



GOJAN SCHOOL OF BUSINESS AND TECHNOLOGY

Approved by A.I.C.T.E. New Delhi & Affiliated to Anna University, Chennai

NAAC Accredited Institution | An ISO 9001:2015 Certified Institution

Recognized by UGC u/s 2(f) & 12(B) of the UGC Act

80 Feet Road, Edapalayam, Redhills, Chennai - 600 052.

*** G.S.B.T. ***

1.3.2 – Project Work/Field Work/Internship Syllabus

ANNA UNIVERSITY, CHENNAI
AFFILIATED INSTITUTIONS
B.E. AERONAUTICAL ENGINEERING
REGULATIONS – 2017
CHOICE BASED CREDIT SYSTEM
I TO VIII SEMESTERS CURRICULA AND SYLLABI

SEMESTER I

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	HS8151	Communicative English	HS	4	4	0	0	4
2.	MA8151	Engineering Mathematics - I	BS	4	4	0	0	4
3.	PH8151	Engineering Physics	BS	3	3	0	0	3
4.	CY8151	Engineering Chemistry	BS	3	3	0	0	3
5.	GE8151	Problem Solving and Python Programming	ES	3	3	0	0	3
6.	GE8152	Engineering Graphics	ES	6	2	0	4	4
PRACTICALS								
7.	GE8161	Problem Solving and Python Programming Laboratory	ES	4	0	0	4	2
8.	BS8161	Physics and Chemistry Laboratory	BS	4	0	0	4	2
TOTAL				31	19	0	12	25

SEMESTER II

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	HS8251	Technical English	HS	4	4	0	0	4
2.	MA8251	Engineering Mathematics - II	BS	4	4	0	0	4
3.	PH8251	Materials Science	BS	3	3	0	0	3
4.	BE8253	Basic Electrical, Electronics and Instrumentation Engineering	ES	3	3	0	0	3
5.	GE8291	Environmental Science and Engineering	HS	3	3	0	0	3
6.	GE8292	Engineering Mechanics	ES	5	3	2	0	4
PRACTICALS								
7.	GE8261	Engineering Practices Laboratory	ES	4	0	0	4	2
8.	BE8261	Basic Electrical, Electronics and Instrumentation Engineering Laboratory	ES	4	0	0	4	2
TOTAL				30	20	2	8	25

SEMESTER III

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	MA8353	Transforms and Partial Differential Equations	BS	4	4	0	0	4
2.	ME8392	Manufacturing Technology	PC	3	3	0	0	3
3.	AE8301	Aero Engineering Thermodynamics	PC	3	3	0	0	3
4.	CE8394	Fluid Mechanics and Machinery	ES	4	4	0	0	4
5.	CE8395	Strength of Materials for Mechanical Engineers	ES	3	3	0	0	3
6.	AE8302	Elements of Aeronautical Engineering	PC	3	3	0	0	3
PRACTICAL								
7.	CE8381	Strength of Materials and Fluid Mechanics & Machinery Laboratory	ES	4	0	0	4	2
8.	AE8311	Thermodynamics Laboratory	PC	4	0	0	4	2
9.	HS8381	Interpersonal Skills/Listening & Speaking	EEC	2	0	0	2	1
TOTAL				30	20	0	10	25

SEMESTER IV

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	MA8491	Numerical Methods	BS	4	4	0	0	4
2.	AE8401	Aerodynamics - I	PC	3	3	0	0	3
3.	AE8402	Aircraft Systems and Instruments	PC	3	3	0	0	3
4.	PR8451	Mechanics of Machines	PC	3	3	0	0	3
5.	AE8403	Aircraft Structures - I	PC	5	3	2	0	4
6.	AE8404	Propulsion - I	PC	5	3	2	0	4
PRACTICAL								
7.	ME8381	Computer Aided Machine Drawing	PC	4	0	0	4	2
8.	AE8411	Aerodynamics Laboratory	PC	2	0	0	2	1
TOTAL				29	19	4	8	24

