

S.NO .	COURSE CODE	COURSE NAME	L-T-P	CR	PRE-REQ.	OFFERED TO
<b>I</b>		<b>HUMANITIES &amp; SOCIAL SCIENCES</b>				
1	15 EN 1101	Rudiments of Communication Skills	0-0-4	2	NIL	BT,CE,CSE,ECE,ECM,EEE,ME,PE
2	15 EN 1202	Interpersonal Communication Skills	0-0-4	2	NIL	BT,CE,CSE,ECE,ECM,EEE,ME,PE
3	15 EN 2103	Professional Communication Skills	0-0-4	2	NIL	BT,CE,CSE,ECE,ECM,EEE,ME,PE
4	15 EN 2204	Employability Skills	0-0-4	2	NIL	BT,CE,CSE,ECE,ECM,EEE,ME,PE
5	15 EN 3105	Verbal and Quantitative Reasoning	0-0-4	2	NIL	BT,CE,CSE,ECE,ECM,EEE,ME,PE
6	15 EN 3206	Corporate Communication Skills	0-0-4	2	NIL	BT,CE,CSE,ECE,ECM,EEE,ME,PE
7	15 GN 1001	Ecology and Environment	2-0-0	2	NIL	BT,CE,CSE,ECE,ECM,EEE,ME,PE
8	15 GN 1002	Human Values	2-0-0	2	NIL	BT,CE,CSE,ECE,ECM,EEE,ME,PE
<b>II</b>		<b>BASIC SCIENCES</b>				
1	15 MT 1001	Single Variable Calculus and Matrix Algebra	2-2-2	4	NIL	BT,CE,CSE,ECE,ECM,EEE,ME,PE
2	15 MT 1203	Multivariate Calculus	2-2-2	4	NIL	CE,CSE,ECE,ECM,EEE,ME,PE
4	15 MT 2005	Probability and Stochastic Models	2-2-2	4	NIL	CSE,ECM,ECE
5	15 ME 1001	Mechanics	2-2-2	4	NIL	BT,CE,CSE,ECE,ECM,EEE,ME,PE
6	15 PH 1001	Engineering Materials	2-2-2	4	NIL	BT,CE,CSE,ECE,ECM,EEE,ME,PE
7	15 CY 1001	Engineering Chemistry	2-2-2	4	NIL	BT,CE,CSE,ECE,ECM,EEE,ME,PE
8	15 BT 1001	Biology for Engineers	2-0-0	2	NIL	BT,CE,CSE,ECE,ECM,EEE,ME,PE

<b>III</b>		<b>ENGINEERING SCIENCES</b>				
1	15 GN 1004	Introduction to Engineering	2-0-2	3	NIL	BT,CE,CSE,ECE,ECM,EEE,ME,PE
2	15 CS 1001	C Programming & Data Structures	2-4-2	5	NIL	BT,CE,CSE,ECE,ECM,EEE,ME,PE
3	15 ME 1002	Engineering Graphics	0-0-6	3	NIL	BT,CE,CSE,ECE,ECM,EEE,ME,PE

4	15 GN 1003	Measurements	0-0-4	2	NIL	BT,CE,CSE,ECE,ECM,EEE,ME,PE
5	15 CS 2002	Object Oriented Programming	2-2-2	4	NIL	BT,CE,CSE,ECE,ECM,EEE,ME,PE
6	15 EC 2002	Signal Analysis	2-2-2	4	NIL	CSE,ECE,ECM,ME
7	15 CS 2003	Discrete Mathematics	2-2-2	4	NIL	CSE,ECE,ECM
8	15 CS 2104	Advanced Data Structures	2-2-2	4	15 CS 1001	CSE
9	15 ME 1003	Thermodynamics	2-2-2	4	NIL	CE,CSE,ECE,ECM,EEE,ME,PE

## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

PROFESSIONAL CORE COURSES						
1	15 EC 1101	Digital System Design	2-2-2	4	NIL	CSE,ECE,ECM,EEE
2	15EM2001	Computer Organization and Architecture	2-2-2	4	15EC1101	CSE,ECE,ECM,EEE
3	15 CS 2007	Database Systems	2-2-2	4	15CS1001	CSE,ECM
4	15 CS 2105	Software Engineering	2-2-2	4	NIL	CSE,ECM
5	15 CS 2206	Operating Systems	2-2-2	4	15EM2001	BT,CSE,ECM
6	15 CS 2208	Computer Networks	2-2-2	4	15CS1001	CSE,ECE,ECM
7	15 CS 3109	Theory of Computation	2-2-2	4	15CS2003	CSE
8	15 CS 3110	Algorithm Design and Analysis	2-2-2	4	15CS2104	CSE
9	15 CS 3111	Artificial Intelligence	2-2-2	4	15CS2104	CSE
10	15 CS 3112	Information Assurance & Security	2-2-2	4	15CS2208	CSE
11	15 CS 3113	Platform based development	2-2-2	4	15CS2002	CSE

