



Course Name: Bachelor of Technology (B. Tech.) in ECE with Specialization  
(Hons.) in Internet of Things (IoT) and Embedded System

## Course Structure

### FIRST YEAR

SEMESTER I								
S. No	Type	Course Code	Course Title	L	T	P	Contact Hrs/wk	Credits
1	Theory	SMA41101	Engineering Mathematics-I	3	1	0	4	4.0
2	Theory		Applied Science (Physics+Chemistry)	3	0	0	3	3.0
3	Theory	ECS41101 / EEE41102	Introduction to Programming / Electrical and Electronics Technology	3	0	0	3	3.0
4	Theory	HEN41117	HSSM –I (English Communication- I)	3	0	0	3	3.0
5	Theory	HEN41119 / SBT41108	HSSM –II ( Human Values & Ethics and Psychology) / Life Sciences	3	0	0	3	3.0
6	Practical		Applied Science Lab	0	0	3	3	2.0
7	Practical	ECS41201 / EEE41202	Programming Lab / Electrical and Electronics Technology Lab	0	0	3	3	2.0
8	Practical	ECE41201/ EME41204	Engineering Drawing and CAD/Engineering Workshop	0	0	3	3	2.0
9	Practical	EMC41201	Communication and Collaboration Skill -I	0	0	2	2	1
10	Practical		Avant Grade Project-I	0	0	2	2	1
<b>Total</b>				<b>15</b>	<b>1</b>	<b>13</b>	<b>29</b>	<b>24</b>

SEMESTER II								
S. No	Type	Course Code	Course Title	L	T	P	Contact Hrs/wk	Credits
1.	Theory	SMA41102	Engineering Mathematics– II	3	1	0	4	4.0
2.	Theory	EEE41102 / ECS41101	Electrical and Electronics Technology/ Introduction to Programming	3	0	0	3	3.0
3.	Theory	SBT41108 / HEN41119	Life Sciences/HSSM –II ( Human Values & Ethics and Psychology)	3	0	0	3	3.0
4.	Theory	EME41102	Engineering Mechanics	3	1	0	4	4.0
5.	Theory	SGY42113	Environmental Science	3	0	0	3	3
6.	Practical	EEE41202 / ECS41201	Electrical and Electronics Technology Lab/ Programming Lab	0	0	3	3	2.0
7.	Practical	EME41204/ ECE41201	Engineering Workshop/Engineering Drawing and CAD	0	0	3	3	2.0

8.	Practical	EMC41202	Communication and Collaboration Skill -II	0	0	2	2	1
9.	Practical		Avant Grade Project-II	0	0	2	2	1
<b>Total</b>				<b>15</b>	<b>2</b>	<b>10</b>	<b>27</b>	<b>23</b>

## SECOND YEAR

<b>Semester-III</b>								
S. No	Type	Course Code	Subject Name	L	T	P	Contact Hrs/week	Credits
1.	Theory	SMA42109	Engineering Mathematics– III (Transform Calculus & Special functions)	3	0	0	3	3
2.	Theory	HEC42180	HSSM –IV (Economics for Engineers)	3	0	0	3	3
3.	Theory	EEC42101	Prof. Core- I (Electronic Devices)	3	0	0	3	3
4.	Theory	EEC42103	Prof. Core- II (Analog Electronic Circuits)	3	0	0	3	3
5.	Theory	EEC42105	Prof. Core- III (Signals and Networks)	3	0	0	3	3
6.	Theory	EEC41102	Choice of Dept. (Electromagnetic Fields)	3	0	0	3	3
7.	Practical	EEC42203	Prof. Core-II Lab (Analog Electronic Circuits Lab)	0	0	3	3	2
8.	Practical	EEC42205	Prof. Core-III Lab (Signals and Networks Lab)	0	0	3	3	2
9.	Practical	EEC42401	Interdisciplinary Project AU	1	0	2	3	3
10.	Practical		Design Thinking-I	0	0	3	3	2
11.	Practical		Avant Grade Project-III	0	0	2	2	1
12.	Practical		#Adamas Foundation (CSR Activity)	--	--	-	--	1
<b>Total</b>				<b>19</b>	<b>0</b>	<b>16</b>	<b>33</b>	<b>29</b>

<b>Semester-IV</b>								
S. No	Type	Course Code	Subject Name	L	T	P	Contact Hrs/week	Credits
1.	Theory	SMA2111	Engineering Mathematics– IV (Probability, Statistics and Numerical Methods)	3	0	0	3	3
2.	Theory	EEC42102	Prof. Core- IV (Digital Electronics)	3	0	0	3	3
3.	Theory	EEC42104	Prof. Core- V (Communication Systems-I)	3	0	0	3	3
4.	Theory	EEC42106	Prof. Core- VI (Digital Signal Processing)	3	0	0	3	3
5.	Theory	EEC42108	Prof. Core- VII (Microprocessors and Microcontrollers)	3	0	0	3	3
6.	Practical	EEC42204	Prof. Core- V Lab (Communication Systems-I Lab)	0	0	3	3	2
7.	Practical	EEC42206	Prof. Core- VI Lab (Digital Signal Processing Lab)	0	0	3	3	2
8.	Practical	EEC42208	Prof. Core- VII Lab (Microprocessors and microcontrollers Lab)	0	0	3	3	2

9.	Practical	EEC42202	Prof. Core- IV Lab (Digital Electronics Lab)	0	0	3	3	2
10.	Practical		Design Thinking-II	0	0	3	3	2
11.	Practical		Avant Grade Project-IV	0	0	2	2	1
<b>Total</b>				<b>15</b>	<b>0</b>	<b>17</b>	<b>32</b>	<b>26</b>