SEMESTER V

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	AE8501	Flight Dynamics	PC	5	3	2	0	4
2.	AE8502	Aircraft Structures - II	PC	5	3	2	0	4
3.	AE8503	Aerodynamics - II	PC	3	3	0	0	3
4.	AE8504	Propulsion - II	PC	3	3	0	0	3
5.	AE8505	Control Engineering	PC	3	3	0	0	3
6.		Open Elective - I	OE	3	3	0	0	3
PRACTICAL								
7.	AE8511	Aircraft Structures Laboratory	PC	4	0	0	4	2
8.	AE8512	Propulsion Laboratory	PC	2	0	0	2	1
9.	HS8581	Professional Communication	EEC	2	0	0	2	1
TOTAL				30	18	4	8	24

SEMESTER VI

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	AE8601	Finite Element Methods	PC	3	3	0	0	3
2.	AE8602	Experimental Aerodynamics	PC	3	3	0	0	3
3.	AE8603	Composite Materials and Structures	PC	3	3	0	0	3
4.	AE8604	Aircraft Design	PC	3	3	0	0	3
5.	AE8605	Experimental Stress Analysis	PC	3	3	0	0	3
6.		Professional Elective – I	PE	3	3	0	0	3
PRACTICAL								
7.	AE8611	Aero Engine and Airframe Laboratory	PC	4	0	0	4	2
8.	AE8612	Computer Aided Simulation Laboratory	PC	4	0	0	4	2
9.	AE8613	Aircraft Design Project - I	EEC	2	0	0	2	1
TOTAL				28	18	0	10	23

SEMESTER VII

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	GE8077	Total Quality Management	HS	3	3	0	0	3
2.	AE8751	Avionics	PC	3	3	0	0	3
3.	ME8093	Computational Fluid Dynamics	PC	3	3	0	0	3
4.		Open Elective - II	OE	3	3	0	0	3
5.		Professional Elective – II	PE	3	3	0	0	3
6.		Professional Elective – III	PE	3	3	0	0	3
PRACTICAL								
7.	AE8711	Aircraft Systems Laboratory	PC	4	0	0	4	2
8.	AE8712	Flight Integration Systems and Control Laboratory	PC	4	0	0	4	2
9.	AE8713	Aircraft Design Project - II	EEC	2	0	0	2	1
TOTAL				28	18	0	10	23

SEMESTER VIII

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.		Professional Elective – IV	PE	3	3	0	0	3
2.		Professional Elective – V	PE	3	3	0	0	3
PRACTICAL								
3.	AE8811	Project Work	EEC	20	0	0	20	10
TOTAL				26	6	0	20	16

TOTAL NUMBER OF CREDITS TO BE EARNED FOR AWARD OF THE DEGREE = 185

HUMANITIES AND SOCIAL SCIENCES (HS)

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	HS8151	Communicative English	HS	4	4	0	0	4
2.	HS8251	Technical English	HS	4	4	0	0	4
3.	GE8291	Environmental Science and Engineering	HS	3	3	0	0	3
4.	GE8077	Total Quality Management	HS	3	3	0	0	3

BASIC SCIENCE (BS)

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	MA8151	Engineering Mathematics I	BS	4	4	0	0	4
2.	PH8151	Engineering Physics	BS	3	3	0	0	3
3.	CY8151	Engineering Chemistry	BS	3	3	0	0	3
4.	BS8161	Physics and Chemistry Laboratory	BS	4	0	0	4	2
5.	MA8251	Engineering Mathematics II	BS	4	4	0	0	4
6.	PH8251	Materials Science	BS	3	3	0	0	3
7.	MA8353	Transforms and Partial Differential Equations	BS	4	4	0	0	4
8.	MA8491	Numerical Methods	BS	4	4	0	0	4

ENGINEERING SCIENCES (ES)

