course	Course Code	Name of the Course	L	T	P	C	Max. Marks	
									Int.	Ext.
1	BS	S&H	7HC03	Chemistry	3	1	0	4	30	70
2	ES	IT	7FC01	Problem Solving using C	3	0	0	3	30	70
3	BS	S&H	7HC07	Mathematics – I	3	1	0	4	30	70
4	ES	MECH	7BC01	Workshop/Manufacturing practices	1	0	0	1	30	70
5	HS	S&H	7HC01	English ( Reading, Listening and Writing skills)	1	0	0	1	30	70
6	HS	S&H	7HC20	Human Values and Professional Ethics in Higher Education	3	0	0	0	30	70
									Grade Evaluation	
7	BS	S&H	7HC63	Chemistry Lab	0	0	3	1.5	30	70
8	ES	IT	7FC71	Problem Solving using C Lab	0	0	3	1.5	30	70
9	ES	MECH	7BC61	Workshop/Manufacturing practices Lab	0	0	3	1.5	30	70
10	HS	S&H	7HC61	English ( Reading, Listening and Writing skills) Lab	0	0	2	1	30	70
11	PS	ECM	7D191	Technical Seminar - I	0	0	2	1	100	--
<b>Total</b>					<b>11</b>	<b>2</b>	<b>13</b>	<b>19.5</b>	<b>400</b>	<b>700</b>

## B. Tech. I Year II Semester

S. No.	Course Category	Dept Course	Course Code	Name of the Course	L	T	P	C	Max. Marks	
									Int.	Ext.
1	BS	S&H	7HC05	Engineering Physics	3	1	0	4	30	70
2	PC	EEE	7AC02	Network Analysis	3	0	0	3	30	70
3	BS	S&H	7HC09	Probability and Statistics	3	1	0	4	30	70
4	ES	MECH	7BC02	Engineering Graphics & Design	1	0	4	3	30	70
5	HS	S&H	7HC02	English (Oral communication skills)	1	0	0	1	30	70
6	BS	S&H	7HC65	Engineering Physics Lab	0	0	3	1.5	30	70
7	PC	EEE	7AC61	Electrical Circuits and Networks Analysis Lab	0	0	2	1	30	70
8	HS	S&H	7HC62	English (Oral communication skills) Lab	0	0	2	1	30	70
9	PS	ECM	7D292	Technical Seminar - II	0	0	2	1	100	--
<b>Total</b>					<b>11</b>	<b>2</b>	<b>13</b>	<b>19.5</b>	<b>340</b>	<b>560</b>

**B.Tech. II Year I Semester**

S. No.	Course Category	Dept Course	Course Code	Subject	L	T	P/D	C	Max. Marks	
									Int.	Ext.
1.	PC	CSE	7EC01	Data Structures	2	1	0	3	30	70
2.	PC	ECM	7D301	Discrete Structure and Graph Theory	3	0	0	3	30	70
3.	PC	ECE	7C301	Electronic Devices and Circuits	3	0	0	3	30	70
4.	PC	ECE	7C302	Digital Logic Design	3	0	0	3	30	70
5.	PC	ECE	7C303	Signals and Systems	2	1	0	3	30	70
6.	HS	SMS	7ZC01	Management Science & Financial Accounting	2	0	0	2	30	70
7.	PC	CSE	7EC71	Data Structures (C, C++) Lab	0	0	2	1	30	70
8.	PC	ECE	7C371	Electronic Devices and Circuits Lab	0	0	2	1	30	70
9.	PC	IT	7FC74	IT Workshop	0	0	2	1	30	70
10.	PS	ECM	7D393	Technical Seminar – III	0	0	2	1	100	--
<b>Total :</b>					<b>15</b>	<b>2</b>	<b>9</b>	<b>21</b>	<b>370</b>	<b>630</b>