12	15 CS 3214	Languages & Compilers	2-2-2	4	15CS3109	CSE
13	15 CS 3215	Parallel & Distributed Computing	2-2-2	4	15CS2208	CSE
14	15 CS 3216	Graphics & Visualization	2-2-2	4	15CS2104	CSE

### LIST OF PROFESSIONAL ELECTIVES

<b>NETWORKING &amp; SECURITY</b>						
<b>S.No</b>	<b>Code</b>	<b>Course Title</b>	<b>L-T-P</b>	<b>CR</b>	<b>PRE-REQ.</b>	
1	15 CS 3251	TCP/IP Protocol Suite	3-0-0	3	15CS 2208	CSE,ECE,ECM
2	15 CS 4159	Network Architecture and Design	3-0-0	3	15CS 2208	CSE,ECE,ECM
3	15 CS 4160	Network Security	3-0-0	3	15CS 2208	CSE,ECE,ECM
4	15 CS 4161	Wireless communications and Networks	3-0-0	3	15CS 2208	CSE,ECE,ECM
5	15 CS 4162	Computer Forensics	3-0-0	3	15CS 2208	CSE,ECE,ECM
<b>SOFTWARE ENGINEERING</b>						
1	15 CS 3252	Software Metrics and Measurements	3-0-0	3	15CS 1001	BT,CE,CSE,ECE,ECM,EEE,ME,PE
2	15 CS 4163	Software Verification and Validation	3-0-0	3	15CS 2101	CSE,ECM
3	15 CS 4164	Software Architecture and Design Patterns	3-0-0	3	15CS 2101	CSE,ECM
4	15 CS 4165	Software Project Management	3-0-0	3	15CS 2101	CSE,ECM
5	15 CS 4166	Fault Tolerant Computing	3-0-0	3	15CS 2101	CSE,ECM
<b>DISTRIBUTED &amp; CLOUD COMPUTING</b>						
1	15 CS 3253	Enterprise Storage Systems	3-0-0	3	15 CS 2003	BT,CSE,ECM
2	15 CS 4167	Parallel Algorithms	3-0-0	3	15 CS 3211	CSE

3	15 CS 4168	Cloud Networking	3-0-0	3	15 CS 2208	CSE,ECE,ECM
4	15 CS 4169	Cloud Computing	3-0-0	3	15 CS 3211	CSE
5	15 CS 4170	High Performance Computing	3-0-0	3	15 CS 3211	CSE
<b>COMPUTATIONAL INTELLIGENCE</b>						
1	15 CS 3254	Soft Computing	3-0-0	3	15 CS 3107	CSE
2	15 CS 4171	Machine Learning	3-0-0	3	15 CS 3107	CSE
3	15 CS 4172	Natural Language Processing	3-0-0	3	15 CS 3107	CSE
4	15 CS 4173	Perception and Computer Vision	3-0-0	3	15 CS 3107	CSE
5	15 CS 4174	Multi Agent Systems	3-0-0	3	15 CS 3107	CSE
<b>GRAPHICS &amp; VISUALIZATION</b>						
1	15 CS 3255	2D/3D Graphics	3-0-0	3	15 CS 2104	ME,CE
2	15 CS 4175	Multimedia Technologies	3-0-0	3	15 CS 3109	CSE
3	15 CS 4176	Game Graphics Programming	3-0-0	3	15 CS 3212	CSE
4	15 CS 4177	Animation & Visualization	3-0-0	3	15 CS 3212	CSE
5	15 CS 4178	Cross Platform Mobile Development	3-0-0	3	15 CS 3109	CSE
<b>COMPUTATIONAL SCIENCE</b>						
1	15 CS 3256	Modeling and Simulation for Sciences	3-0-0	3	15MT2005	CSE,ECM,ECE
2	15 CS 4179	Scientific Computing and Visualization	3-0-0	3	15 CS 1001	BT,CE,CSE,ECE,ECM,EEE,ME,PE
3	15 CS 4180	Parallel Computing	3-0-0	3	15EM2001	CSE,ECE,ECM
4	15 CS 4181	Optimization and Game Theory	3-0-0	3	15MT2005	CSE,ECM,ECE
5	15 CS 4182	Discrete Event Simulation	3-0-0	3	15MT2005	CSE,ECM,ECE