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	GE8151	Problem Solving and Python Programming	ES	3	3	0	0	3
2.	GE8152	Engineering Graphics	ES	6	2	0	4	4
3.	GE8161	Problem Solving and Python Programming Laboratory	ES	4	0	0	4	2
4.	BE8253	Basic Electrical, Electronics and Instrumentation Engineering	ES	3	3	0	0	3
5.	GE8292	Engineering Mechanics	ES	5	3	2	0	4
6.	GE8261	Engineering Practices Laboratory	ES	4	0	0	4	2
7.	BE8261	Basic Electrical, Electronics and Instrumentation Engineering Laboratory	ES	4	0	0	4	2
8.	CE8394	Fluid Mechanics and Machinery	ES	4	4	0	0	4
9.	CE8395	Strength of Materials for Mechanical Engineers	ES	3	3	0	0	3
10.	CE8381	Strength of Materials and Fluid Mechanics and Machinery Laboratory	ES	4	0	0	4	2

PROFESSIONAL CORE (PC)

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	ME8392	Manufacturing Technology	PC	3	3	0	0	3
2.	AE8301	Aero Engineering Thermodynamics	PC	3	3	0	0	3
3.	AE8302	Elements of Aeronautical Engineering	PC	3	3	0	0	3
4.	AE8311	Thermodynamics Laboratory	PC	4	0	0	4	2
5.	AE8401	Aerodynamics - I	PC	3	3	0	0	3
6.	AE8402	Aircraft Systems and Instruments	PC	3	3	0	0	3
7.	PR8451	Mechanics of Machines	PC	3	3	0	0	3
8.	AE8403	Aircraft Structures - I	PC	5	3	2	0	4
9.	AE8404	Propulsion - I	PC	5	3	2	0	4
10.	ME8381	Computer Aided Machine Drawing	PC	4	0	0	4	2
11.	AE8411	Aerodynamics Laboratory	PC	2	0	0	2	1
12.	AE8501	Flight Dynamics	PC	5	3	2	0	4
13.	AE8502	Aircraft Structures - II	PC	5	3	2	0	4
14.	AE8503	Aerodynamics - II	PC	3	3	0	0	3
15.	AE8504	Propulsion - II	PC	3	3	0	0	3
16.	AE8505	Control Engineering	PC	3	3	0	0	3
17.	AE8511	Aircraft Structures Laboratory	PC	4	0	0	4	2
18.	AE8512	Propulsion Laboratory	PC	2	0	0	2	1
19.	AE8601	Finite Element Methods	PC	3	3	0	0	3
20.	AE8602	Experimental Aerodynamics	PC	3	3	0	0	3
21.	AE8603	Composite Materials and Structures	PC	3	3	0	0	3
22.	AE8604	Aircraft Design	PC	3	3	0	0	3
23.	AE8611	Aero Engine and Airframe Laboratory	PC	4	0	0	4	2
24.	AE8612	Computer Aided Simulation Laboratory	PC	4	0	0	4	2
25.	AE8751	Avionics	PC	3	3	0	0	3
26.	ME8093	Computational Fluid Dynamics	PC	3	3	0	0	3
27.	AE8605	Experimental Stress Analysis	PC	3	3	0	0	3
28.	AE8711	Aircraft Systems Laboratory	PC	4	0	0	4	2
29.	AE8712	Flight Integration Systems and Control Laboratory	PC	4	0	0	4	2

PROFESSIONAL ELECTIVES FOR B.E. AERONAUTICAL ENGINEERING**SEMESTER VI, ELECTIVE – I**

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	PR8072	New Product Development	PE	3	3	0	0	3
2.	AE8001	Space Mechanics	PE	3	3	0	0	3
3.	AE8002	Aircraft General Engineering and Maintenance Practices	PE	3	3	0	0	3
4.	AE8003	Heat Transfer	PE	3	3	0	0	3
5.	GE8075	Intellectual Property Rights	PE	3	3	0	0	3
6.	GE8073	Fundamentals of Nano Science	PE	3	3	0	0	3

