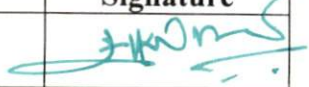
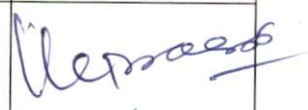
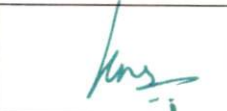

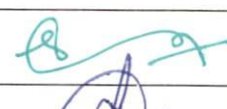

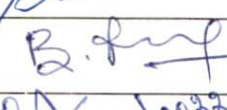
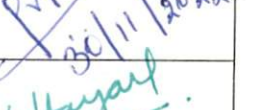


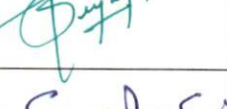
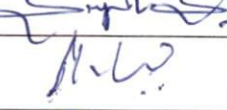
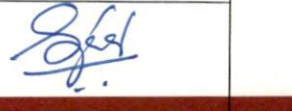
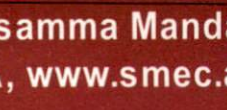



Date: 30/11/2022


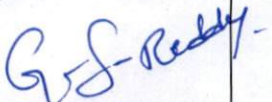

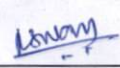
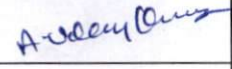

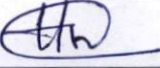
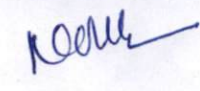
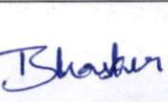
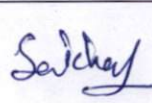

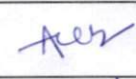
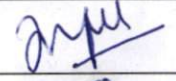
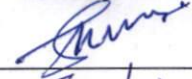
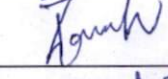

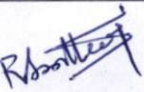
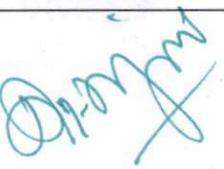
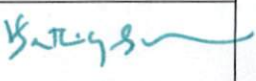
## MINUTES OF MEETING – BOARD OF STUDIES (COMMON BOS)

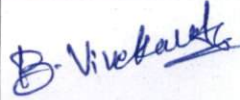

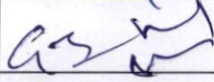
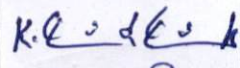
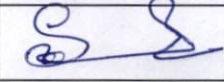
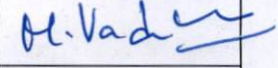
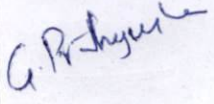
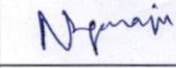

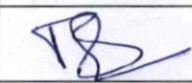

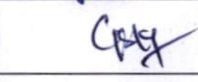

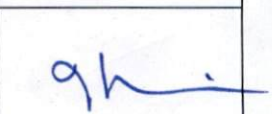

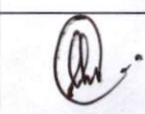


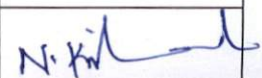
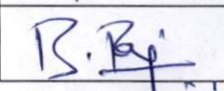
Minute of meeting of Common BOS held on 30<sup>th</sup> November 2022 at 03:00 PM in Online mode.








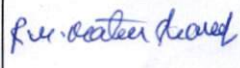
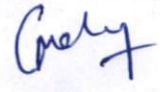
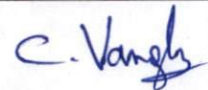
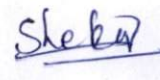
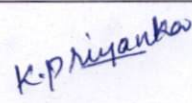
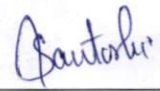
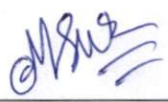

### Member Present:

S. No.	Name of the Faculty	Designation	Signature
1	Dr. P. Santosh Kumar Patra, Principal & Professor of CSE, SMEC	Chairman	
2	Dr. V. Kamakshi Prasad, Professor of CSE & BOS Chairperson, JNTUH, CEH	University Nominee	
3	Dr. K. Naga Sujatha, Professor & HOD of EEE and Deputy Director UGC-HRDC, JNTUH, CEH.	University Nominee	
4	Dr. M. T. Naik, Professor of Mechanical and Vice Principal, JNTUH, CEH.	University Nominee	
5	Dr. P. Sammulal, Professor & HOD of CSE, JNTUH, CEJ.	University Nominee	
6	Dr. S. Viswanadha Raju, Professor of CSE, JNTUH, CEJ	University Nominee	
7	Dr. P. Sravana, Professor of CE, JNTUH, CEH	University Nominee	
8	Dr. B. Prabhakar, Professor of ECE, JNTUH, CEJ.	University Nominee	
9	Dr. V. Parvathi, Professor of English, JNTUH, CEH.	University Nominee	
10	Dr. A. Jayashree, Professor of Chemistry & HOD- CCST, IST, JNTUH.	University Nominee	
11	Dr. B. Ravindra Reddy, Associate Professor of Mathematics, Deputy Director R&D, JNTUH.	University Nominee	
12	Dr. Sindhu, Professor of MBA, Director I/C, School of Management Studies, JNTUH	University Nominee	
13	Dr. Suresh Sripada, Assistant Professor of Physics, JNTUH, CEJ.	University Nominee	
14	Dr. S.V.S Rama Krishnam Raju, Professor of ECE & Dean Academics, SMEC.	Convener	
15	Prof. Sandhya Kiran J.K. Associate Professor & HOD, Department of CE, SMEC	Member	

16	Dr. Mahesh Bala Subramani Assistant Professor of CE, NICMAR Representation from CE	Educationist	Malb
17	Dr. Kamilini Devi, Associate Professor of CE, VNR VJIT Representation from CE	Educationist	KDev
18	Mr. Ankit Bhadola, Structural Design Engineer, Phenix, Construction Technologies Representation from CE	Industrialist	An
19	Dr. D. Naresh Kumar, Assistant Professor of CE, SMEC	Faculty Member	D
20	Mr. P. Guru Swamy Goud, Assistant Professor of CE, SMEC	Faculty Member	P. G. Goud
21	Mr. V. Rajesh, Assistant Professor of CE, SMEC	Faculty Member	V. Rajesh
22	Mr. B. Bhanu Prasad, Assistant Professor of CE, SMEC	Faculty Member	B. Prasad
23	Mr. Varun Varma, Jr. Engineer, My Home Construction Representation from CE	Alumni	Varun
24	Dr. N. Ramchandra, Associate Professor & HOD, Department of EEE, SMEC	Member	Ramchandra
25	Dr. P. Sridhar, Professor of EEE, Dean - IQAC, IARE Representation from EEE	Educationist	P. Sridhar
26	Dr. M. Sharanya, Professor and HOD of EEE, MRCET Representation from EEE	Educationist	M. Sharanya
27	Dr. T. Vishnu Charan, Associate General Manager-Electrical Engineering, Worley Representation from EEE	Industrialist	T. Vishnu Charan
28	Dr. Vaigundamoorthi, Professor and Controller of Examinations, Department of EEE, SMEC	Faculty Member	Vaigundamoorthi
29	Mr. CH. Srinivas, Assistant Professor, Department of EEE, SMEC	Faculty Member	CH. Srinivas
30	Mr. N. D. Manoj, Assistant Professor, Department of EEE, SMEC	Faculty Member	N. D. Manoj
31	Mrs. T. V. Sai Kalyani, Assistant Professor, Department of EEE, SMEC	Faculty Member	T. V. Sai Kalyani
32	Ms. Sameeksha, Senior Systems Engineer, Infosys Representation from EEE	Alumni	Sameeksha
33	Dr. D.V. Srikanth, Professor & HOD, Department of ME, SMEC	Member	D. V. Srikanth
34	Dr. M. Amarnadha Reddy, Professor & HOD, MRCET Representation from ME	Educationist	M. Amarnadha Reddy

35	Dr. D. Maneaih, Professor &HOD, CMRTC Representation from ME	Educationist	
36	Mr. Surendranath Reddy, AOF Filtration Pvt. Ltd Representation from ME	Industrialist	
37	Dr. B. Ravi Naik, Associate Professor, Department of ME, SMEC	Faculty Member	
38	Dr. DhanarajSavaryNasan, Associate Professor, Department of ME, SMEC	Faculty Member	
39	Dr. A. Uday Kumar, Assistant Professor, Department of ME, SMEC	Faculty Member	
40	Mr. Y Pradeep, Hyundai Representation from ME	Alumni	
41	Dr. B. Hari Krishna, Professor & HOD, Department of ECE, SMEC.	Member	
42	Dr. K. Niranjan Reddy, Professor & HOD of ECE, CMRIT. Representation from ECE	Educationist	
43	Dr. D. Bhaskar, Professor of ECE, CMREC. Representation from ECE	Educationist	
44	Mr. V. Sai Charan Reddy, SOC Design Engineer, INTEL, Hyderabad. Representation from ECE	Industrialist	
45	Dr. Sanjay Kumar Suman, Professor, Department of ECE and Dean R&D, SMEC.	Member	
46	Dr. A. Chaitanya Krishna, Associate Professor, Department of ECE, SMEC.	Faculty Member	
47	Dr. M. Thirupathi, Associate Professor, Department of ECE, SMEC.	Faculty Member	
48	Mr. S. Ravi Kumar, Associate Professor, Department of ECE, SMEC.	Faculty Member	
49	Mr. G. Ramesh Reddy, Associate Professor, Department of ECE, SMEC.	Faculty Member	
50	Mr. Ch. Uneendra, Specialist Programmer, Infosys. Representation from ECE	Alumni	
51	Dr. R. Santhosh Kumar Associate Professor &HoD, Department of CSE, SMEC	Member	
52	Dr. G. R. Anantha Raman Professor &HoD, Department of CSE, MRIET, Secunderabad., Representation from CSE/IT	Educationist	
53	Dr. V. SathiyaSuntharam Professor &HoD, Department of CSE (Cyber Security),CMREC, Hyderabad. Representation from CSE/IT	Educationist	

54	Mr. B. Vivekananda Kumar Technical Associate, GENPACT India Pvt. Ltd. Representation from CSE/IT	Industrialist	
55	Dr. N. Satheesh Professor, Department of CSE, SMEC	Faculty Member	
56	Dr. G. JawaharlalNehru Associate Professor, Department of CSE, SMEC	Faculty Member	
57	Dr. K. Gurnadha Gupta Associate Professor, Department of CSE, SMEC	Faculty Member	
58	Dr. P. Sai Prasad Associate Professor, Department of CSE, SMEC	Faculty Member	
59	Dr. M. Vadivukarassi Associate Professor, Department of CSE, SMEC	Faculty Member	
60	Ms. PrathyushaGade Business Intelligence Engineer 1, Amazon, Hyderabad Representation from CSE/IT	Alumni	
61	Dr. R. Nagaraju Professor & HoD, Department of IT, SMEC	Member	
62	Dr. N. Krishnaiah Professor, Department of IT, SMEC	Faculty Member	
63	Dr. B. Laxmi Kantha Professor, Department of IT, SMEC	Faculty Member	
64	Mr. V. Chandra Prakash Assistant Professor, Department of IT, SMEC	Faculty Member	
65	Mr. G. Sathish Assistant Professor, Department of IT, SMEC	Faculty Member	
66	Dr. K. Srinivas Associate Professor & HoD, Department of CSE(AI&ML)	Member	
67	Dr. S.Prabaharan Professor, Dept. of CSE, Malla Reddy College of Engineering & Technology, Secunderabad. Representation from CSE (AI & ML)	Educationist	
68	Dr. M. Laxmaiah Professor & HoD, Dept. of CSE(Data Science), CMREC, Hyderabad. Representation from CSE (AI & ML)	Educationist	
69	Mr. Chandra Shekhar Rajpurohit Automation Consultant & Manager, KPMG Representation from CSE (AI & ML)	Industrialist	
70	Ms. Kothlapuram Lakshmi Trainee Developer at Birla soft, Hyderabad Representation from CSE (AI & ML)	Alumni	
71	Dr. G. GovindaRajulu. Professor & HOD, Department of CSD	Member	
72	Dr. N. Krishnaiah Professor & HOD, Department of AI & ML	Member	
73	Dr. B. Rajalingam, Professor & HOD (AI & DS), SMEC	Member	

74	Dr. K. Venkatesh Sharma, Professor, Dept. of CSE, CVR College of Engineering, Hyderabad. Representation from AI & ML, AI & DS, CSD	Educationist	
75	Dr. P. L. Srinivasa Murthy, Professor, Department of CSE, Institute of Aeronautical Engineering, Dundigal, Hyderabad. Representation from AI & ML, AI & DS, CSD	Educationist	
76	Mr. Bonthala Mallikarjuna Aswanth Kumar, Lead Technology, Synechron, Hyderabad Representation from AI & ML, AI & DS, CSD	Industrialist	B. M. Aswanth Kumar
77	Mr. Pannati Nagesh, React Front End Developer, Syncor Solutions, Hyderabad. Representation from AI & ML, AI & DS, CSD	Alumni	
78	Dr. D. Ranadheer Reddy, Professor of Mathematics & HOD, H&S, SMEC	Member	
79	Dr. P. Srikanth Rao, Professor & HOD, BVRIT Representation from Mathematics	Educationist	
80	Dr. K. Rajeshwar Reddy, Associate Professor, MRCET Representation from Mathematics	Educationist	
81	Dr. S. Someshwar, Associate Professor, Department of Mathematics, SMEC	Faculty Member	
82	Dr. Rajji Mohammad Mastan Shareef, Assistant Professor, Department of Mathematics, SMEC	Faculty Member	
83	Mr. G. Chandra Mohan, Assistant Professor, Department of Mathematics, SMEC	Faculty Member	
84	Mr. C. Vamshi Krishna, Assistant Professor, Department of Mathematics, SMEC	Faculty Member	
85	Mr. E. Chandra Shekhar, Assistant Professor, Department of Mathematics, SMEC	Faculty Member	
86	Mrs. K. Priyanka, Assistant Professor, Department of Mathematics, SMEC	Faculty Member	
87	Mrs. M. Santoshi Kumari, Assistant Professor, Department of Mathematics, SMEC	Faculty Member	
88	Mrs. M. Sandhya Rani, Assistant Professor, Department of Mathematics, SMEC	Faculty Member	
89	Dr. M. Dhamodhara Naidu, Associate Professor, Department of Physics, SMEC	Member	