<b>DATA ANALYTICS</b>						
1	15 CS 3257	Data warehousing & Mining	3-0-0	3	15 CS 2003	BT,CSE,ECM
2	15 CS 4183	Big Data & Optimization	3-0-0	3	15 CS 2003	BT,CSE,ECM
3	15 CS 4184	Advanced Databases	3-0-0	3	15 CS 2003	BT,CSE,ECM
4	15 CS 4185	Information Visualization & Graph Analytics	3-0-0	3	15 CS 2003	BT,CSE,ECM
5	15 CS 4186	Data Science & Big Data Analytics	3-0-0	3	15 CS 2003	BT,CSE,ECM

### **LIST OF OPEN ELECTIVES**

1	15 BT 30A1	IPR & Patent Laws	3-0-0	3	NIL	BT
2	15 CE 30A2	Environmental Pollution Control Methods	3-0-0	3	NIL	CE
3	15 CE 30A3	Solid and Hazardous waste management	3-0-0	3	NIL	CE
4	15 CE 30A4	Remote Sensing & GIS	3-0-0	3	NIL	CE
5	15 CE 30A5	Disaster Management	3-0-0	3	NIL	CE
6	15 CS 30A6	Fundamentals of DBMS	3-0-0	3	NIL	CS
7	15 CS 30A7	Fundamentals of Software Engineering	3-0-0	3	NIL	CS
8	15 CS 30A8	Fundamentals of Information Technology	3-0-0	3	NIL	CS
9	15 EC 30A9	Image Processing	3-0-0	3	NIL	EC
10	15 EM 30B1	Linux Programming	3-0-0	3	NIL	EM
11	15 EM 30B2	E-Commerce	3-0-0	3	NIL	EM
12	15 EE 30B3	Renewable Energy Sources	3-0-0	3	NIL	EE

13	15 ME 30B4	Robotics	3-0-0	3	NIL	ME
14	15 ME 30B5	Mechatronics	3-0-0	3	NIL	ME
15	15 ME 30B6	Operations Research	3-0-0	3	NIL	ME
16	15 PH 30B7	Nano Materials & Technology	3-0-0	3	NIL	PH
17	15 PE 30B8	Subsea Engineering	3-0-0	3	NIL	PE
18	15 PE 30B9	Oil and Gas Management	3-0-0	3	NIL	PE
19	15 GN 30C1	Self Development	3-0-0	3	NIL	GN
20	15 GN 30C2	Indian Culture and History	3-0-0	3	NIL	GN
21	15 GN 30C3	Emotional Intelligence	3-0-0	3	NIL	GN
22	15 GN 30C4	Professional Ethics and Values	3-0-0	3	NIL	GN
23	15 GN 30C5	Behavioral Sciences	3-0-0	3	NIL	GN

### **LIST OF MANAGEMENT ELECTIVES**

1	15 MB 3051	Paradigms in Management thought	3-0-0	3	NIL
2	15 MB 3052	Indian Economy	3-0-0	3	NIL
3	15 MB 3053	Managing Personal Finances	3-0-0	3	NIL
4	15 MB 3054	Basics of Marketing for Engineers	3-0-0	3	NIL
5	15 MB 3055	Organization Management	3-0-0	3	NIL
6	15 MB 3056	Resources Safety and Quality Management	3-0-0	3	NIL

### **LIST OF FOREIGN LANGUAGES**

1	15 GN 3051	Arabic	3-0-0	3	NIL
2	15 GN 3052	Bengali	3-0-0	3	NIL
3	15 GN 3053	Chinese	3-0-0	3	NIL
4	15 GN 3054	French	3-0-0	3	NIL
5	15 GN 3055	German	3-0-0	3	NIL
6	15 GN 3056	Hindi	3-0-0	3	NIL
7	15 GN 3057	Italian	3-0-0	3	NIL
8	15 GN 3058	Japanese	3-0-0	3	NIL
9	15 GN 3059	Kannada	3-0-0	3	NIL
10	15 GN 3060	Russian	3-0-0	3	NIL
11	15 GN 3061	Simhali	3-0-0	3	NIL
12	15 GN 3062	Spanish	3-0-0	3	NIL
13	15 GN 3063	Tamil	3-0-0	3	NIL
14	15 GN 3064	Urdu	3-0-0	3	NIL

#### **TERM PAPER & PROJECT**

1	15 IE 3250	Term Paper	0-0-4	2	NIL
2	15 IE 4048	Practice School	0-0-16	8	NIL
3	15 IE 4049	Minor Project	0-0-4	2	NIL
4	15 IE 4050	Major Project	0-0-16	8	NIL