SEMESTER VII, ELECTIVES– II

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	AE8004	Helicopter Theory	PE	3	3	0	0	3
2.	AE8005	Aero Engine Maintenance and Repair	PE	3	3	0	0	3
3.	AE8006	UAV Systems	PE	3	3	0	0	3
4.	AE8007	Aircraft Materials	PE	3	3	0	0	3
5.	AE8008	Vibration and Elements of Aeroelasticity	PE	3	3	0	0	3
6.	GE8071	Disaster Management	PE	3	3	0	0	3

SEMESTER VII, ELECTIVES – III

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	AE8009	Airframe Maintenance and Repair	PE	3	3	0	0	3
2.	AE8010	Fatigue and Fracture	PE	3	3	0	0	3
3.	PR8071	Lean Six Sigma	PE	3	3	0	0	3
4.	ME8097	Non Destructive Testing and Evaluation	PE	3	3	0	0	3
5.	GE8072	Foundation Skills in Integrated Product Development	PE	3	3	0	0	3
6.	GE8074	Human Rights	PE	3	3	0	0	3

SEMESTER VIII, ELECTIVES – IV

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	AE8011	Hypersonic Aerodynamics	PE	3	3	0	0	3
2.	AE8012	Wind Tunnel Techniques	PE	3	3	0	0	3
3.	AE8013	Rockets and Missiles	PE	3	3	0	0	3
4.	AE8014	Structural Dynamics	PE	3	3	0	0	3
5.	AE8015	Industrial Aerodynamics	PE	3	3	0	0	3

SEMESTER VIII, ELECTIVES – V

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	PR8491	Computer Integrated Manufacturing	PE	3	3	0	0	3
2.	AE8016	Flight Instrumentation	PE	3	3	0	0	3
3.	AE8017	Theory of Elasticity	PE	3	3	0	0	3
4.	AE8018	Air Traffic Control and Planning	PE	3	3	0	0	3
5.	MG8591	Principles of Management	PE	3	3	0	0	3
6.	GE8076	Professional Ethics in Engineering	PE	3	3	0	0	3

EMPLOYABILITY ENHANCEMENT COURSES (EEC)

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	HS8381	Interpersonal Skills/Listening & Speaking	EEC	2	0	0	2	1
2.	HS8581	Professional Communication	EEC	2	0	0	2	1
3.	AE8613	Aircraft Design Project - I	EEC	2	0	0	2	1
4.	AE8713	Aircraft Design Project - II	EEC	2	0	0	2	1
5.	AE8811	Project Work	EEC	20	0	0	20	10

SUMMARY

B.E. AERONAUTICAL ENGINEERING												
SL. NO.	Subject Area	Credits per semester								Credits Total	Percentage %	
		I	II	III	IV	V	VI	VII	VIII			
1	Humanities Sciences	4	7	0	0	0	0	3	0	14	7.57	
2	Basic Sciences	12	7	4	4	0	0	0	0	27	14.59	
3	Engineering Sciences	9	11	9	0	0	0	0	0	29	15.14	
4	Professional Core	0	0	11	20	20	19	10	0	80	43.24	
5	Professional Elective	0	0	0	0	0	3	6	6	15	8.11	
6	Open Elective	0	0	0	0	3	0	3	0	6	3.24	
7	Employability Enhancement Courses	-	-	1	0	1	1	1	10	14	8.11	
	Total	25	25	25	24	24	23	23	16	185		
8	Non Credit/Mandatory											

ANNA UNIVERSITY, CHENNAI
AFFILIATED INSTITUTIONS
B.E. COMPUTER SCIENCE AND ENGINEERING
REGULATIONS – 2017
CHOICE BASED CREDIT SYSTEM
I - VIII SEMESTERS CURRICULA AND SYLLABI