90	Dr. V. MadhuSudhana Reddy, Professor & HOD, MRCET Representation from Physics	Educationist	<u>V. Madhu</u>
91	Dr. P. Nagaraju, Professor, CMRTC Representation from Physics	Educationist	<u>P. Nagaraju</u>
92	Dr.P.Nageswar Rao, Associate Professor, Department of Physics, SMEC	Faculty Member	<u>N.R.</u>
93	Dr. B. Nehru, Assistant Professor, Department of Physics, SMEC	Faculty Member	<u>B.N.</u>
94	B. Prashanth, Assistant Professor, Department of Physics, SMEC	Faculty Member	<u>B. Prashanth</u>
95	K. Priyanka, Assistant Professor, Department of Physics, SMEC	Faculty Member	<u>Priyanka</u>
96	K. Ramesh Babu, Assistant Professor, Department of Physics, SMEC	Faculty Member	<u>K. Ramesh Babu</u>
97	G. Sangeetha, Assistant Professor, Department of Physics, SMEC	Faculty Member	<u>Sangeetha</u>
98	Pragati Dixit, Assistant Professor, Department of Physics, SMEC	Faculty Member	<u>Pragati Dixit</u>
99	K. Rajesh, Assistant Professor, Department of Physics, SMEC	Faculty Member	<u>K.R.</u>
100	S. Anitha, Assistant Professor, Department of Physics, SMEC	Faculty Member	<u>S.A.</u>
101	Dr. S. Hemambika, Professor, Department of Chemistry, SMEC	Member	<u>S. Hemambika</u>
102	Dr. K. V Reddy, Professor & HOD, CMREC Representation from Chemistry	Educationist	<u>K.V. Reddy</u>
103	Dr. E. Laxmi Narayana, Associate Professor, Sreenidhi Institute of Science and Technology Representation from Chemistry	Educationist	<u>E. Laxmi Narayana</u>
104	Dr. A. Aditya Prasad, Professor, Department of Chemistry, SMEC	Faculty Member	<u>A. Aditya Prasad</u>
105	Dr. A. Rambabu, Associate Professor, Department of Chemistry, SMEC	Faculty Member	<u>A. Rambabu</u>
106	Dr. Saumyapraava Acharya, Assistant Professor, Department of Chemistry, SMEC	Faculty Member	<u>S. Saumyapraava Acharya</u>
107	Dr. Suresh, Assistant Professor, Department of Chemistry, SMEC	Faculty Member	<u>S. Suresh</u>

108	N. Pandu Ranga Rao, Assistant Professor, Department of Chemistry, SMEC	Faculty Member	<i>pandur</i>
109	V. Rama Krishna, Assistant Professor, Department of Chemistry, SMEC	Faculty Member	<i>Rj</i>
110	M. Sravani, Assistant Professor, Department of Chemistry, SMEC	Faculty Member	<i>M. Sravani</i>
111	Dr. M. Nirmala Devi, Associate Professor, Department of English, SMEC	Member	<i>M. Nirmala Devi</i>
112	Dr. S. Rangaraju, Professor, Associate Professor, CMREC Representation from English	Educationist	<i>S. Rangaraju</i>
113	Dr. B. Mrunalini Sasanka, Associate Professor, BVRIT, Narsapur Representation from English	Educationist	<i>Sasanka</i>
114	G. Laxmikanth, Assistant Professor, Department of English, SMEC	Faculty Member	<i>Laxmikanth</i>
115	Ch. Bhaskara Rao, Assistant Professor, Department of English, SMEC	Faculty Member	<i>chb</i>
116	A. Madhavi Latha, Assistant Professor, Department of English, SMEC	Faculty Member	<i>A. Madhavi Latha</i>
117	B. Rajeswari, Assistant Professor, Department of English, SMEC	Faculty Member	<i>B. Rajeswari</i>
118	T. Sujit, Assistant Professor, Department of English, SMEC	Faculty Member	<i>T. Sujit</i>
119	J. Anjaneyulu, Assistant Professor, Department of English, SMEC	Faculty Member	<i>J. Anjaneyulu</i>
120	Dr. T. Naresh Kumar, Professor, TKRIMS Representation from Management	Educationist	<i>T. Naresh Kumar</i>
121	D. Harsha Vardhan Reddy, Head-CDC, HITAM Representation from Management	Educationist	<i>D. Harsha Vardhan Reddy</i>
122	K. Sudha, Associate Professor, Department of Management, SMEC	Faculty Member	<i>K. Sudha</i>
123	K. Sathish, Associate Professor, Department of Management, SMEC	Faculty Member	<i>K. Sathish</i>
124	V. Lakshmi Prasanna, Assistant Professor, Department of Management, SMEC	Faculty Member	<i>V. Lakshmi Prasanna</i>
125	B. Kanaka Laxmi, Assistant Professor, Department of Management, SMEC	Faculty Member	<i>B. Kanaka Laxmi</i>
126	S. Srinivas, Assistant Professor, Department of Management, SMEC	Faculty Member	<i>S. Srinivas</i>
127	K. Yamini, Assistant Professor, Department of Management, SMEC	Faculty Member	<i>K. Yamini</i>
128	B. Shrivani, Assistant Professor, Department of Management, SMEC	Faculty Member	<i>B. Shrivani</i>

The meeting began with the Chairman (Board of studies) extending a warm welcome to all the members participating in the meeting.

**The following points were discussed and approved during the meeting**

1. The following SMEC R22 Course Structure of B. Tech. I-I, I-II, II-I, II-II, III-I, III-II, IV-I & IV-II of CE, EEE, ME, ECE, CSE, IT, CSE (AI & ML), CSD, AI & ML AND AI & DS departments were presented, discussed and approved. Also, the total credits of the program were discussed and approved.

**DEPARTMENT OF CIVIL ENGINEERING**

**I YEAR I SEMESTER**

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	MA101BS	Matrices and Calculus	3	1	0	4	40	60	100
2	AP102BS	Applied Physics	3	1	0	4	40	60	100
3	CS104ES	C Programming and Data structures	3	0	0	3	40	60	100
4	ME107ES	Engineering Workshop	0	1	3	2.5	40	60	100
5	EN104HS	English for Skill Enhancement	2	0	0	2	40	60	100
6	CE109HS	Elements of Civil Engineering	0	0	2	1	50	-	50
7	AP103BS	Applied Physics Laboratory	0	0	3	1.5	40	60	100
8	EN105HS	English Language and Communication Skills Laboratory	0	0	2	1	40	60	100
9	CS103ES	C Programming and Data Structures Laboratory	0	0	2	1	40	60	100
Total			11	3	12	20	370	480	850
10.	*CH109MC	Environmental Science	3	0	0	0	100	-	100
		Induction Program							

**I YEAR II SEMESTER**

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	MA201BS	Ordinary Differential Equations and Vector Calculus	3	1	0	4	40	60	100
2	CH202BS	Engineering Chemistry	3	1	0	4	40	60	100
3	ME208ES	Computer Aided Engineering Graphics	1	0	4	3	40	60	100
4	ME212HS	Applied Mechanics	3	0	0	3	40	60	100
5	CE209HS	Surveying	2	0	0	2	40	60	100
6	CS205ES	Python Programming Laboratory	0	1	2	2	40	60	100
7	CH204BS	Engineering Chemistry Laboratory	0	0	2	1	40	60	100
8	CE210HS	Surveying Laboratory - I	0	0	2	1	40	60	100
Total			12	3	10	20	320	480	800



II YEAR I SEMESTER									
S. No.	Course Code	Course Title	Hours Per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	PS304BS	Probability and Statistics	3	1	0	4	40	60	100
2	CE302PC	Building Materials, Construction and Planning	3	0	0	3	40	60	100
3	CE303PC	Engineering Geology	3	0	0	3	40	60	100
4	CE304PC	Strength of Materials-I	3	0	0	3	40	60	100
5	CE305PC	Fluid Mechanics	3	0	0	3	40	60	100
6	CE306PC	Surveying Laboratory-II	0	0	3	2	40	60	100
7	CE307PC	Strength of Materials Laboratory	0	0	3	1	40	60	100
8	CE308PC	Computer Aided Drafting Laboratory	0	0	3	1	40	60	100
<b>Total</b>			<b>15</b>	<b>1</b>	<b>9</b>	<b>20</b>	<b>320</b>	<b>480</b>	<b>800</b>
9.	*CI306MC*	Constitution of India	3	0	0	0	100	-	100

II YEAR II SEMESTER									
S. No.	Course Code	Course Title	Hours Per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1.	EE401PC	Basic Electrical and Electronics Engineering	3	0	0	3	40	60	100
2.	CE402PC	Concrete Technology	3	0	0	3	40	60	100
3.	CE403PC	Strength of Materials-II	3	0	0	3	40	60	100
4.	CE404PC	Hydraulics and Hydraulics Machinery	3	0	0	3	40	60	100
5.	CE405PC	Structural Analysis-I	3	0	0	3	40	60	100
6.	CE406PC	Fluid Mechanics and Hydraulics Machinery Laboratory	0	0	2	1	40	60	100
7.	EE407BE	Basic Electrical and Electronics Engineering Laboratory	0	0	2	1	40	60	100
8.	CE408PC	Concrete Technology Laboratory	0	0	2	1	40	60	100
9.	CE409BP	Real-time Research Project/Field-Based Project	0	0	4	2	50	-	50
<b>Total</b>			<b>15</b>	<b>0</b>	<b>10</b>	<b>20</b>	<b>370</b>	<b>480</b>	<b>850</b>
10.	*GS410MC*	Gender Sensitization Laboratory	0	0	2	0	100	-	100

III YEAR I SEMESTER								
S. No.	Course Title	Hours Per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1.	Structural Analysis- II	3	0	0	3	40	60	100
2.	Geotechnical Engineering	3	0	0	3	40	60	100
3.	Structural Engineering-I(RCC)	3	0	0	3	40	60	100
4.	Business Economics & Financial Analysis	3	0	0	3	40	60	100
5.	Transportation Engineering	3	0	0	3	40	60	100
6.	Water Resources Engineering-I	3	0	0	3	40	60	100
7.	Transportation Engineering Laboratory	0	0	2	1	40	60	100
8.	Geotechnical Engineering Laboratory	0	0	2	1	40	60	100
<b>Total</b>		<b>18</b>	<b>0</b>	<b>4</b>	<b>20</b>	<b>320</b>	<b>480</b>	<b>800</b>
9.	Intellectual Property Rights	3	0	0	0	100		100

III YEAR II SEMESTER								
S. No.	Course Title	Hours Per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1.	Environmental Engineering	3	0	0	3	40	60	100
2.	Foundation Engineering	3	0	0	3	40	60	100
3.	Structural Engineering-II (Steel Structures)	3	0	0	3	40	60	100
4.	Professional Elective-I	3	0	0	3	40	60	100
5.	Open Elective -I	3	0	0	3	40	60	100
6.	Environmental Engineering Laboratory	0	0	2	1	40	60	100
7.	Computer Aided Design Laboratory	0	0	2	1	40	60	100
8.	Advanced English Communication Skills Laboratory	0	0	2	1	40	60	100
9.	Industry Oriented Mini Project/Internship	0	0	4	2	-	100	100
<b>Total</b>		<b>15</b>	<b>0</b>	<b>10</b>	<b>20</b>	<b>320</b>	<b>580</b>	<b>900</b>
10.	Environmental Science	3	0	0	0			

Environmental Science in III Yr II Sem Should be Registered by Lateral Entry Students Only.

IV YEAR I SEMESTER								
S. No.	Course Title	Hours Per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1.	Quantity Survey & Valuation	2	0	0	2	40	60	100
2.	Project Management	2	0	0	2	40	60	100
3.	Professional Elective-II	3	0	0	3	40	60	100
4.	Professional Elective-III	3	0	0	3	40	60	100
5.	Professional Elective-IV	3	0	0	3	40	60	100
6.	Open Elective-II	3	0	0	3	40	60	100
7.	Civil Engineering Software Laboratory	0	0	2	1	40	60	100
8.	Project Stage-I	0	0	6	3			
<b>Total</b>		<b>16</b>	<b>0</b>	<b>8</b>	<b>20</b>	<b>320</b>	<b>420</b>	<b>700</b>

IV YEAR II SEMESTER								
S. No.	Course Title	Hours Per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1.	Professional Elective- V	3	0	0	3	40	60	100
2.	Professional Elective- VI	3	0	0	3	40	60	100
3.	Open Elective -III	3	0	0	3	40	60	100
4.	Project Stage-II including seminar	0	0	22	11	40	60	100
<b>Total</b>		<b>9</b>	<b>0</b>	<b>22</b>	<b>20</b>	<b>160</b>	<b>240</b>	<b>400</b>

\*MC – Satisfactory/Unsatisfactory

#### Professional Elective-I

Green Building Technologies
Geomatic Applications in Civil Engineering
Smart Cities Planning and Management

#### Professional Elective-II

Prestressed Concrete
Elements of Earthquake Engineering
Advanced Structural Analysis

#### Professional Elective-III

Earth Retaining Structures
Ground Improvement Techniques
Stability Analysis of Slopes

#### Professional Elective-IV

Design of Hydraulic Structures
Advanced Water Resources Engineering
Ground Water Hydrology

**Professional Elective –V**

Solid Waste Management
Environmental Impact Assessment for Civil Engineers
Air Pollution

**Professional Elective-VI**

Airports, Railways and Waterways
Pavement Asset Management
Pavement Analysis & Design

**III Yr II Sem Open Elective (OE-I)**

- |  |
|--|
| <ol style="list-style-type: none"><li>1. Disaster Preparedness &amp; Planning Management</li><li>2. Building Management Systems</li><li>3. Environmental Impact Assessment</li><li>4. Hydrogeology</li></ol> |
|--|

**IV Yr I Sem Open Elective (OE-II)**

- |  |
|--|
| <ol style="list-style-type: none"><li>1. Remote Sensing &amp; Geographical Information Systems</li><li>2. Sustainable Infrastructure Development</li><li>3. Solid Waste Management</li><li>4. Smart Cities</li></ol> |
|--|