### **THIRD YEAR**

<b>Semester-V</b>								
<b>S. No</b>	<b>Type</b>	<b>Course Code</b>	<b>Subject Name</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Contact Hrs/week</b>	<b>Credits</b>
1.	Theory	EEC43103	Prof. Core- VIII (Communication Systems-II)	3	0	0	3	3
2.	Theory	EEC43105	Prof. Core- IX (VLSI Systems Design)	3	0	0	3	3
3.	Theory	EEC43107	Prof. Core- X (Embedded Systems Design)	3	0	0	3	3
4.	Theory	EEC43131	Specialization Course-I (Introduction to Internet Of things)	3	1	0	4	4
5.	Theory	EEC43111/ EEC43113/ EEC43115	Prof. Elective- I (Data Communication and Computer Networks / Optical Fiber Communication/ Biomedical Electronics)	3	0	0	3	3
6.	Practical	EEC43203	Prof. Core- VIII Lab (Communication Systems-II Lab)	0	0	3	3	2
7.	Practical	EEC43205	Prof. Core- IX Lab (VLSI Systems Design Lab)	0	0	3	3	2
8.	Practical	EEC43207	Prof. Core- X Lab (Embedded System Design Lab)	0	0	3	3	2
9.	Practical	EEC43231	Specialization Course-I Lab (Introduction to Internet Of things Lab)	0	0	3	3	2
10.	Practical		Venture Ideation	0	0	2	2	1
11.	Practical		Avant Grade Project-V	0	0	2	2	1
<b>Total</b>				<b>15</b>	<b>1</b>	<b>16</b>	<b>32</b>	<b>26</b>

<b>Semester-VI</b>								
<b>S. No</b>	<b>Type</b>	<b>Course Code</b>	<b>Subject Name</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Contact Hrs/week</b>	<b>Credits</b>
1.	Theory	EEC43102	Prof. Core- XI (Control Systems)	3	0	0	3	3
2.	Theory	EEC43104	Prof. Core- XI (Microwave Engineering)	3	0	0	3	3
3.	Theory	EEC43122/ EEC43124/ EEC43126	Prof. Elective- II (Antenna & Wave Propagation / Power Electronics / Adaptive Signal Processing)	3	0	0	3	3
4.	Theory		Open Elective- I	2	0	0	2	2
5.	Theory	EEC43132	Specialization Course-II (Embedded Programming)	3	1	0	4	4
6.	Theory	EEC43134	Specialization Course-III (System on Chip Architecture)	3	0	0	3	3

7.	Practical	EEC43202	Prof. Core- XI Lab (Control Systems Lab)	0	0	3	3	2
8.	Practical	EEC43204	Prof. Core- XI Lab (Microwave Engineering Lab)	0	0	3	3	2
9.	Practical	EEC43222/ EEC43224/ EEC43226	Prof. Elective- II Lab (Antenna & Wave Propagation Lab/ Power Electronics Lab/ Adaptive Signal Processing Lab)	0	0	3	3	2
10.	Practical	EEC43232	Specialization Course-II Lab (Embedded Programming Lab)	0	0	3	3	2
11.	Seminar	EEC43302	Technical Seminar	0	0	2	2	1
<b>Total</b>				<b>17</b>	<b>1</b>	<b>14</b>	<b>32</b>	<b>27</b>

### FOURTH YEAR

Semester-VII								
S. No	Type	Course Code	Subject Name	L	T	P	Contact Hrs/week	Credits
1.	Theory	MBA43144	HSSM –V (Industrial Management)	3	0	0	3	3
2.	Theory	EEC44111/ EEC44113/ EEC44115	Prof. Elective- III (Wireless Communication/ Image & Video Processing / Low Power VLSI Design)	3	0	0	3	3
3.	Theory		Open Elective- II	3	0	0	3	3
4.	Theory		Open Elective- III	3	0	0	3	3
5.	Practical	EEC44211/ EEC44213/ EEC44215	Prof. Elective- IV Lab (Wireless Communication Lab/ Image & Video Processing Lab/ Low Power VLSI Design Lab)	0	0	3	3	2
6.	Theory	EEC44131	Specialization Course-IV (Python Basics for IOT)	3	0	0	3	3
7.	Practical	EEC44231	Specialization Course-IV Lab (Basic Python Language Lab)	0	0	3	3	2
8.	Internship/Training	EEC44601	#Summer Internship	--	--	--	--	2
9.	Project	EEC44401	Minor Project	0	0	6	6	3
<b>Total</b>				<b>18</b>	<b>0</b>	<b>12</b>	<b>30</b>	<b>24</b>

Semester-VIII								
S. No	Type	Course Code	Subject Name	L	T	P	Contact Hrs/week	Credits
1.	Theory	EEC44131	Specialization Course V [Cloud Computing] (Online/Offline mode)	3	0	0	3	3
2.	Project	EEC44402	Industry Work Experience / SIRE* / Major Project	0	0	12	12	4
3.	Viva	EEC44502	Comprehensive Viva Voce	-----			-----	2
4.	Viva	EEC44504	Specialization Viva Voce	-----			-----	2

<b>Total</b>	<b>3</b>	<b>0</b>	<b>12</b>	<b>15</b>	<b>11</b>
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Total Credits (Over four years):  $47+55+53+35 = 190 = 165$  (Regular) + 25 (Specialization / Hons.)