SEMESTER I

Sl. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	HS8151	Communicative English	HS	4	4	0	0	4
2.	MA8151	Engineering Mathematics - I	BS	4	4	0	0	4
3.	PH8151	Engineering Physics	BS	3	3	0	0	3
4.	CY8151	Engineering Chemistry	BS	3	3	0	0	3
5.	GE8151	Problem Solving and Python Programming	ES	3	3	0	0	3
6.	GE8152	Engineering Graphics	ES	6	2	0	4	4
PRACTICALS								
7.	GE8161	Problem Solving and Python Programming Laboratory	ES	4	0	0	4	2
8.	BS8161	Physics and Chemistry Laboratory	BS	4	0	0	4	2
TOTAL				31	19	0	12	25

SEMESTER II

Sl.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	HS8251	Technical English	HS	4	4	0	0	4
2.	MA8251	Engineering Mathematics - II	BS	4	4	0	0	4
3.	PH8252	Physics for Information Science	BS	3	3	0	0	3
4.	BE8255	Basic Electrical, Electronics and Measurement Engineering	ES	3	3	0	0	3
5.	GE8291	Environmental Science and Engineering	HS	3	3	0	0	3
6.	CS8251	Programming in C	PC	3	3	0	0	3
PRACTICALS								
7.	GE8261	Engineering Practices Laboratory	ES	4	0	0	4	2
8.	CS8261	C Programming Laboratory	PC	4	0	0	4	2
TOTAL				28	20	0	8	24

SEMESTER III

SI.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	MA8351	Discrete Mathematics	BS	4	4	0	0	4
2.	CS8351	Digital Principles and System Design	ES	4	4	0	0	4
3.	CS8391	Data Structures	PC	3	3	0	0	3
4.	CS8392	Object Oriented Programming	PC	3	3	0	0	3
5.	EC8395	Communication Engineering	ES	3	3	0	0	3
PRACTICALS								
6.	CS8381	Data Structures Laboratory	PC	4	0	0	4	2
7.	CS8383	Object Oriented Programming Laboratory	PC	4	0	0	4	2
8.	CS8382	Digital Systems Laboratory	ES	4	0	0	4	2
9.	HS8381	Interpersonal Skills/Listening & Speaking	EEC	2	0	0	2	1
TOTAL				31	17	0	14	24

SEMESTER IV

SI. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	MA8402	Probability and Queueing Theory	BS	4	4	0	0	4
2.	CS8491	Computer Architecture	PC	3	3	0	0	3
3.	CS8492	Database Management Systems	PC	3	3	0	0	3
4.	CS8451	Design and Analysis of Algorithms	PC	3	3	0	0	3
5.	CS8493	Operating Systems	PC	3	3	0	0	3
6.	CS8494	Software Engineering	PC	3	3	0	0	3
PRACTICALS								
7.	CS8481	Database Management Systems Laboratory	PC	4	0	0	4	2
8.	CS8461	Operating Systems Laboratory	PC	4	0	0	4	2
9.	HS8461	Advanced Reading and Writing	EEC	2	0	0	2	1
TOTAL				29	19	0	10	24

SEMESTER V

Sl. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	MA8551	Algebra and Number Theory	BS	4	4	0	0	4
2.	CS8591	Computer Networks	PC	3	3	0	0	3
3.	EC8691	Microprocessors and Microcontrollers	PC	3	3	0	0	3
4.	CS8501	Theory of Computation	PC	3	3	0	0	3
5.	CS8592	Object Oriented Analysis and Design	PC	3	3	0	0	3
6.		Open Elective I	OE	3	3	0	0	3
PRACTICALS								
7.	EC8681	Microprocessors and Microcontrollers Laboratory	PC	4	0	0	4	2
8.	CS8582	Object Oriented Analysis and Design Laboratory	PC	4	0	0	4	2
9.	CS8581	Networks Laboratory	PC	4	0	0	4	2
TOTAL				31	19	0	12	25