**IV Yr II Sem Open Elective (OE-III)**

- |   |
|---|
| <ol style="list-style-type: none"><li>1. Energy Efficient Buildings</li><li>2. Multi Criterion Decision Making</li><li>3. Environmental Pollution</li></ol> |
|---|

**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

**I YEAR I SEMESTER**

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	MA101BS	Matrices and Calculus	3	1	0	4	40	60	100
2	CH102BS	Engineering Chemistry	3	1	0	4	40	60	100
3	CS104ES	C Programming and Data Structures	3	0	0	3	40	60	100
4	EE105ES	Electrical Circuit Analysis – I	3	0	0	3	40	60	100
5	ME108ES	Computer Aided Engineering Graphics	1	0	4	3	40	60	100
6	EE107ES	Elements of Electrical and Electronics Engineering	0	0	2	1	50	-	50
7	CH104BS	Engineering Chemistry Laboratory	0	0	2	1	40	60	100
8	CS103ES	C Programming and Data Structures Laboratory	0	0	2	1	40	60	100
9		Induction Program							
<b>Total</b>			<b>13</b>	<b>2</b>	<b>10</b>	<b>20</b>	<b>330</b>	<b>420</b>	<b>750</b>

**I YEAR II SEMESTER**

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	MA201BS	Ordinary Differential Equations and Vector Calculus	3	1	0	4	40	60	100
2	AP202BS	Applied Physics	3	1	0	4	40	60	100
3	ME207ES	Engineering Workshop	0	1	3	2.5	40	60	100
4	EN204HS	English for Skill Enhancement	2	0	0	2	40	60	100
5	EE209ES	Electrical Circuit Analysis - II	2	0	0	2	40	60	100
6	AP203BS	Applied Physics Laboratory	0	0	3	1.5	40	60	100
7	EN205HS	English Language and Communication Skills Laboratory	0	0	2	1	40	60	100
8	CS205ES	Python Programming Laboratory	0	1	2	2	40	60	100
9	EE210ES	Electrical Circuit Analysis Laboratory	0	0	2	1	40	60	100
<b>Total</b>			<b>10</b>	<b>4</b>	<b>12</b>	<b>20</b>	<b>360</b>	<b>540</b>	<b>900</b>
Mandatory Course (Non-Credit)									
10	*CH209MC	Environmental Science	3	0	0	0	100	-	100

\*MC- Satisfied/Unsatisfied

II B. Tech-I-Semester										
S. No.	Course Code		Course Title	Hours Per Week			Credits	Maximum Marks		
				L	T	P		Internal (CIE)	External (SEE)	Total
1.	MA301BS		Numerical Methods and Complex Variables	3	1	0	4	40	60	100
2.	EE301PC		Electrical Machines – I	3	1	0	4	40	60	100
3.	EC308PC		Analog Electronic Circuits	3	0	0	3	40	60	100
4.	EE302PC		Power Systems - I	3	0	0	3	40	60	100
5.	EE303PC		Electro Magnetic Fields	3	0	0	3	40	60	100
6.	EE304PC		Electrical Machines Laboratory – I	0	0	2	1	40	60	100
7.	EC309PC		Analog Electronic Circuit Laboratory	0	0	2	1	40	60	100
8.	EE305PC		Electrical Simulation Laboratory	0	0	2	1	40	60	100
<b>Total</b>				<b>15</b>	<b>2</b>	<b>6</b>	<b>20</b>	<b>320</b>	<b>480</b>	<b>800</b>
Mandatory Course (Non-Credit)										
9.	*GS309MC		Gender Sensitization Laboratory	0	0	2	0	100	-	100

\*MC – Satisfied/Unsatisfied

II B. Tech-II-Semester										
S. No.	Course Code		Course Title	Hours Per Week			Credits	Maximum Marks		
				L	T	P		Internal (CIE)	External (SEE)	Total
1.	ME411PC		Solid Mechanics and Hydraulic Machines	3	1	0	4	40	60	100
2.	EE402PC		Measurements and Instrumentation	3	0	0	3	40	60	100
3.	EE403PC		Electrical Machines – II	3	0	0	3	40	60	100
4.	EC410PC		Digital Electronics	2	0	0	2	40	60	100
5.	EE404PC		Power Systems – II	3	0	0	3	40	60	100
6.	EC411PC		Digital Electronics Laboratory	0	0	2	1	40	60	100
7.	EE405PC		Measurements and Instrumentation Laboratory	0	0	2	1	40	60	100
8.	EE406PC		Electrical Machines Laboratory - II	0	0	2	1	40	60	100
9.	EE407PC		Real Time Research Project / Field Based Project	0	0	4	2	50	-	50
<b>Total</b>				<b>14</b>	<b>1</b>	<b>10</b>	<b>20</b>	<b>370</b>	<b>480</b>	<b>850</b>
Mandatory Course (Non-Credit)										
10.	*CI409MC		Constitution of India	3	0	0	0	100	-	100

\*MC – Satisfied/Unsatisfied

III B. Tech-I-Semester								
S. No.	Course Title	Hours Per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1.	Power Electronics	3	1	0	4	40	60	100
2.	Control Systems	3	1	0	4	40	60	100
3.	Microprocessors and Microcontrollers	3	0	0	3	40	60	100
4.	Professional Elective – I	3	0	0	3	40	60	100
5.	Business Economics and Financial Analysis	3	0	0	3	40	60	100
6.	Microprocessors and Microcontrollers Laboratory	0	0	2	1	40	60	100
7.	Power Electronics Laboratory	0	0	2	1	40	60	100
8.	Advanced English Communication Skills Laboratory	0	0	2	1	40	60	100
<b>Total</b>		<b>15</b>	<b>2</b>	<b>6</b>	<b>20</b>	<b>320</b>	<b>480</b>	<b>800</b>
Mandatory Course (Non-Credit)								
9.	Intellectual Property Rights	3	0	0	0	100	-	100

\*MC – Satisfied/Unsatisfied

III B. Tech-II-Semester								
S. No.	Course Title	Hours Per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1.	Open Elective – I	3	0	0	3	40	60	100
2.	Professional Elective – II	3	0	0	3	40	60	100
3.	Signals and Systems	3	0	0	3	40	60	100
4.	Power System Protection	3	0	0	3	40	60	100
5.	Power System Operation and Control	3	0	0	3	40	60	100
6.	Power System Laboratory	0	0	2	1	40	60	100
7.	Control Systems Laboratory	0	0	2	1	40	60	100
8.	Digital Signal Processing Laboratory	0	0	2	1	40	60	100
9.	Industry Oriented Mini Project/Internship	0	0	4	2	-	100	100
<b>Total</b>		<b>15</b>	<b>0</b>	<b>10</b>	<b>20</b>	<b>320</b>	<b>580</b>	<b>900</b>
Mandatory Course (Non-Credit)								
10.	Environmental Science	3	0	0	0	100	-	100

\*MC – Satisfied/Unsatisfied

**Environmental Science – Should be Registered by Lateral Entry Students Only.**

IV B. Tech-I-Semester								
S. No.	Course Title	Hours Per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1.	Power Electronic Applications to Renewable Energy Systems	3	1	0	4	40	60	100
2.	Open Elective – II	3	0	0	3	40	60	100
3.	Professional Elective - III	3	0	0	3	40	60	100
4.	Professional Elective – IV	3	0	0	3	40	60	100
5.	Fundamentals of Management for Engineers	2	0	0	2	40	60	100
6.	Simulation of Renewable Energy Systems Laboratory	0	0	4	2	40	60	100
7.	Project Stage - I	0	0	6	3	-	-	-
<b>Total</b>		<b>14</b>	<b>1</b>	<b>10</b>	<b>20</b>	<b>240</b>	<b>360</b>	<b>600</b>

IV B. Tech-II-Semester								
S. No.	Course Title	Hours Per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1.	Open Elective – III	3	0	0	3	40	60	100
2.	Professional Elective – V	3	0	0	3	40	60	100
3.	Professional Elective – VI	3	0	0	3	40	60	100
4.	Project Stage – II including Seminar	0	0	22	9+2	40	60	100
<b>Total</b>		<b>9</b>	<b>0</b>	<b>22</b>	<b>20</b>	<b>160</b>	<b>240</b>	<b>400</b>

#### Professional Elective – I

IOT Applications in Electrical Engineering

High Voltage Engineering

Computer Aided Electrical Machine Design

#### Professional Elective – II

Cyber Physical Systems

Power Semiconductor Drives

Wind and Solar Energy Systems

#### Professional Elective – III

Mobile Application Development

Digital Signal Processing

Electric and Hybrid Vehicles



**Professional Elective – IV**

HVDC Transmission
Power System Reliability
Embedded Applications

**Professional Elective – V**

Power Quality and FACTS
Solar Power Batteries
AI Techniques in Electrical Engineering

**Professional Elective – VI**

Smart Grid Technologies
Electrical Distribution Systems
Machine Learning Applications to Electrical Engineering

Open Electives offered by Department of EEE are:

**Open Elective – I**

Renewable Energy Sources
Fundamental of Electric Vehicle

**Open Elective – II**

Utilization of Electric Energy
Energy Storage Systems

**Open Elective – III**

Charging Infrastructure for Electric Vehicles
Reliability Engineering

**DEPARTMENT OF MECHANICAL ENGINEERING**

**I YEAR I SEMESTER**

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1.	MA101BS	Matrices and Calculus	3	1	0	4	40	60	100
2.	AP102BS	Applied Physics	3	1	0	4	40	60	100
3.	CS104ES	C Programming and Data structures	3	0	0	3	40	60	100
4.	ME107ES	Engineering Workshop	0	1	3	2.5	40	60	100
5.	EN104HS	English for Skill Enhancement	2	0	0	2	40	60	100
6.	ME109ES	Elements of Mechanical Engineering	0	0	2	1	50	-	50
7.	AP103BS	Applied Physics Laboratory	0	0	3	1.5	40	60	100
8.	EN105HS	English Language and Communication Skills Laboratory	0	0	2	1	40	60	100
9.	CS103ES	C Programming and Data Structures Laboratory	0	0	2	1	40	60	100
		Induction Program	-	-	-	-	-	-	-
<b>Total</b>			<b>11</b>	<b>3</b>	<b>12</b>	<b>20</b>	<b>370</b>	<b>480</b>	<b>850</b>
10.	*CH109MC	Environmental Science	3	0	0	0	100	0	100

**I YEAR II SEMESTER**

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	MA201BS	Ordinary Differential Equations and Vector Calculus	3	1	0	4	40	60	100
2	CH202BS	Engineering Chemistry	3	1	0	4	40	60	100
3	ME208ES	Computer Aided Engineering Graphics	1	0	4	3	40	60	100
4	ME209ES	Engineering Mechanics	3	0	0	3	40	60	100
5	ME210PC	Engineering Materials	2	0	0	2	40	60	100
6	CS205ES	Python Programming Laboratory	0	1	2	2	40	60	100
7	CH204BS	Engineering Chemistry Laboratory	0	0	2	1	40	60	100
8	ME211PC	Fuels & Lubricants Laboratory	0	0	2	1	40	60	100
<b>Total</b>			<b>12</b>	<b>3</b>	<b>10</b>	<b>20</b>	<b>320</b>	<b>480</b>	<b>800</b>

## II YEAR I SEMESTER

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1.	PS301BS	Probability, Statistics & Complex Variables	3	1	0	4	40	60	100
2.	ME302PC	Mechanics of Solids	3	0	0	3	40	60	100
3.	ME303PC	Metallurgy & Material Science	3	0	0	3	40	60	100
4.	ME304PC	Production Technology	3	0	0	3	40	60	100
5.	ME305PC	Thermodynamics	3	1	0	4	40	60	100
6.	ME306PC	Production Technology Laboratory	0	0	2	1	40	60	100
7.	ME307PC	Material Science & Mechanics of Solids Laboratory	0	0	2	1	40	60	100
8.	ME308PC	Computer Aided Machine Drawing	0	0	2	1	40	60	100
<b>Total</b>			<b>15</b>	<b>2</b>	<b>6</b>	<b>20</b>	<b>320</b>	<b>480</b>	<b>800</b>
9.	*CI309MC	Constitution of India	3	0	0	0	100	0	100

## II YEAR II SEMESTER

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	EE411PC	Basic Electrical and Electronics Engineering	3	0	0	3	40	60	100
2	ME402PC	Kinematics of Machinery	3	0	0	3	40	60	100
3	ME403PC	Fluid Mechanics & Hydraulic Machines	3	0	0	3	40	60	100
4	ME404PC	IC Engines & Gas Turbines	3	0	0	3	40	60	100
5	ME405PC	Instrumentation and Control Systems	3	0	0	3	40	60	100
6	EE412PC	Basic Electrical and Electronics Engineering Laboratory	0	0	2	1	40	60	100
7	ME407PC	Fluid Mechanics & Hydraulic Machines Laboratory	0	0	2	1	40	60	100
8	ME408PC	Instrumentation and Control Systems Laboratory	0	0	2	1	40	60	100
9	ME409PC	Real-time Research Project/ Field-Based Project	0	0	4	2	50	-	50
<b>Total</b>			<b>15</b>	<b>0</b>	<b>10</b>	<b>20</b>	<b>370</b>	<b>480</b>	<b>850</b>
10.	*GS409MC	Gender Sensitization Laboratory	0	0	2	0	100	0	100

### III YEAR I SEMESTER

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Dynamics of Machinery	3	0	0	3	40	60	100
2	Design of Machine Elements	3	0	0	3	40	60	100
3	Metrology & Machine Tools	3	0	0	3	40	60	100
4	Business Economics & Financial Analysis	3	0	0	3	40	60	100
5	Steam Power & Jet Propulsion	3	0	0	3	40	60	100
6	CAD/CAM	2	0	0	2	40	60	100
7	Thermal Engineering Laboratory	0	0	2	1	40	60	100
8	Metrology & Machine Tools Laboratory	0	0	2	1	40	60	100
9	Kinematics & Dynamics Laboratory	0	0	2	1	40	60	100
<b>Total</b>		<b>17</b>	<b>0</b>	<b>6</b>	<b>20</b>	<b>360</b>	<b>540</b>	<b>900</b>
10	Intellectual Property Rights	3	0	0	0	100	0	100