**B.Tech. II Year II Semester**

S. No.	Course Category	Dept Course	Course Code	Subject	L	T	P/D	C	Max. Marks	
									Int.	Ext.
1	BS	S&H	7HC16	Mathematics – II (Differential Calculus)	2	0	0	2	30	70
2	PC	CSE	7EC02	Object Oriented Programming through Java	3	0	0	3	30	70
3	PC	ECM	7D403	Computer Organization and Operating Systems	3	0	0	3	30	70
4	PC	CSE	7EC03	Data Base Management Systems	3	0	0	3	30	70
5	PC	ECM	7D414	Software Engineering	2	0	0	2	30	70
6	PC	ECE	7C405	Analog Circuits	3	0	0	3	30	70
7	BS	S&H	7HC21	Environmental Science and Ecology	2	0	0	0	30	70
8	PC	ECE	7C474	Analog Circuits Lab	0	0	2	1	30	70
9	PC	CSE	7EC73	Database Management Systems Lab	0	0	3	1.5	30	70
10	PC	CSE	7EC72	Object Oriented Programming through Java Lab	0	0	3	1.5	30	70
11	PS	ECM	7D494	Technical Seminar – IV	0	0	2	1	100	--
12	PC	ECM	7D481	Comprehensive Viva –Voce I	0	0	0	1	30	70
13	PS	ECM	7D584	Summer Industry Internship-I (Evaluation will be done along with 3-1 subjects)						
<b>Total :</b>					<b>15</b>	<b>0</b>	<b>9</b>	<b>22</b>	<b>430</b>	<b>770</b>

III YEAR I SEMESTER COURSE STRUCTURE

S. No	Course Category	Dept Course	Course Code	Subject	L	T	P/D	C	Max. Marks	
									Int.	Ext.
1	PE			<b>Professional Elective - I</b>	3	0	0	3	30	70
2	PC	IT	7F505	Design and Analysis of Algorithms	2	1	0	3	30	70
3	PC	ECE	7C508	IC Applications	3	0	0	3	30	70
4	PC	ECE	7CC07	Analog Communications	3	0	0	3	30	70
5	PC	ECM	7D504	Data Communications and Computer Networks	3	0	0	3	30	70
6	HS	SH	7HC63	Soft Skills	0	0	2	1	30	70
7	BS	SH	7H518	Quantitative Aptitude	1	1	0	2	30	70
8	PC	ECE	7CC75	Analog Communications Lab	0	0	2	1	30	70
9	PC	ECE	7CC76	IC Applications Lab	0	0	4	2	30	70
10	PC	CSE	7EC77	Web Technologies Lab	0	0	4	2	30	70
11	PS	ECM	7D595	Technical Seminar – V	0	0	2	1	100	--
12	PS	ECM	7D584	Evaluation of Summer Industry Internship-I	0	0	0	1	30	70
<b>Total :</b>					<b>15</b>	<b>2</b>	<b>14</b>	<b>25</b>	<b>460</b>	<b>840</b>

III YEAR II SEMESTER COURSE STRUCTURE

S. No.	Course Category	Dept Course	Course Code	Subject	L	T	P/D	C	Max. Marks	
									Int.	Ext.
1	OE			<b>Open Elective - I</b>	3	0	0	3	30	70
2	PE			<b>Professional Elective – II</b>	3	0	0	3	30	70
3	PC	ECM	7DC05	Microprocessors and Microcontrollers	3	0	0	3	30	70
4	PC	ECE	7CC11	Digital Signal Processing	3	0	0	3	30	70
5	PC	ECM	7D602	Automata Theory and Compiler Design	3	0	0	3	30	70
6	BS	SH	7H619	Logical Reasoning	1	1	0	2	30	70
7	PC	ECM	7DC71	Microprocessors and Microcontrollers Lab	0	0	2	1	30	70
8	PC	ECE	7C679	Digital Signal Processing Lab	0	0	4	2	30	70
9	PC	ECM	7D689	Compiler Design Lab	0	0	4	2	30	70
10	PS	ECM	7D677	Group Project	0	0	4	2	30	70
11	PC	ECM	7D682	Comprehensive Viva –Voce II	0	0	0	1	50	50
12	PS	ECM	7D785	Summer Industry Internship-II (Evaluation will be done along with 4-1 subjects)						
<b>Total :</b>					<b>16</b>	<b>1</b>	<b>14</b>	<b>25</b>	<b>410</b>	<b>820</b>

## IV YEAR I SEMESTER COURSE STRUCTURE

S. No.	Course Category	Dept Course	Course Code	Subject	L	T	P/D	C	Max. Marks	
									Int.	Ext.
1	OE			<b>Open Elective- II</b>	3	0	0	3	30	70
2	PE			<b>Professional Elective-III</b>	3	0	0	3	30	70
3	HS			<b>Professional Elective – IV</b>	3	0	0	3	30	70
4	PC	ECM	7D706	Embedded and Real Time Systems	3	0	0	3	30	70
5	HS	ECM	7D707	VLSI Design	3	0	0	3	30	70
6	PC	ECM	7DC72	Embedded Systems Lab	0	0	3	1.5	30	70
7	PC	ECM	7DC73	VLSI Lab	0	0	3	1.5	30	70
8	PC	ECM	7D788	Python Programming Lab	0	0	4	2	30	70
9	PS	ECM	7D779	Project – I	0	0	4	2	30	70
10	PS	ECM	7D785	Evaluation of Summer Industry Internship-II	-	-	-	1	30	70
				<b>Total :</b>	<b>15</b>	<b>0</b>	<b>14</b>	<b>23</b>	<b>330</b>	<b>770</b>