SEMESTER VI

Sl. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	CS8651	Internet Programming	PC	3	3	0	0	3
2.	CS8691	Artificial Intelligence	PC	3	3	0	0	3
3.	CS8601	Mobile Computing	PC	3	3	0	0	3
4.	CS8602	Compiler Design	PC	5	3	0	2	4
5.	CS8603	Distributed Systems	PC	3	3	0	0	3
6.		Professional Elective I	PE	3	3	0	0	3
PRACTICALS								
7.	CS8661	Internet Programming Laboratory	PC	4	0	0	4	2
8.	CS8662	Mobile Application Development Laboratory	PC	4	0	0	4	2
9.	CS8611	Mini Project	EEC	2	0	0	2	1
10.	HS8581	Professional Communication	EEC	2	0	0	2	1
TOTAL				32	18	0	14	25

SEMESTER VII

SI. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	MG8591	Principles of Management	HS	3	3	0	0	3
2.	CS8792	Cryptography and Network Security	PC	3	3	0	0	3
3.	CS8791	Cloud Computing	PC	3	3	0	0	3
4.		Open Elective II	OE	3	3	0	0	3
5.		Professional Elective II	PE	3	3	0	0	3
6.		Professional Elective III	PE	3	3	0	0	3
PRACTICALS								
7.	CS8711	Cloud Computing Laboratory	PC	4	0	0	4	2
8.	IT8761	Security Laboratory	PC	4	0	0	4	2
TOTAL				26	18	0	8	22

SEMESTER VIII

SI. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.		Professional Elective IV	PE	3	3	0	0	3
2.		Professional Elective V	PE	3	3	0	0	3
PRACTICALS								
3.	CS8811	Project Work	EEC	20	0	0	20	10
TOTAL				26	6	0	20	16

TOTAL NO. OF CREDITS: 185

HUMANITIES AND SOCIAL SCIENCES (HS)

SI. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	HS8151	Communicative English	HS	4	4	0	0	4
2.	HS8251	Technical English	HS	4	4	0	0	4
3.	GE8291	Environmental Science and Engineering	HS	3	3	0	0	3
4.	MG8591	Principles of Management	HS	3	3	0	0	3

BASIC SCIENCES (BS)

SI. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	MA8151	Engineering Mathematics I	BS	4	4	0	0	4
2.	PH8151	Engineering Physics	BS	3	3	0	0	3
3.	CY8151	Engineering Chemistry	BS	3	3	0	0	3
4.	BS8161	Physics and Chemistry Laboratory	BS	4	0	0	4	2
5.	MA8251	Engineering Mathematics II	BS	4	4	0	0	4
6.	PH8252	Physics for Information Science	BS	3	3	0	0	3
7.	MA8351	Discrete Mathematics	BS	4	4	0	0	4
8.	MA8402	Probability and Queueing Theory	BS	4	4	0	0	4
9.	MA8551	Algebra and Number Theory	BS	4	4	0	0	4

ENGINEERING SCIENCES (ES)

SI. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	GE8151	Problem Solving and Python Programming	ES	3	3	0	0	3
2.	GE8152	Engineering Graphics	ES	6	2	0	4	4
3.	GE8161	Problem Solving and Python Programming Laboratory	ES	4	0	0	4	2
4.	BE8255	Basic Electrical, Electronics and Measurement Engineering	ES	3	3	0	0	3
5.	GE8261	Engineering Practices Laboratory	ES	4	0	0	4	2
6.	CS8351	Digital Principles and System Design	ES	4	4	0	0	4
7.	EC8395	Communication Engineering	ES	3	3	0	0	3
8.	CS8382	Digital Systems Laboratory	ES	4	0	0	4	2

PROFESSIONAL CORE (PC)