### III YEAR II SEMESTER

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Machine Design	3	0	0	3	40	60	100
2	Heat Transfer	3	0	0	3	40	60	100
3	Finite Element Methods	3	0	0	3	40	60	100
4	Professional Elective - I	3	0	0	3	40	60	100
5	Open Elective - I	3	0	0	3	40	60	100
6	Heat Transfer Lab	0	0	2	1	40	60	100
7	Computer Aided Engineering Laboratory	0	0	2	1	40	60	100
8	Advanced English Communication Skills Laboratory	0	0	2	1	40	60	100
9	Industry Oriented Mini Project/ Internship	0	0	4	2	-	100	100
<b>Total</b>		<b>15</b>	<b>0</b>	<b>10</b>	<b>20</b>	<b>320</b>	<b>580</b>	<b>900</b>
10.	Environmental Science	3	0	0	0	100	0	100

#### IV YEAR I SEMESTER

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Industrial Management	2	0	0	2	40	60	100
2	Refrigeration & Air Conditioning	3	0	0	3	40	60	100
3	Professional Elective – II	3	0	0	3	40	60	100
4	Professional Elective – III	3	0	0	3	40	60	100
5	Professional Elective - IV	3	0	0	3	40	60	100
6	Open Elective - II	3	0	0	3	40	60	100
7	Project Stage - I	0	0	6	3	-	-	-
<b>Total</b>		<b>17</b>	<b>0</b>	<b>6</b>	<b>20</b>	<b>240</b>	<b>360</b>	<b>600</b>

#### IV YEAR II SEMESTER

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Professional Elective – V	3	0	0	3	40	60	100
2	Professional Elective - VI	3	0	0	3	40	60	100
3	Open Elective - III	3	0	0	3	40	60	100
4	Project Stage – II including seminar	0	0	22	9+2	40	60	100
<b>Total</b>		<b>9</b>	<b>0</b>	<b>22</b>	<b>20</b>	<b>160</b>	<b>240</b>	<b>400</b>

#### **Professional Elective -I**

Unconventional Machining Processes
Power Plant Engineering
Mechanical Vibrations
Microprocessors in Automation

#### **Professional Elective -II**

Artificial Intelligence in Mechanical Engineering
Automobile Engineering

Industrial Robotics
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Mechatronics
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**Professional Elective -III**

Production Planning & Control
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Computational Fluid Dynamics
------------------------------

Composite Materials
---------------------

Solar energy technology
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**Professional Elective -IV**

Re-Engineering
----------------

Non-Conventional Energy Sources
---------------------------------

Operations Research
---------------------

Electric and Hybrid Vehicles
------------------------------

**Professional Elective -V**

Automation in Manufacturing
-----------------------------

Turbo Machinery
-----------------

Additive Manufacturing
------------------------

Energy Conservation and Management
------------------------------------

**Professional Elective -VI**

Industry 4.0
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Fluid Power System
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Fuzzy Logic and ANN
---------------------

Total Quality Management
--------------------------

**Open Elective -I**

Basic Mechanical Engineering
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Renewable energy Sources
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**Open Elective -II**

Basic Mechanical Engineering
------------------------------

Renewable energy Sources
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**Open Elective -III**

Entrepreneurship Development
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Elements of Electric and Hybrid vehicles
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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**I YEAR I SEMESTER**

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	MA101BS	Matrices and Calculus	3	1	0	4	40	60	100
2	AP102BS	Applied Physics	3	1	0	4	40	60	100
3	CS108ES	C Programming for Engineers	3	0	0	3	40	60	100
4	ME107ES	Engineering Workshop	0	1	3	2.5	40	60	100
5	EN104HS	English for Skill Enhancement	2	0	0	2	40	60	100
6	EC106ES	Elements of Electronics and Communication Engineering	0	0	2	1	50	-	50
7	AP103BS	Applied Physics Laboratory	0	0	3	1.5	40	60	100
8	EN105HS	English Language and Communication Skills Laboratory	0	0	2	1	40	60	100
9	CS109ES	C Programming for Engineers Laboratory	0	0	2	1	40	60	100
<b>Total</b>			<b>11</b>	<b>3</b>	<b>12</b>	<b>20</b>	<b>370</b>	<b>480</b>	<b>850</b>
<b>Mandatory Course (Non-Credit)</b>									
10	*CH109MC	Environmental Science	3	0	0	-	100	-	100
11		Induction Programme	-	-	-	-	-	-	-

**I YEAR II SEMESTER**

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	MS201BS	Ordinary Differential Equations and Vector Calculus	3	1	0	4	40	60	100
2	CH202BS	Engineering Chemistry	3	1	0	4	40	60	100
3	ME208ES	Computer Aided Engineering Graphics	1	0	4	3	40	60	100
4	EE206ES	Basic Electrical Engineering	2	0	0	2	40	60	100
5	EC203ES	Electronic Devices and Circuits	2	0	0	2	40	60	100
6	CS208ES	Applied Python Programming Laboratory	0	1	2	2	40	60	100
7	CH204BS	Engineering Chemistry Laboratory	0	0	2	1	40	60	100
8	EE208ES	Basic Electrical Engineering Laboratory	0	0	2	1	40	60	100
9	EC204ES	Electronic Devices and Circuits Laboratory	0	0	2	1	40	60	100
<b>Total</b>			<b>11</b>	<b>3</b>	<b>12</b>	<b>20</b>	<b>360</b>	<b>540</b>	<b>900</b>

## II YEAR I SEMESTER

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	MA301BS	Numerical Methods and Complex Variables	3	1	0	4	40	60	100
2	EC302PC	Analog Circuits	3	0	0	3	40	60	100
3	EE310PC	Network analysis and Synthesis	3	0	0	3	40	60	100
4	EC303PC	Digital Logic Design	3	0	0	3	40	60	100
5	EC304PC	Signals and Systems	3	1	0	4	40	60	100
6	EC305PC	Analog Circuits Laboratory	0	0	2	1	40	60	100
7	EC306PC	Digital logic Design Laboratory	0	0	2	1	40	60	100
8	EC307ES	Basic Simulation Laboratory	0	0	2	1	40	60	100
<b>Total</b>			<b>15</b>	<b>2</b>	<b>6</b>	<b>20</b>	<b>320</b>	<b>480</b>	<b>800</b>
<b>Mandatory Course (Non-Credit)</b>									
9	*CI309MC	Constitution of India	3	0	0	-	100	-	100

## II YEAR II SEMESTER

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	EC401ES	Probability Theory and Stochastic Processes	3	0	0	3	40	60	100
2	EC402PC	Electromagnetic Fields and Transmission Lines	3	0	0	3	40	60	100
3	EC403PC	Analog and Digital Communications	3	0	0	3	40	60	100
4	EC404PC	Linear and Digital IC Applications	3	0	0	3	40	60	100
5	EC405PC	Electronic Circuit Analysis	3	0	0	3	40	60	100
6	EC406PC	Analog and Digital Communications Laboratory	0	0	2	1	40	60	100
7	EC407PC	Linear and Digital IC Applications Laboratory	0	0	2	1	40	60	100
8	EC408PC	Electronic Circuit Analysis Laboratory	0	0	2	1	40	60	100
9	EC409PC	Real Time Project/ Field Based Project	0	0	4	2	50	-	50
<b>Total</b>			<b>15</b>	<b>0</b>	<b>10</b>	<b>20</b>	<b>370</b>	<b>480</b>	<b>850</b>
<b>Mandatory Course (Non-Credit)</b>									
10	*GS409MC	Gender Sensitization Lab	0	0	2	-	100	-	100

\*MC – Satisfied/Unsatisfied



### III YEAR I SEMESTER

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Microcontrollers	3	1	0	4	40	60	100
2	IoT Architectures and Protocols	3	0	0	3	40	60	100
3	Control Systems	3	1	0	4	40	60	100
4	Business Economics & Financial Analysis	3	0	0	3	40	60	100
5	Professional Elective-I	3	0	0	3	40	60	100
6	Microcontrollers Laboratory	0	0	2	1	40	60	100
7	IoT Architectures and Protocols Laboratory	0	0	2	1	40	60	100
8	Advanced English Communication Skills Laboratory	0	0	2	1	40	60	100
Total		15	2	6	20	320	480	800
<b>Mandatory Course (Non-Credit)</b>								
9	Intellectual Property Rights	3	0	0	0	100	-	100

### III YEAR II SEMESTER

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Antennas and Wave Propagation	3	0	0	3	40	60	100
2	Digital Signal Processing	3	0	0	3	40	60	100
3	CMOS VLSI Design	3	0	0	3	40	60	100
4	<b>Professional Elective II</b>	3	0	0	3	40	60	100
5	<b>Open Elective I</b>	3	0	0	3	40	60	100
6	Digital Signal Processing Lab	0	0	2	1	40	60	100
7	CMOS VLSI Design Lab	0	0	2	1	40	60	100
8	Advanced Communication Laboratory	0	0	2	1	40	60	100
9	Industry Oriented Mini Project/ Internship	0	0	4	2	-	100	100
Total		15	0	10	20	320	580	900
<b>Mandatory Course (Non-Credit)</b>								
10	Environmental Science	3	0	0	0	100	-	100

**\*MC - Environmental Science – Should be Registered by Lateral Entry Students Only**

**IV YEAR I SEMESTER**

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Microwave and Optical Communications	3	1	0	4	40	60	100
2	<b>Professional Elective - III</b>	3	0	0	3	40	60	100
3	<b>Professional Elective - IV</b>	3	0	0	3	40	60	100
4	<b>Open Elective - II</b>	3	0	0	3	40	60	100
5	Professional Practice, Law & Ethics	3	0	0	2	40	60	100
6	Microwave and Optical Communications Lab	0	0	4	2	40	60	100
7	Project Stage-I	0	0	6	3	-	-	-
<b>Total</b>		<b>15</b>	<b>1</b>	<b>10</b>	<b>20</b>	<b>240</b>	<b>360</b>	<b>600</b>

**IV YEAR II SEMESTER**

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	<b>Professional Elective V</b>	3	0	0	3	40	60	100
2	<b>Professional Elective VI</b>	3	0	0	3	40	60	100
3	<b>Open Elective III</b>	3	0	0	3	40	60	100
4	Project Stage-II including Seminar	0	0	22	11	40	60	100
<b>Total</b>		<b>9</b>	<b>0</b>	<b>22</b>	<b>20</b>	<b>160</b>	<b>240</b>	<b>400</b>

\*MC – Satisfactory/Unsatisfactory

**Professional Elective – I**

Computer Organization & Operating Systems
Data Communications and Computer Networks
Electronic Measurements and Instrumentation

**Professional Elective – II**

Digital Image Processing
Mobile Communications and Networks
Embedded System Design

**Professional Elective – III**

Radar Systems
CMOS Analog IC Design
Artificial Neural Networks

**Professional Elective – IV**

Network Security and Cryptography
Satellite Communications
Biomedical Instrumentation

**Professional Elective – V**

Artificial Intelligence
5G and beyond Communication
Machine learning

**Professional Elective – VI**

Multimedia Database Management Systems
System on Chip Architecture
Wireless sensor Networks

**Open Electives**

Open Elective (OE – I)	Open Elective (OE – II)	Open Elective (OE – III)
1. Fundamentals of Internet of Things	1. Electronic Sensors	1. Measuring Instruments
2. Principles of Signal Processing	2. Electronics for Health Care	2. Communication Technologies
3. Digital Electronics for Engineering	3. Telecommunications for Society	3. Fundamentals of Social Networks

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**I YEAR I SEMESTER**

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	MA101BS	Matrices and Calculus	3	1	0	4	40	60	100
2	CH102BS	Engineering Chemistry	3	1	0	4	40	60	100
3	CS105ES	Programming for Problem Solving	3	0	0	3	40	60	100
4	EE106ES	Basic Electrical Engineering	2	0	0	2	40	60	100
5	ME108ES	Computer Aided Engineering Graphics	1	0	4	3	40	60	100
6	CS106ES	Elements of Computer Science & Engineering	0	0	2	1	50	-	50
7	CH104BS	Engineering Chemistry Laboratory	0	0	2	1	40	60	100
8	CS107ES	Programming for Problem Solving Laboratory	0	0	2	1	40	60	100
9	EE108ES	Basic Electrical Engineering Laboratory	0	0	2	1	40	60	100
		Induction Programme	-	-	-	-	-	-	-
Total			12	2	12	20	370	480	850

**I YEAR II SEMESTER**

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	MA201BS	Ordinary Differential Equations and Vector Calculus	3	1	0	4	40	60	100
2	AP202BS	Applied Physics	3	1	0	4	40	60	100
3	ME207ES	Engineering Workshop	0	1	3	2.5	40	60	100
4	EN204HS	English for Skill Enhancement	2	0	0	2	40	60	100
5	EC203ES	Electronic Devices and Circuits	2	0	0	2	40	60	100
6	CS205ES	Python Programming Laboratory	0	1	2	2	40	60	100
7	AP203BS	Applied Physics Laboratory	0	0	3	1.5	40	60	100
8	EN205HS	English Language and Communication Skills Laboratory	0	0	2	1	40	60	100
9	CS206ES	IT Workshop	0	0	2	1	40	60	100
Total			10	4	12	20	360	540	900
Mandatory Course (Non – Credit)									
10	*CH209MC	Environmental Science	3	0	0	0	100	-	100

II YEAR I SEMESTER

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	EC311PC	Digital Electronics	3	0	0	3	40	60	100
2	CS301PC	Data Structures	3	0	0	3	40	60	100
3	MA302BS	Computer Oriented Statistical Methods	3	1	0	4	40	60	100
4	CS304PC	Computer Organization and Architecture	3	0	0	3	40	60	100
5	CS303PC	Object Oriented Programming through Java	3	0	0	3	40	60	100
6	CS307PC	Data Structures Lab	0	0	3	1.5	40	60	100
7	CS308PC	Object Oriented Programming through Java Lab	0	0	3	1.5	40	60	100
8	CS310PC	Data visualization- R Programming/ Power BI	0	0	2	1	40	60	100
Total			15	1	8	20	320	480	800
Mandatory Course (Non – Credit)									
9	*GS309MC	Gender Sensitization Lab	0	0	2	0	100	-	100