## IV YEAR II SEMESTER COURSE STRUCTURE

S. No	Course Category	Dept Course	Course Code	Subject	L	T	P/D	C	Max. Marks	
									Int.	Ext.
1	PE			<b>Professional Elective-V</b>	3	0	0	3	30	70
2	OE			<b>Open Elective-III</b>	3	0	0	3	30	70
3	PS	ECM	7D880	Project – II	-	-	10	5	30	70
				<b>Total :</b>	<b>6</b>	<b>0</b>	<b>10</b>	<b>11</b>	<b>90</b>	<b>210</b>

**Note:** All End Examinations (Theory and Practical) are of **Three** hours duration.

**T – Tutorial**

**L- Theory**

**P/D – Practical/Drawing**

**C- Credits**

**Int. – Internal Exam**

**Ext. – External Exam**

**Course code Definitions**

BS- Basic Science Courses

ES- Engineering Science Courses

HS- Humanities and Social Sciences including Management courses

PC-ECM Professional core courses

PE –ECM Professional Elective courses

OE- Open Elective courses

PS- Summer Industry Internship, Projects, Comprehensive Viva Voce, technical Seminars

**B.TECH ECM A18 REGULATION COURSE STRUCTURE****UNDER CHOICE BASED CREDIT SYSTEM (CBCS)****MAJOR STREAMS (PROFESSIONAL ELECTIVE STREAMS)**

L	T	P/D	C
3	0	0	3

**NOTE:** Following are the streams which the student can choose from III-yr I-Semester in CBCS

Professional Elective Streams	Professional Elective – I (3-1)	Professional Elective – II (3-1)	Professional Elective – III (3-2)	Professional Elective – IV (3-2)	Professional Elective – V (4-1)
<b>Systems</b>	Advanced Computer Architecture (7EC22)	Distributed Systems (7EC24)	Advanced Operating Systems (7EC23)	Information Security (7E709)	Internet of Things (IoT) (7DC55)
<b>Data Science</b>	Introduction to Data Science (7EC16)	Machine Learning (7EC17)	Big Data Analytics (7FC13)	Artificial Intelligence and Deep Learning (7EC18)	Cloud Computing (7FC14)
<b>Advanced Technologies</b>	Computer Graphics (7EC19)	Image Processing (7EC20)	Block Chain Technologies (7FC15)	Augmented and Virtual Reality (7FC16)	Internet of Things (IoT) (7DC55)
<b>Communications</b>	Electro Magnetic Waves and Transmission Lines (7CC06)	Digital Communication (7C509)	Antennas and Wave Propagation (7CC12)	Cellular and Mobile Communications (7C721)	Wireless Communications and Networks (7C743)

**MINOR STREAMS (OPEN ELECTIVES)**

L	T	P/D	C
3	0	0	3

**NOTE:** Following are the **Open Elective (Minor) streams** which the student can choose **From III-yr II-Sem** under CBCS

<b>Stream / Year-Semester</b>	<b>III-Year II-Semester / (Open Elective – I)</b>	<b>IV -Year I-Semester / (Open Elective – II)</b>	<b>IV-Year I-Semester / (Open Elective – III)</b>
<b>Social Sciences</b>	Indian Polity and Economy (7ZC25)	Ecology and Disaster Management (7ZC26)	Indian History, Geography and Culture (7ZC27)
<b>Electrical</b>	Control Systems Engineering (7AC46)	Fundamentals of Measurements and Instrumentation (7AC44)	Fundamentals of Renewable Energy Sources (7AC45)
<b>Finance</b>	Banking Operations, Insurance and Risk Management (7ZC05)	Entrepreneurship, Project Management and Structured Finance (7ZC19)	Financial Institutions, Markets and Services (7ZC15)
<b>Mechanical</b>	Smart Materials (7BC51)	Principals of Automation and Robotics (7BC55)	Principles of Operations Research (7BC53)
<b>Entrepreneurship</b>	Basics of Entrepreneurship (7ZC22)	Advanced Entrepreneurship (7ZC30)	Innovation and Design Thinking (7ZC24)