II YEAR II SEMESTER

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	CS401PC	Discrete Mathematics	3	0	0	3	40	60	100
2	BE404MS	Business Economics & Financial Analysis	3	0	0	3	40	60	100
3	CS402PC	Operating Systems	3	0	0	3	40	60	100
4	CS405PC	Database Management Systems	3	0	0	3	40	60	100
5	CS403PC	Software Engineering	3	0	0	3	40	60	100
6	CS406PC	Operating Systems Lab	0	0	2	1	40	60	100
7	CS407PC	Database Management Systems Lab	0	0	2	1	40	60	100
8	CS410PC	Real-time Research Project/ Societal Related Project	0	0	4	2	50	-	50
9	CS411PC	Node JS/ React JS/ Django	0	0	2	1	40	60	100
Total			15	0	10	20	370	480	850
Mandatory Course (Non – Credit)									
10	*CI409MC	Constitution of India	3	0	0	0	100	-	100

\*MC – Satisfactory/Unsatisfactory

**III YEAR I SEMESTER**

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Design and Analysis of Algorithms	3	1	0	4	40	60	100
2	Computer Networks	3	0	0	3	40	60	100
3	DevOps	3	0	0	3	40	60	100
4	Professional Elective-I	3	0	0	3	40	60	100
5	Professional Elective -II	3	0	0	3	40	60	100
6	Computer Networks Lab	0	0	2	1	40	60	100
7	DevOps Lab	0	0	2	1	40	60	100
8	Advanced English Communication Skills Lab	0	0	2	1	40	60	100
9	UI design- Flutter	0	0	2	1	40	60	100
	<b>Total</b>	<b>15</b>	<b>1</b>	<b>8</b>	<b>20</b>	<b>360</b>	<b>540</b>	<b>900</b>
<b>Mandatory Course (Non – Credit)</b>								
10	Intellectual Property Rights	3	0	0	0	100	-	100

**III YEAR II SEMESTER**

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Machine Learning	3	0	0	3	40	60	100
2	Formal Languages and Automata Theory	3	0	0	3	40	60	100
3	Artificial Intelligence	3	0	0	3	40	60	100
4	Professional Elective – III	3	0	0	3	40	60	100
5	Open Elective-I	3	0	0	3	40	60	100
6	Machine Learning Lab	0	0	2	1	40	60	100
7	Artificial Intelligence Lab	0	0	2	1	40	60	100
8	Professional Elective-III Lab	0	0	2	1	40	60	100
9	Industrial Oriented Mini Project/ Internship/ Skill Development Course (Big data-Spark)	0	0	4	2	-	100	100
	<b>Total</b>	<b>15</b>	<b>0</b>	<b>10</b>	<b>20</b>	<b>320</b>	<b>580</b>	<b>900</b>
<b>Mandatory Course (Non – Credit)</b>								
10	Environmental Science	3	0	0	0	100	-	100

**Environmental Science in III Yr II Sem Should be Registered by Lateral Entry Students Only.**

**IV YEAR I SEMESTER**

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Cryptography and Network Security	3	0	0	3	40	60	100
2	Compiler Design	3	0	0	3	40	60	100
3	Professional Elective -IV	3	0	0	3	40	60	100
4	Professional Elective -V	3	0	0	3	40	60	100
5	Open Elective - II	3	0	0	3	40	60	100
6	Cryptography and Network Security Lab	0	0	2	1	40	60	100
7	Compiler Design Lab	0	0	2	1	40	60	100
8	Project Stage - I	0	0	6	3	-	-	-
<b>Total</b>		<b>15</b>	<b>0</b>	<b>10</b>	<b>20</b>	<b>280</b>	<b>420</b>	<b>700</b>

**IV YEAR II SEMESTER**

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Organizational Behaviour	3	0	0	3	40	60	100
2	Professional Elective – VI	3	0	0	3	40	60	100
3	Open Elective – III	3	0	0	3	40	60	100
4	Project Stage – II including Seminar	0	0	22	11	40	60	100
<b>Total</b>		<b>9</b>	<b>0</b>	<b>22</b>	<b>20</b>	<b>160</b>	<b>240</b>	<b>400</b>

**#Skill Course - 1 credit with 2 Practical Hours**  
**Professional Elective - I**

Quantum Computing
Advanced Computer Architecture
Data Analytics
Image Processing
Principles of Programming Languages

**Professional Elective - II**

Computer Graphics
Embedded Systems
Information Retrieval Systems
Distributed Databases
Natural Language Processing

**Professional Elective - III**

Full Stack Development
Internet of Things

Scripting Languages
Mobile Application Development
Software Testing Methodologies

# Courses in PE - III and PE - III Lab must be in 1-1 correspondence.

**Professional Elective -IV**

Graph Theory
Advanced Operating Systems
Soft Computing
Cloud Computing
Ad hoc & Sensor Networks

**Professional Elective -V**

Advanced Algorithms
Agile Methodology
Robotic Process Automation
Blockchain Technology
Software Process & Project Management

**Professional Elective – VI**

Computational Complexity
Distributed Systems
Deep Learning
Human Computer Interaction
Cyber Forensics

**Open Elective – I**

Data Structures
Database Management Systems

**Open Elective – II**

Operating Systems
Software Engineering

**Open Elective – III**

Algorithms Design and Analysis
Introduction to Computer Networks



**DEPARTMENT OF INFORMATION TECHNOLOGY**

**I YEAR I SEMESTER**

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	MA101BS	Matrices and Calculus	3	1	0	4	40	60	100
2	CH102BS	Engineering Chemistry	3	1	0	4	40	60	100
3	CS105ES	Programming for Problem Solving	3	0	0	3	40	60	100
4	EE106ES	Basic Electrical Engineering	2	0	0	2	40	60	100
5	ME108ES	Computer Aided Engineering Graphics	1	0	4	3	40	60	100
6	CS106ES	Elements of Computer Science & Engineering	0	0	2	1	50	-	50
7	CH104BS	Engineering Chemistry Laboratory	0	0	2	1	40	60	100
8	CS107ES	Programming for Problem Solving Laboratory	0	0	2	1	40	60	100
9	EE108ES	Basic Electrical Engineering Laboratory	0	0	2	1	40	60	100
10		Induction Programme	-	-	-	-	-	-	-
Total			12	2	12	20	370	480	850

**I YEAR II SEMESTER**

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	MA201BS	Ordinary Differential Equations and Vector Calculus	3	1	0	4	40	60	100
2	AP202BS	Applied Physics	3	1	0	4	40	60	100
3	ME207ES	Engineering Workshop	0	1	3	2.5	40	60	100
4	EN204HS	English for Skill Enhancement	2	0	0	2	40	60	100
5	EC203ES	Electronic Devices and Circuits	2	0	0	2	40	60	100
6	AP203BS	Applied Physics Laboratory	0	0	3	1.5	40	60	100
7	CS205ES	Python Programming Laboratory	0	1	2	2	40	60	100
8	EN205HS	English Language and Communication Skills Laboratory	0	0	2	1	40	60	100
9	CS206ES	IT Workshop	0	0	2	1	40	60	100
Total			10	4	12	20	360	540	900
Mandatory Course (Non-Credit)									
10	*CH209MC	Environmental Science	3	0	0	0	40	60	100

**II YEAR I SEMESTER**

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	EC311PC	Digital Electronics	3	0	0	3	40	60	100
2	CS301PC	Data Structures	3	0	0	3	40	60	100
3	MA302BS	Computer Oriented Statistical Methods	3	1	0	4	40	60	100
4	IT303PC	Computer Organization and Microprocessor	3	0	0	3	40	60	100
5	EC313PC	Introduction to IoT	2	0	0	2	40	60	100
6	EC312PC	Digital Electronics Lab	0	0	2	1	40	60	100
7	CS307PC	Data Structures Lab	0	0	3	1.5	40	60	100
8	EC314PC	Internet of Things Lab	0	0	3	1.5	40	60	100
9	CS310PC	Data visualization- R Programming/ Power BI	0	0	2	1	40	60	100
		<b>Total</b>	14	1	10	20	360	540	900
<b>Mandatory Course (Non - Credit)</b>									
10	*GS309MC	Gender Sensitization Lab	0	0	2	0	100	-	100

**II YEAR II SEMESTER**

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	CS401PC	Discrete Mathematics	3	0	0	3	40	60	100
2	BE404MS	Business Economics & Financial Analysis	3	0	0	3	40	60	100
3	CS402PC	Operating Systems	3	0	0	3	40	60	100
4	CS405PC	Database Management Systems	3	0	0	3	40	60	100
5	IT403PC	Java Programming	2	0	0	2	40	60	100
6	CS406PC	Operating Systems Lab	0	0	2	1	40	60	100
7	CS407PC	Database Management Systems Lab	0	0	2	1	40	60	100
8	IT408PC	Java Programming Lab	0	0	2	1	40	60	100
9	CS410PC	Real-time Research Project/ Societal Related Project	0	0	4	2	50	-	50
10	CS411PC	Node JS/ React JS/ Django	0	0	2	1	40	60	100
		<b>Total</b>	14	0	12	20	410	540	950
<b>Mandatory Course (Non - Credit)</b>									
11	*CI409MC	Constitution of India	3	0	0	0	100	-	100

\*MC – Satisfactory/Unsatisfactory

**III YEAR I SEMESTER**

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Software Engineering	3	0	0	3	40	60	100
2	Data Communications and Computer Networks	3	1	0	4	40	60	100
3	Machine Learning	3	0	0	3	40	60	100
4	Professional Elective - I	3	0	0	3	40	60	100
5	Professional Elective - II	3	0	0	3	40	60	100
6	Software Engineering & Computer Networks Lab	0	0	2	1	40	60	100
7	Machine Learning Lab	0	0	2	1	40	60	100
8	Advanced Communication Skills Lab	0	0	2	1	40	60	100
9	UI Design-Flutter	0	0	2	1	40	60	100
	<b>Total</b>	<b>15</b>	<b>1</b>	<b>8</b>	<b>20</b>	<b>360</b>	<b>540</b>	<b>900</b>
Mandatory Course (Non – Credit)								
10	Intellectual Property Rights	3	0	0	0	100	-	100

**III YEAR II SEMESTER**

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Automata Theory and Compiler Design	3	0	0	3	40	60	100
2	Algorithm Design and Analysis	3	0	0	3	40	60	100
3	Embedded Systems	3	0	0	3	40	60	100
4	Compiler Design Lab	0	0	2	1	40	60	100
5	Professional Elective - III	3	0	0	3	40	60	100
6	Open Elective - I	3	0	0	3	40	60	100
7	Embedded Systems Lab	0	0	2	1	40	60	100
8	Professional Elective – III Lab	0	0	2	1	40	60	100
9	Industrial Oriented Mini Project / Internship / Skill Development Course (Big data-Spark)	0	0	4	2	-	100	100
	<b>Total</b>	<b>15</b>	<b>0</b>	<b>10</b>	<b>20</b>	<b>320</b>	<b>580</b>	<b>900</b>
Mandatory Course (Non – Credit)								
10	Environmental Science	3	0	0	0	100	-	100

**Environmental Science in III Yr II Sem Should be Registered by Lateral Entry Students Only.**

**IV YEAR I SEMESTER**

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Information Security	3	0	0	3	40	60	100
2	Cloud Computing	3	0	0	3	40	60	100
3	Professional Elective -IV	3	0	0	3	40	60	100
4	Professional Elective -V	3	0	0	3	40	60	100
5	Open Elective - II	3	0	0	3	40	60	100
6	Information Security Lab	0	0	2	1	40	60	100
7	Cloud Computing Lab	0	0	2	1	40	60	100
8	Project Stage - I	0	0	6	3	-	-	-
<b>Total</b>		<b>15</b>	<b>0</b>	<b>10</b>	<b>20</b>	<b>280</b>	<b>420</b>	<b>700</b>

**IV YEAR II SEMESTER**

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Organizational Behaviour	3	0	0	3	40	60	100
2	Professional Elective – VI	3	0	0	3	40	60	100
3	Open Elective – III	3	0	0	3	40	60	100
4	Project Stage – II including Seminar	0	0	22	11	40	60	100
<b>Total</b>		<b>9</b>	<b>0</b>	<b>22</b>	<b>20</b>	<b>160</b>	<b>240</b>	<b>400</b>

\*MC – Satisfactory/Unsatisfactory

#Skill Course - 1 credit with 2 Practical Hours

**Professional Elective – I**

Biometrics
Advanced Computer Architecture
Data Analytics
Image Processing
Principles of Programming Languages

**Professional Elective - II**

Computer Graphics
Quantum Computing
Advanced Operating Systems
Distributed Databases
Pattern Recognition

**Professional Elective - III**

Full Stack Development
Data Mining
Scripting Languages
Mobile Application Development

Software Testing Methodologies
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# Courses in PE - III and PE - III Lab must be in 1-1 correspondence

**Professional Elective - IV**

Human Computer Interaction
High Performance Computing
Artificial Intelligence
Information Retrieval Systems
Ad-hoc & Sensor Networks

**Professional Elective - V**

Intrusion Detection Systems
Real Time Systems
Blockchain Technology
Deep Learning
Software Process & Project Management

**Professional Elective - VI**

Natural Language Processing
Distributed Systems
Augmented Reality & Virtual Reality
Web Security
Cyber Forensics

**Open Elective -1:**

1. Java Programming
2. Object Oriented Programming using C++

**Open Elective -2:**

1. Full Stack development
2. Scripting Languages

**Open Elective -3:**

1. Big Data Technologies
2. DevOp

**DEPARTMENT OF COMPUTER SCIENCE ENGINEERING (AI & ML)**

**I YEAR I SEMESTER**

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	MA101BS	Matrices and Calculus	3	1	0	4	40	60	100
2	AP102BS	Applied Physics	3	1	0	4	40	60	100
3	CS105ES	Programming for Problem Solving	3	0	0	3	40	60	100
4	ME107ES	Engineering Workshop	0	1	3	2.5	40	60	100
5	EN104HS	English for Skill Enhancement	2	0	0	2	40	60	100
6	CS106ES	Elements of Computer Science & Engineering	0	0	2	1	50	-	50
7	AP103BS	Applied Physics Laboratory	0	0	3	1.5	40	60	100
8	CS107ES	Programming for Problem Solving Laboratory	0	0	2	1	40	60	100
9	EN105HS	English Language and Communication Skills Laboratory	0	0	2	1	40	60	100
		Induction Program							
Total			11	3	12	20	370	480	850
10	*CH109MC	Environmental Science	3	0	0	0	100	0	100

**I YEAR II SEMESTER**

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	MA201BS	Ordinary Differential Equations and Vector Calculus	3	1	0	4	40	60	100
2	CH202BS	Engineering Chemistry	3	1	0	4	40	60	100
3	ME208ES	Computer Aided Engineering Graphics	1	0	4	3	40	60	100
4	EE206ES	Basic Electrical Engineering	2	0	0	2	40	60	100
5	EC203ES	Electronic Devices and Circuits	2	0	0	2	40	60	100
6	CH204BS	Engineering Chemistry Laboratory	0	0	2	1	40	60	100
7	EE208ES	Basic Electrical Engineering Laboratory	0	0	2	1	40	60	100
8	CS205ES	Python Programming Laboratory	0	1	2	2	40	60	100
9	CS206ES	IT Workshop	0	0	2	1	40	60	100
Total			11	3	12	20	360	540	900

II YEAR I SEMESTER

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	MA303BS	Mathematical and Statistical Foundations	3	0	0	4	40	60	100
2	CS301PC	Data Structures	3	0	0	3	40	60	100
3	CS304PC	Computer Organization and Architecture	3	0	0	3	40	60	100
4	CSM306PC	Software Engineering	3	0	0	3	40	60	100
5	CSM305PC	Operating Systems	3	0	0	3	40	60	100
6	CS307PC	Introduction to Data Structures Lab	0	0	3	1	40	60	100
7	CSM311PC	Operating Systems Lab	0	0	3	1	40	60	100
8	CSM308PC	Software Engineering Lab	0	0	2	1	40	60	100
9	CS312PC	Node JS/ React JS/Django	0	0	2	1	40	60	100
<b>Total</b>			<b>15</b>	<b>0</b>	<b>10</b>	<b>20</b>	<b>360</b>	<b>540</b>	<b>900</b>
10	*CI309MC	Constitution of India	3	0	0	0	40	60	100

II YEAR II SEMESTER

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	CS401PC	Discrete Mathematics	3	0	0	3	40	60	100
2	CSM404PC	Automata Theory and Compiler Design	3	0	0	3	40	60	100
3	CS405PC	Database Management Systems	3	0	0	3	40	60	100
4	CSM406PC	Introduction to Artificial Intelligence	3	0	0	3	40	60	100
5	CS403PC	Object Oriented Programming through Java	3	0	0	3	40	60	100
6	CS407PC	Database Management Systems Lab	0	0	2	1	40	60	100
7	IT408PC	Java Programming Lab	0	0	2	1	40	60	100
8	CS410PC	Real-time Research Project/Field-Based Research Project	0	0	4	2	50	-	50
9	CSM411PC	Prolog/ Lisp/ Pyswip	0	0	2	1	40	60	100
<b>Total</b>			<b>15</b>	<b>0</b>	<b>10</b>	<b>20</b>	<b>370</b>	<b>480</b>	<b>850</b>
10	GS409MC	Gender Sensitization Lab	0	0	2	0	100	-	100

III YEAR I SEMESTER

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Design and Analysis of Algorithms	3	1	0	4	40	60	100
2	Machine Learning	3	0	0	3	40	60	100
3	Computer Networks	3	0	0	3	40	60	100
4	Business Economics & Financial Analysis	3	0	0	3	40	60	100
5	Professional Elective-I	3	0	0	3	40	60	100
6	Machine Learning Lab	0	0	2	1	40	60	100
7	Computer Networks Lab	0	0	2	1	40	60	100
8	Advanced Communication Skills lab	0	0	2	1	40	60	100
9	Skill Development Course (UI design-Flutter)	0	0	2	1	40	60	100
<b>Total</b>		<b>15</b>	<b>1</b>	<b>08</b>	<b>20</b>	<b>360</b>	<b>540</b>	<b>900</b>
<b>Mandatory Course (Non-Credit)</b>								
10	Intellectual Property Rights	3	0	0	0	100	-	100

III YEAR II SEMESTER

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Knowledge Representation and Reasoning	3	0	0	3	40	60	100
2	Data Analytics	3	0	0	3	40	60	100
3	Natural Language Processing	3	0	0	3	40	60	100
4	Professional Elective – II	3	0	0	3	40	60	100
5	Open Elective-I	3	0	0	3	40	60	100
6	Natural Language Processing Lab	0	0	3	1.5	40	60	100
7	Principles of Data Analytics Lab	0	0	3	1.5	40	60	100
8	Industrial Oriented Mini Project/ Internship/Skill Development Course (DevOps)	0	0	4	2		100	100
<b>Total</b>		<b>15</b>	<b>0</b>	<b>10</b>	<b>20</b>	<b>280</b>	<b>520</b>	<b>800</b>
<b>Mandatory Course (Non-Credit)</b>								
9	Environmental Science	3	0	0	0	100	-	100

\*MC – Environmental Science – Should be Registered by Lateral Entry Students Only



**IV YEAR I SEMESTER**

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Deep Learning	3	0	0	3	40	60	100
2	Nature Inspired Computing	2	0	0	2	40	60	100
3	Professional Elective -III	3	0	0	3	40	60	100
4	Professional Elective -IV	3	0	0	3	40	60	100
5	Open Elective - II	3	0	0	3	40	60	100
6	Professional Practice, Law & Ethics	0	0	4	2	40	60	100
7	Professional Elective - III Lab	0	0	2	1	40	60	100
8	Project Stage - I	0	0	6	3	-	-	-
<b>Total</b>		<b>14</b>	<b>0</b>	<b>12</b>	<b>20</b>	<b>280</b>	<b>420</b>	<b>700</b>

**IV YEAR II SEMESTER**

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Professional Elective - V	3	0	0	3	40	60	100
2	Professional Elective – VI	3	0	0	3	40	60	100
3	Open Elective – III	3	0	0	3	40	60	100
4	Project Stage – II including Seminar	0	0	22	9+2	40	60	100
<b>Total</b>		<b>9</b>	<b>0</b>	<b>22</b>	<b>20</b>	<b>160</b>	<b>240</b>	<b>400</b>

\*MC – Satisfactory/Unsatisfactory

**List of Professional Electives**

**Professional Elective - I**

Graph Theory
Introduction to Data Science
Web Programming
Image Processing
Computer Graphics

**Professional Elective - II**

Software Testing Methodologies
Information Retrieval Systems
Pattern Recognition
Computer Vision and Robotics
Data Warehousing and Business Intelligence

**Professional Elective - III**

Internet of Things
Data Mining
Scripting Languages
Mobile Application Development
Cloud Computing

# Courses in PE - III and PE - III Lab must be in 1-1 correspondence.

Professional Elective -IV

Quantum Computing
Expert Systems
Semantic Web
Game Theory
Mobile Computing

Professional Elective - V

Social Network Analysis
Federated Machine Learning
Augmented Reality & Virtual Reality
Web Security
Ad-hoc & Sensor Networks

Professional Elective – VI

Speech and Video Processing
Robotic Process Automation
Randomized Algorithms
Cognitive Computing
Conversational AI

**Open Elective I:**

1. Fundamentals of AI
2. Machine Learning Basics

**Open Elective II:**

1. Introduction to Natural Language Processing
2. AI applications

**Open Elective III:**

1. Chatbots
2. Genetic Algorithms & Fuzzy logic

## DEPARTMENT OF COMPUTER SCIENCE AND DESIGN

### I YEAR I SEMESTER

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	MA101BS	Matrices and Calculus	3	1	0	4	40	60	100
2	CH102BS	Engineering Chemistry	3	1	0	4	40	60	100
3	CS105ES	Programming for Problem Solving	3	0	0	3	40	60	100
4	EE106ES	Basic Electrical Engineering	2	0	0	2	40	60	100
5	ME108ES	Computer Aided Engineering Graphics	1	0	4	3	40	60	100
6	CS106ES	Elements of Computer Science & Engineering	0	0	2	1	50	-	50
7	CH104BS	Engineering Chemistry Laboratory	0	0	2	1	40	60	100
8	CS107ES	Programming for Problem Solving Laboratory	0	0	2	1	40	60	100
9	EE108ES	Basic Electrical Engineering Laboratory	0	0	2	1	40	60	100
10		Induction Program	-	-	-	-	-	-	-
<b>Total</b>			<b>12</b>	<b>2</b>	<b>12</b>	<b>20</b>	<b>370</b>	<b>480</b>	<b>850</b>

### I YEAR II SEMESTER

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	MA201BS	Ordinary Differential Equations and Vector Calculus	3	1	0	4	40	60	100
2	AP202BS	Applied Physics	3	1	0	4	40	60	100
3	ME207ES	Engineering Workshop	0	1	3	2.5	40	60	100
4	EN204HS	English for Skill Enhancement	2	0	0	2	40	60	100
5	EC203ES	Electronic Devices and Circuits	2	0	0	2	40	60	100
6	AP203BS	Applied Physics Laboratory	0	0	3	1.5	40	60	100
7	CS205ES	Python Programming Laboratory	0	1	2	2	40	60	100
8	EN205HS	English Language and Communication Skills Laboratory	0	0	2	1	40	60	100
9	CS206ES	IT Workshop	0	0	2	1	40	60	100
<b>Total</b>			<b>10</b>	<b>4</b>	<b>12</b>	<b>20</b>	<b>360</b>	<b>540</b>	<b>900</b>
<b>MANDATORY COURSE (NON – CREDIT)</b>									
10	*CH209MC	Environmental Science	3	0	0	0	100	-	100

MC – Satisfactory/Unsatisfactory

**II YEAR I SEMESTER**

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	EC311PC	Digital Electronics	3	0	0	3	40	60	100
2	CS301PC	Data Structures	3	0	0	3	40	60	100
3	MA302BS	Computer Oriented Statistical Methods	3	1	0	4	40	60	100
4	CS304PC	Computer Organization and Architecture	3	0	0	3	40	60	100
5	CS303PC	Object Oriented Programming through Java	3	0	0	3	40	60	100
6	CS307PC	Data Structures Lab	0	0	3	1.5	40	60	100
7	CS308PC	Object Oriented Programming through Java Lab	0	0	3	1.5	40	60	100
8	CS310PC	Data visualization- R Programming/ Power BI	0	0	2	1	40	60	100
Total			15	1	8	20	320	480	800
<b>MANDATORY COURSE (NON – CREDIT)</b>									
9	*GS309MC	Gender Sensitization Lab	0	0	2	0	100	-	100

**II YEAR II SEMESTER**

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	CS401PC	Discrete Mathematics	3	0	0	3	40	60	100
2	BE404MS	Business Economics & Financial Analysis	3	0	0	3	40	60	100
3	CS402PC	Operating Systems	3	0	0	3	40	60	100
4	CS405PC	Database Management Systems	3	0	0	3	40	60	100
5	CS403PC	Software Engineering	3	0	0	3	40	60	100
6	CS406PC	Operating Systems Lab	0	0	2	1	40	60	100
7	CS407PC	Database Management Systems Lab	0	0	2	1	40	60	100
8	CSG410PC	Real-time Research Project/ Field Based Research Project	0	0	4	2	50	-	50
9	CS411PC	Node JS/ React JS/ Django	0	0	2	1	40	60	100
Total			15	0	10	20	370	480	850
<b>MANDATORY COURSE (NON – CREDIT)</b>									
10	*CI409MC	Constitution of India	3	0	0	0	100	-	100

MC – Satisfactory/Unsatisfactory

**III YEAR I SEMESTER**

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Design Thinking	3	1	0	4	40	60	100
2	Computer Networks	3	0	0	3	40	60	100
3	Computer Graphics	3	0	0	3	40	60	100
4	Professional Elective-I	3	0	0	3	40	60	100
5	Professional Elective -II	3	0	0	3	40	60	100
6	Computer Networks Lab	0	0	2	1	40	60	100
7	Computer Graphics Lab	0	0	2	1	40	60	100
8	Advanced Communication Skills Lab	0	0	2	1	40	60	100
9	Skill Development Course( UI design- Flutter)	0	0	2	1	40	60	100
<b>Total</b>		<b>15</b>	<b>1</b>	<b>8</b>	<b>20</b>	<b>360</b>	<b>540</b>	<b>900</b>
<b>MANDATORY COURSE (Non – Credit)</b>								
10	Intellectual Property Rights	3	0	0	0	100	-	100

**III YEAR II SEMESTER**

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Algorithm Design and Analysis	3	0	0	3	40	60	100
2	Formal Languages and Automata Theory	3	0	0	3	40	60	100
3	Introduction to Engineering Design	3	0	0	3	40	60	100
4	Professional Elective – III	3	0	0	3	40	60	100
5	Open Elective-I	3	0	0	3	40	60	100
6	Engineering Design Lab	0	0	4	2	40	60	100
7	Professional Elective-III Lab	0	0	2	1	40	60	100
8	Industrial Oriented Mini Project/ Internship/Skill Development Course (Google Animation/ Hadoop Flash/ Open Toonz)	0	0	4	2	-	100	100
<b>Total</b>		<b>15</b>	<b>0</b>	<b>10</b>	<b>20</b>	<b>280</b>	<b>520</b>	<b>800</b>
<b>MANDATORY COURSE (NON – CREDIT)</b>								
10	Environmental Science	3	0	0	0	100	-	100

**Environmental Science in III Yr II Sem Should be Registered by Lateral Entry Students Only.**

**IV YEAR I SEMESTER**

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Design Drawing and Visualization	3	0	0	3	40	60	100
2	Compiler Design	3	0	0	3	40	60	100
3	Professional Elective -IV	3	0	0	3	40	60	100
4	Professional Elective -V	3	0	0	3	40	60	100
5	Open Elective – II	3	0	0	3	40	60	100
6	Design Drawing and Visualization Lab	0	0	2	1	40	60	100
7	Compiler Design Lab	0	0	2	1	40	60	100
8	Project Stage – I	0	0	6	3	-	-	-
<b>Total</b>		<b>15</b>	<b>0</b>	<b>10</b>	<b>20</b>	<b>280</b>	<b>420</b>	<b>700</b>

**IV YEAR II SEMESTER**

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Organizational Behaviour	3	0	0	3	40	60	100
2	Professional Elective – VI	3	0	0	3	40	60	100
3	Open Elective – III	3	0	0	3	40	60	100
4	Seminar	0	0	4	2	-	-	-
5	Project Stage – II	0	0	18	9	40	60	100
<b>Total</b>		<b>9</b>	<b>0</b>	<b>22</b>	<b>20</b>	<b>160</b>	<b>240</b>	<b>400</b>

<b>Professional Elective-I</b>		<b>Professional Elective - II</b>	
Quantum Computing		Design Process and Prospects	
Design of Interactive Systems		Embedded Systems	
Data Analytics		Information Retrieval Systems	
Image Processing		Distributed Databases	
Systems Management		Natural Language Processing	
<b>Professional Elective - III</b>		<b>Professional Elective -IV</b>	
Full Stack Development		Graph Theory	
Internet of Things		Virtual Reality	
Scripting Languages		Soft Computing	
Mobile Application Development		Cloud Computing	
Software Testing Methodologies		Ad hoc & Sensor Networks	
<b>Professional Elective - V</b>		<b>Professional Elective – VI</b>	
Computer Game Design and Programming		Computer Vision and Robotics	
Agile Methodology		Computer Aided Geometric design	
Robotic Process Automation		Deep Learning	
Simulation and Modeling		Human Computer Interaction	

Visual Design and Communications	VFX Animation
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**Courses in PE - III and PE - III Lab must be in 1-1 correspondence**

Open Electives offered by the Department of CSD for Others

Open Elective -I	Open Elective -II	Open Elective -III
Data Structures	Operating Systems	Algorithms Design and Analysis
Database Management Systems	Software Engineering	Introduction to Computer Networks

**DEPARTMENT OF ARTIFICIAL INTELLIGENCE & MACHINE LEARNING**

**I YEAR I SEMESTER**

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	MA101BS	Matrices and Calculus	3	1	0	4	40	60	100
2	AP102BS	Applied Physics	3	1	0	4	40	60	100
3	CS105ES	Programming for Problem Solving	3	0	0	3	40	60	100
4	ME107ES	Engineering Workshop	0	1	3	2.5	40	60	100
5	EN104HS	English for Skill Enhancement	2	0	0	2	40	60	100
6	CS106ES	Elements of Computer Science & Engineering	0	0	2	1	50	-	50
7	AP103BS	Applied Physics Laboratory	0	0	3	1.5	40	60	100
8	CS107ES	Programming for Problem Solving Laboratory	0	0	2	1	40	60	100
9	EN105HS	English Language and Communication Skills Laboratory	0	0	2	1	40	60	100
10		Induction Programme							
<b>Total</b>			11	3	12	20	370	480	850
Mandatory Course (Non-Credit)									
11	*CH109MC	Environmental Science	3	0	0	0	100	-	100

**I YEAR II SEMESTER**

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	MA201BS	Ordinary Differential Equations and Vector Calculus	3	1	0	4	40	60	100
2	CH202BS	Engineering Chemistry	3	1	0	4	40	60	100
3	ME208ES	Computer Aided Engineering Graphics	1	0	4	3	40	60	100
4	EE206ES	Basic Electrical Engineering	2	0	0	2	40	60	100
5	EC203ES	Electronic Devices and Circuits	2	0	0	2	40	60	100
6	CH204BS	Engineering Chemistry Laboratory	0	0	2	1	40	60	100
7	EE208ES	Basic Electrical Engineering Laboratory	0	0	2	1	40	60	100
8	CS205ES	Python Programming Laboratory	0	1	2	2	40	60	100
9	CS206ES	IT Workshop	0	0	2	1	40	60	100
<b>Total</b>			11	3	12	20	360	540	900



**II YEAR I SEMESTER**

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	MA303BS	Mathematical and Statistical Foundations	3	1	0	4	40	60	100
2	CS301PC	Data Structures	3	0	0	3	40	60	100
3	CS304PC	Computer Organization and Architecture	3	0	0	3	40	60	100
4	AIM306PC	Software Engineering	3	0	0	3	40	60	100
5	AIM305PC	Operating Systems	3	0	0	3	40	60	100
6	CS307PC	Introduction to Data Structures Lab	0	0	2	1	40	60	100
7	AIM311PC	Operating Systems Lab	0	0	2	1	40	60	100
8	AIM308PC	Software Engineering Lab	0	0	2	1	40	60	100
9	CS312PC	Node JS/ React JS/Django	0	0	2	1	40	60	100
<b>Total</b>			<b>15</b>	<b>1</b>	<b>8</b>	<b>20</b>	<b>360</b>	<b>540</b>	<b>900</b>
Mandatory Course (Non-Credit)									
10	*CI309MC	Constitution of India	3	0	0	0	100	-	100

**II YEAR II SEMESTER**

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	CS401PC	Discrete Mathematics	3	0	0	3	40	60	100
2	AIM404PC	Automata Theory and Compiler Design	3	0	0	3	40	60	100
3	CS405PC	Database Management Systems	3	0	0	3	40	60	100
4	AIM406PC	Introduction to Artificial Intelligence	3	0	0	3	40	60	100
5	AIM403PC	Object Oriented Programming through Java	3	0	0	3	40	60	100
6	CS407PC	Database Management Systems Lab	0	0	2	1	40	60	100
7	IT408PC	Java Programming Lab	0	0	2	1	40	60	100
8	CS410PC	Real-time Research Project/Field-Based Research Project	0	0	4	2	50	-	50
9	AIM411PC	Prolog/ Lisp/ Pyswip	0	0	2	1	40	60	100
<b>Total</b>			<b>15</b>	<b>0</b>	<b>10</b>	<b>20</b>	<b>370</b>	<b>480</b>	<b>850</b>
Mandatory Course (Non-Credit)									
10	*GS409MC	Gender Sensitization Lab	0	0	2	0	100	-	100

III YEAR I SEMESTER

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Design and Analysis of Algorithms	3	1	0	4	40	60	100
2	Machine Learning	3	0	0	3	40	60	100
3	Computer Networks	3	0	0	3	40	60	100
4	Business Economics & Financial Analysis	3	0	0	3	40	60	100
5	Professional Elective-I	3	0	0	3	40	60	100
6	Machine Learning Lab	0	0	2	1	40	60	100
7	Computer Networks Lab	0	0	2	1	40	60	100
8	Advanced English Communication Skills Lab	0	0	2	1	40	60	100
9	UI design- Flutter	0	0	2	1	40	60	100
<b>Total</b>		<b>15</b>	<b>1</b>	<b>08</b>	<b>20</b>	<b>360</b>	<b>540</b>	<b>900</b>
<b>Mandatory Course (Non-Credit)</b>								
10	Intellectual Property Rights	3	0	0	0	100	-	100

III YEAR II SEMESTER

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Knowledge Representation and Reasoning	3	0	0	3	40	60	100
2	Data Analytics	3	0	0	3	40	60	100
3	Natural Language Processing	3	0	0	3	40	60	100
4	Professional Elective – II	3	0	0	3	40	60	100
5	Open Elective-I	3	0	0	3	40	60	100
6	Natural Language Processing Lab	0	0	3	1.5	40	60	100
7	Principles of Data Analytics Lab	0	0	3	1.5	40	60	100
8	Industrial Oriented Mini Project/ Internship/Skill Development Course (DevOps)	0	0	4	2	-	100	100
<b>Total</b>		<b>15</b>	<b>0</b>	<b>10</b>	<b>20</b>	<b>280</b>	<b>520</b>	<b>800</b>
<b>Mandatory Course (Non-Credit)</b>								
9	Environmental Science	3	0	0	0	100	-	100

\*MC – Environmental Science – Should be Registered by Lateral Entry Students Only

**IV YEAR I SEMESTER**

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Deep Learning	3	0	0	3	40	60	100
2	Nature Inspired Computing	2	0	0	2	40	60	100
3	Professional Elective -III	3	0	0	3	40	60	100
4	Professional Elective -IV	3	0	0	3	40	60	100
5	Open Elective - II	3	0	0	3	40	60	100
6	Professional Practice, Law & Ethics	0	0	4	2	40	60	100
7	Professional Elective - III Lab	0	0	2	1	40	60	100
8	Project Stage - I	0	0	6	3	-	-	-
Total		14	0	12	20	280	420	700

**IV YEAR II SEMESTER**

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Professional Elective - V	3	0	0	3	40	60	100
2	Professional Elective – VI	3	0	0	3	40	60	100
3	Open Elective – III	3	0	0	3	40	60	100
4	Project Stage – II including Seminar	0	0	22	11	40	60	100
Total		9	0	22	20	160	240	400

\*MC – Satisfactory/Unsatisfactory  
Professional Elective - I

Graph Theory
Introduction to Data Science
Web Programming
Image Processing
Computer Graphics

**Professional Elective - II**

Software Testing Methodologies
Information Retrieval Systems
Pattern Recognition
Computer Vision and Robotics
Data Warehousing and Business Intelligence

Professional Elective - III

Internet of Things
Data Mining
Scripting Languages
Mobile Application Development
Cloud Computing

# Courses in PE - III and PE - III Lab must be in 1-1 correspondence.

Professional Elective -IV

Quantum Computing
Expert Systems
Semantic Web
Game Theory
Mobile Computing

Professional Elective - V

Social Network Analysis
Federated Machine Learning
Augmented Reality & Virtual Reality
Web Security
Ad-hoc & Sensor Networks

Professional Elective – VI

Speech and Video Processing
Robotic Process Automation
Randomized Algorithms
Cognitive Computing
Conversational AI

Open Elective I:

1. Fundamentals of AI
2. Machine Learning Basics

Open Elective II:

1. Introduction to Natural Language Processing
2. AI applications

Open Elective III:

1. Chatbots
2. Genetic Algorithms & Fuzzy logic

**DEPARTMENT OF ARTIFICIAL INTELLIGENCE & DATA SCIENCE**

**I YEAR I SEMESTER**

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	MA101BS	Matrices and Calculus	3	1	0	4	40	60	100
2	AP102BS	Applied Physics	3	1	0	4	40	60	100
3	CS105ES	Programming for Problem Solving	3	0	0	3	40	60	100
4	ME107ES	Engineering Workshop	0	1	3	2.5	40	60	100
5	EN104HS	English for Skill Enhancement	2	0	0	2	40	60	100
6	CS106ES	Elements of Computer Science & Engineering	0	0	2	1	50	-	50
7	AP103BS	Applied Physics Laboratory	0	0	3	1.5	40	60	100
8	CS107ES	Programming for Problem Solving Laboratory	0	0	2	1	40	60	100
9	EN105HS	English Language and Communication Skills Laboratory	0	0	2	1	40	60	100
		Induction Program							
Total			11	3	12	20	370	480	850
<b>Mandatory Course (Non-Credit)</b>									
10	*CH109MC	Environmental Science	3	0	0	0	100	-	100

**I YEAR II SEMESTER**

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	MA201BS	Ordinary Differential Equations and Vector Calculus	3	1	0	4	40	60	100
2	CH202BS	Engineering Chemistry	3	1	0	4	40	60	100
3	ME208ES	Computer Aided Engineering Graphics	1	0	4	3	40	60	100
4	EE206ES	Basic Electrical Engineering	2	0	0	2	40	60	100
5	EC203ES	Electronic Devices and Circuits	2	0	0	2	40	60	100
6	CH204BS	Engineering Chemistry Laboratory	0	0	2	1	40	60	100
7	EE208ES	Basic Electrical Engineering Laboratory	0	0	2	1	40	60	100
8	CS205ES	Python Programming Laboratory	0	1	2	2	40	60	100
9	CS206ES	IT Workshop	0	0	2	1	40	60	100
Total			11	3	12	20	360	540	900

**II YEAR I SEMESTER**

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	MA303BS	Mathematical and Statistical Foundations	3	0	0	3	40	60	100
2	EC311PC	Digital Electronics	3	0	0	3	40	60	100
3	CS301PC	Data Structures	3	0	0	3	40	60	100
4	CS303PC	Object Oriented Programming through Java	3	0	0	3	40	60	100
5	CS302PC	Computer Organization and Architecture	3	0	0	3	40	60	100
6	EC312PC	Digital Electronics Lab	0	0	2	1	40	60	100
7	CS307PC	Introduction to Data Structures Lab	0	0	3	1.5	40	60	100
8	CS306PC	Java Programming Lab	0	0	3	1.5	40	60	100
9	CS310PC	Data visualization- R Programming/ Power BI	0	0	2	1	40	60	100
Total			15	0	10	20	360	540	900
<b>Mandatory Course (Non-Credit)</b>									
10	*CI309MC	Constitution of India	3	0	0	0	100	-	100

**II YEAR II SEMESTER**

S. No.	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Internal (CIE)	External (SEE)	Total
1	CS401PC	Discrete Mathematics	3	0	0	3	40	60	100
2	AID404PC	Introduction to Artificial Intelligence	3	0	0	3	40	60	100
3	CS405PC	Database Management Systems	3	0	0	3	40	60	100
4	CS402PC	Operating Systems	3	0	0	3	40	60	100
5	CS403PC	Software Engineering	3	0	0	3	40	60	100
6	CS406PC	Operating Systems Lab	0	0	2	1	40	60	100
7	CS407PC	Database Management Systems Lab	0	0	2	1	40	60	100
8	CS410PC	Real-time Research Project/Field Based Research Project	0	0	4	2	50	-	50
9	CS411PC	Node JS/ React JS/ Django	0	0	2	1	40	60	100
Total			15	0	10	20	370	480	850
<b>Mandatory Course (Non-Credit)</b>									
10	*GS409MC	Gender Sensitization Lab	0	0	2	0	100	-	100

\*MC – Satisfactory/ Unsatisfactory

III YEAR I SEMESTER

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Design and Analysis of Algorithms	3	1	0	4	40	60	100
2	Introduction to Data Science	3	0	0	3	40	60	100
3	Computer Networks	3	0	0	3	40	60	100
4	Business Economics & Financial Analysis	3	0	0	3	40	60	100
5	Professional Elective-I	3	0	0	3	40	60	100
6	Introduction to Data Science using R Lab	0	0	2	1	40	60	100
7	Computer Networks Lab	0	0	2	1	40	60	100
8	Advanced English Communication Skills lab	0	0	2	1	40	60	100
9	ETL-Kafka/Talend	0	0	2	1	40	60	100
Total		15	1	08	20	360	540	900
<b>Mandatory Course (Non-Credit)</b>								
10	Intellectual Property Rights	3	0	0	0	100	-	100

III YEAR II SEMESTER

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Automata theory and Compiler Design	3	0	0	3	40	60	100
2	Machine Learning	3	0	0	3	40	60	100
3	Big Data Analytics	3	0	0	3	40	60	100
4	Professional Elective – II	3	0	0	3	40	60	100
5	Open Elective-I	3	0	0	3	40	60	100
6	Principles of Machine Learning Lab	0	0	3	1.5	40	60	100
7	Big Data Analytics Lab	0	0	3	1.5	40	60	100
8	Industrial Oriented Mini Project/ Internship/Skill Development Course (UI design- Flutter)	0	0	4	2	-	100	100
Total		15	0	10	20	280	520	800
<b>Mandatory Course (Non-Credit)</b>								
9	Environmental Science	3	0	0	0	100	-	100

Environmental Science in III Yr II Sem Should be Registered by Lateral Entry Students Only.

IV YEAR I SEMESTER

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Introduction to Predictive Analytics	2	0	0	2	40	60	100
2	Web and Social Media Analytics	3	0	0	3	40	60	100
3	Professional Elective -III	3	0	0	3	40	60	100
4	Professional Elective -IV	3	0	0	3	40	60	100
5	Open Elective - II	3	0	0	3	40	60	100
6	Professional Practice, Law & Ethics	0	0	4	2	40	60	100
7	Professional Elective -III Lab	0	0	2	1	40	60	100
8	Project Stage - I	0	0	6	3	-	-	-
Total		14	0	12	20	280	420	700

IV YEAR II SEMESTER

S. No.	Course Title	Hours per Week			Credits	Maximum Marks		
		L	T	P		Internal (CIE)	External (SEE)	Total
1	Professional Elective – V	3	0	0	3	40	60	100
2	Professional Elective – VI	3	0	0	3	40	60	100
3	Open Elective – III	3	0	0	3	40	60	100
4	Project Stage – II including Seminar	0	0	22	11	40	60	100
Total		9	0	22	20	160	240	400

#Skill Course - 1 credit with 2 Practical Hours

**Professional Elective-I**

Graph Theory
Advanced Computer Architecture
Web Programming
Image Processing
Computer Graphics

**Professional Elective - II**

Software Testing Methodologies
Information Retrieval Systems
Pattern Recognition
Computer Vision and Robotics
Data Warehousing and Business Intelligence

**Professional Elective - III**

Internet of Things
Data Mining
Scripting Languages



Mobile Application Development
Cryptography and Network Security

# Courses in PE - III and PE - III Lab must be in 1-1 correspondence.

**Professional Elective -IV**

Quantum Computing
Expert Systems
Cloud Computing
Game Theory
Knowledge Representation and Reasoning

**Professional Elective - V**

Social Network Analysis
Federated Machine Learning
Augmented Reality & Virtual Reality
Web Security
Ad-hoc & Sensor Networks

**Professional Elective – VI**

Speech and Video Processing
Robotic Process Automation
Randomized Algorithms
Cognitive Computing
Semantic Web

**Open Elective I:**

1. Fundamentals of AI
2. Machine Learning Basics

**Open Elective II:**

1. Introduction to Natural Language Processing
2. AI applications

**Open Elective III:**

1. Chatbots
2. Genetic Algorithms & Fuzzy logic

2. The following SMEC R22 Common Subjects Syllabus (Subjects offering to the other departments) of B. Tech. I-I, I-II, II-I, & II-II by H & S (Mathematics, Physics, Chemistry, English & Management), EEE, ME, ECE, CSE, IT & CSE (AI & ML) departments were presented, discussed and approved.

S. No.	Department	Course Code	Subject Name	Offering Departments	
				Year & Semester	Departments
1	Mathematics	MA101BS	Matrices and Calculus	I-I	CE, EEE, ME, ECE, CSE, IT, CSE (AI & ML), CSD, AI & ML, AI & DS
2		MA201BS	Ordinary Differential Equations and Vector Calculus	I-II	CE, EEE, ME, ECE, CSE, IT, CSE (AI & ML), CSD, AI & ML, AI & DS
3		MA302BS	Computer Oriented and Statistical Methods	II-I	CSE, IT, CSD
4		MA303BS	Mathematical and Statistical Foundations	II-I	CSE (AI & ML), AI & ML, AI & DS
5		MA301BS	Numerical Methods and Complex Variables	II-I	ECE, EEE
6		PS301BS	Probability, Statistics & Complex Variables	II-I	ME
7		PS304BS	Probability and Statistics	II-I	CE
8	Physics	AP102BS	Applied Physics	I-I	CE, ME, ECE, CSE (AI & ML), AI & ML, AI & DS
		AP202BS		I-II	EEE, CSE, IT, CSD
9		AP103BS	Applied Physics Laboratory	I-I	CE,ME, ECE, CSE(AI & ML),AI & ML,AI & DS
		AP203BS		I-II	EEE, CSE, IT, CSD
10	Chemistry	CH102BS	Engineering Chemistry	I-I	EEE, CSE, IT, CSD
		CH202BS		I-II	CE,ME, ECE, CSE(AI & ML),AI & ML,AI & DS
11		CH104BS	Engineering Chemistry Laboratory	I-I	EEE, CSE, IT, CSD
		CH204BS		I-II	CE,ME, ECE, CSE(AI & ML),AI & ML,AI & DS
12		*CH109MC	Environmental Science	I-I	CE,ME, ECE, CSE(AI & ML),AI & ML,AI & DS
		*CH209MC		I-II	EEE, CSE, IT, CSD
13	English	EN104HS	English For Skill Enhancement	I-I	CE,ME,CSE(AI & ML),AI & ML, AI & DS,ECE
		EN204HS		I-II	CSE,IT,EEE,CSD
14		EN105HS	English Language And Communication Skills Laboratory	I-I	CE,ME,CSE(AI & ML),AI & ML,AI & DS, ECE
		EN205HS		I-II	CSE,IT,EEE,CSD
15		GS309MC	Gender Sensitization	II-I	CSE,IT,EEE,CSD
16	Management	CI309MC	Constitution of India	II-I	CSE(AI & ML),AI & ML,AI & DS, CE,ME,ECE
		CI409MC		II-II	IT,EEE,CSE,CSD
17		BE404MS	Business Economics & Financial Analysis	II-II	CSE,IT,CSD
18	EEE	EE106ES	Basic Electrical Engineering	I-I	CSE, IT, CSG
				I-II	ECE, CSE (AI & ML), AI & ML, AI & DS
19		EE108ES	Basic Electrical Engineering Lab	I-I	CSE, IT, CSG
				I-II	ECE, CSE (AI & ML), AI & ML, AI & DS
20		EE310PC	Network Analysis and Synthesis	II-I	ECE
21		EE411PC	Basic Electrical and Electronics Engineering	II-II	CE, ME
22	EE412PC	Basic Electrical and Electronics Engineering Lab	II-II	CE, ME	

23	ME	ME107ES	Engineering Workshop	I-I	CE, ME, ECE, CSE (AI & ML), AI & ML, and AI & DS	
		ME207ES		I-II	EEE, IT, CSE, and CSG	
24		ME108ES	Computer Aided Engineering Graphics	I-I	EEE, IT, CSE, and CSG	
		ME208ES		I-II	CE, ME, ECE, CSE (AI & ML), AI & ML, and AI & DS	
25		ME212HS	Applied Mechanics	I-II	CE	
26		ME411PC	Solid Mechanics & Hydraulic Machines	II-II	EEE	
27		ECE	EC203ES	Electronic Devices and Circuits	I-II	CSE, AI & DS, CSE(AI & ML), CSD, AI&ML, IT, ECE
28			EC311PC	Digital Electronics	II-I	CSE, AI & DS, CSD, IT
			EC410PC		II-II	EEE
29			EC312PC	Digital Electronics Lab	II-I	IT, AI & DS
	EC411PC		II-II		EEE	
30	EC313PC		Introduction to IoT	II-I	IT	
31	EC314PC		Internet of Things Lab	II-I	IT	
32	EC308PC		Analog Electronics Circuits	II-I	EEE	
33	EC309PC		Analog Electronics Circuits Lab	II-I	EEE	
34	CSE		CS105ES	Programming for Problem Solving	I - I	CSE, IT, CSD, CSE(AI & ML), AI & ML, AI & DS
35		CS107ES	Programming for Problem Solving Laboratory	I - I	CSE, IT, CSD, CSE(AI & ML), AI & ML, AI & DS	
36		CS104ES	C Programming and Data Structures	I - I	CIVIL, MECH, EEE	
37		CS103ES	C Programming and Data Structures Laboratory	I - I	CIVIL, EEE, MECH	
38		CS108ES	C Programming for Engineers	I - I	ECE	
39		CS109ES	C Programming for Engineers Laboratory	I - I	ECE	
40		CS106ES	Elements of Computer Science & Engineering	I - I	CSE, IT, CSD, CSE(AI & ML), AI & ML, AI & DS	
41		CS205ES	Python Programming Laboratory	I - II	CSE, IT, CSE(AI & ML), AI & ML, AI & DS, CSD, MECH, CIVIL	
42		CS208ES	Applied Python Programming Laboratory	I - II	EEE, ECE	
43		CS206ES	IT Workshop	I - II	CSE, IT, CSE(AI & ML), AI & ML, AI & DS, CSD	
44		CS301PC	Data Structures	II - I	CSE, IT, CSD, CSE(AI & ML), AI & ML, AI & DS	
45		CS307PC	Data Structures Lab	II - I	CSE, IT, CSD	
46		CS313PC	Introduction to Data Structures Lab	II - I	CSE(AI & ML), AI & ML, AI & DS	
47		CS304PC	Computer Organization and Architecture	II - I	CSE, CSD, CSE(AI & ML), AI & ML, AI & DS	
48		CS303PC	Object Oriented Programming through Java	II - I	CSE, CSD, AI & DS	
		CS413PC		II - II	CSE(AI & ML), AI & ML	
49		CS308PC	Object Oriented Programming through Java Lab	II - I	CSE, CSD	
50	CS310PC	Data visualization- R Programming/ Power BI	II - I	CSE, IT, CSD, AI & DS		

51		CS401PC	Discrete Mathematics	II - II	CSE, IT, CSD, CSE(AI & ML), AI & ML, AI & DS
52		CS305PC	Operating Systems	II - I	CSE(AI & ML), AI & ML
		CS402PC		II - II	CSE, IT, CSD, AI & DS
53		CS311PC	Operating Systems Lab	II - I	CSE(AI & ML), AI & ML
		CS406PC		II - II	CSE, IT, CSD, AI & DS
54		CS405PC	Database Management Systems	II - II	CSE, IT, CSD, CSE(AI & ML), AI & ML, AI & DS
55		CS407PC	Database Management Systems Lab	II - II	CSE, IT, CSD, CSE(AI & ML), AI & ML, AI & DS
56		CS306PC	Software Engineering	II - I	CSE(AI & ML), AI & ML
		CS403PC		II - II	CSE, CSD, AI & DS
57		CS312PC	Node JS/ React JS/	II - I	CSE(AI & ML), AI & ML
		CS411PC	Django	II - II	CSE, IT, CSD, AI & DS
58	IT	IT308PC	Java Programming Lab	II & I	AI & DS
		IT408PC		II & II	IT, CSE (AI & ML), AI & ML
59		CSM308PC	Software Engineering Lab	II - I	CSE(AI & ML), AI & ML
60	CSM	CSM406PC	Introduction to Artificial Intelligence	II - II	CSE(AI & ML), AI & DS, AI & ML
61		CSM404PC	Automata Theory and Compiler Design	II - II	CSE(AI & ML), AI & ML
62		CSM411PC	Prolog/Lisp/Pyswip	II - II	CSE(AI & ML), AI & ML


### 3. Any other suggestions

BOS members suggested Micro/Mini projects connecting to the laboratory experiments.

BOS members suggested to include emerging technologies using in Industry's to be added in Professional Electives.

The meeting ended with chairman thanking members for their lively and useful interaction to evolve a best possible course structure and syllabus for the all B.Tech Programme.

### Photograph during the Common BOS Meeting





# St. MARTIN'S ENGINEERING COLLEGE


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## Welcome to Common BOS Meeting




  
Dr. A. Ashwini...

  
Prof. A. Jaya Sankar

  
Dr. Naga Suresh...




  
Dr. Brahmam


  
Dr. S. Prabhakar


  
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### I YEAR I SEMESTER COURSE STRUCTURE (SMEC R22)

S. No.	Course Code	SMEC SYLLABUS		JNTUH SYLLABUS	
		Course Title	SMEC Credits	Course Title	JNTUH Credits
1.	MA101BS	Matrices and Calculus	4	Matrices and Calculus	4
2.	AP102BS	Applied Physics	4	Applied Physics	4
3.	CS104ES	C Programming and Data structures	3	C Programming and Data Structures	3
4.	ME107ES	Engineering Workshop	2.5	Engineering Workshop	2.5
5.	EN104HS	English for Skill Enhancement	2	English for skill enhancement	2
6.	CE109ES	Elements of Civil Engineering	1	Elements of civil engineering	1
7.	AP103BS	Applied Physics Laboratory	1.5	Applied Physics Laboratory	1.5
8.	EN105HS	English Language and Communication Skills Laboratory	1	English language and communication skills laboratory	1
9.	CS103ES	C Programming and Data Structures Laboratory	1	C Programming and Data Structures Laboratory	1
10.	*CH109MC	Environmental Science	0	Environmental Science	0
11.		Induction Program		Induction Program	
<b>TOTAL CREDITS</b>			<b>20</b>	<b>TOTAL CREDITS</b>	<b>20</b>

  
Dr. A. Ashwini...

  
+69

Any other Points/ Suggestions



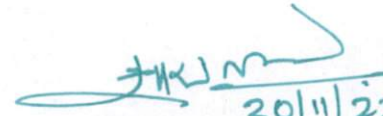
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DS

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30/11/22

**Chairman**  
**Dr. P. Santosh Kumar Patra**

**Principal**

**PRINCIPAL**

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Secunderabad-500 100, Telangana.

**Copy to: IQAC**

19/10/20  
Principal  
St Martin's Engineering College  
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Sri Lanka  
Cottaramulla, Sri Lanka