SI. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	CS8251	Programming in C	PC	3	3	0	0	3
2.	CS8261	C Programming Laboratory	PC	4	0	0	4	2
3.	CS8391	Data Structures	PC	3	3	0	0	3
4.	CS8392	Object Oriented Programming	PC	3	3	0	0	3
5.	CS8381	Data Structures Laboratory	PC	4	0	0	4	2
6.	CS8383	Object Oriented Programming Laboratory	PC	4	0	0	4	2
7.	CS8491	Computer Architecture	PC	3	3	0	0	3
8.	CS8492	Database Management Systems	PC	3	3	0	0	3
9.	CS8451	Design and Analysis of Algorithms	PC	3	3	0	0	3
10.	CS8493	Operating Systems	PC	3	3	0	0	3
11.	CS8494	Software Engineering	PC	3	3	0	0	3
12.	CS8481	Database Management Systems Laboratory	PC	4	0	0	4	2
13.	CS8461	Operating Systems Laboratory	PC	4	0	0	4	2
14.	CS8591	Computer Networks	PC	3	3	0	0	3
15.	EC8691	Microprocessors and Microcontrollers	PC	3	3	0	0	3
16.	CS8501	Theory of Computation	PC	3	3	0	0	3
17.	CS8592	Object Oriented Analysis and Design	PC	3	3	0	0	3
18.	EC8681	Microprocessors and Microcontrollers Laboratory	PC	4	0	0	4	2
19.	CS8582	Object Oriented Analysis and Design Laboratory	PC	4	0	0	4	2
20.	CS8581	Networks Laboratory	PC	4	0	0	4	2
21.	CS8651	Internet Programming	PC	3	3	0	0	3
22.	CS8691	Artificial Intelligence	PC	3	3	0	0	3
23.	CS8601	Mobile Computing	PC	3	3	0	0	3
24.	CS8602	Compiler Design	PC	5	3	0	2	4
25.	CS8603	Distributed Systems	PC	3	3	0	0	3
26.	CS8661	Internet Programming Laboratory	PC	4	0	0	4	2
27.	CS8662	Mobile Application Development Laboratory	PC	4	0	0	4	2
28.	CS8792	Cryptography and Network Security	PC	3	3	0	0	3
29.	CS8791	Cloud Computing	PC	3	3	0	0	3
30.	CS8711	Cloud Computing Laboratory	PC	4	0	0	4	2
31.	IT8761	Security Laboratory	PC	4	0	0	4	2

PROFESSIONAL ELECTIVES (PE)**SEMESTER VI
ELECTIVE - I**

Sl. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	CS8075	Data Warehousing and Data Mining	PE	3	3	0	0	3
2.	IT8076	Software Testing	PE	3	3	0	0	3
3.	IT8072	Embedded Systems	PE	3	3	0	0	3
4.	CS8072	Agile Methodologies	PE	3	3	0	0	3
5.	CS8077	Graph Theory and Applications-	PE	3	3	0	0	3
6.	IT8071	Digital Signal Processing	PE	3	3	0	0	3
7.	GE8075	Intellectual Property Rights	PE	3	3	0	0	3

**SEMESTER VII
ELECTIVE - II**

Sl. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	CS8091	Big Data Analytics	PE	3	3	0	0	3
2.	CS8082	Machine Learning Techniques	PE	3	3	0	0	3
3.	CS8092	Computer Graphics and Multimedia	PE	3	3	0	0	3
4.	IT8075	Software Project Management	PE	3	3	0	0	3
5.	CS8081	Internet of Things	PE	3	3	0	0	3
6.	IT8074	Service Oriented Architecture	PE	3	3	0	0	3
7.	GE8077	Total Quality Management	PE	3	3	0	0	3

**SEMESTER VII
ELECTIVE - III**

Sl. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	CS8083	Multi-core Architectures and Programming	PE	3	3	0	0	3
2.	CS8079	Human Computer Interaction	PE	3	3	0	0	3
3.	CS8073	C# and .Net Programming	PE	3	3	0	0	3
4.	CS8088	Wireless Adhoc and Sensor Networks	PE	3	3	0	0	3
5.	CS8071	Advanced Topics on Databases	PE	3	3	0	0	3
6.	GE8072	Foundation Skills in Integrated Product Development	PE	3	3	0	0	3
7.	GE8074	Human Rights	PE	3	3	0	0	3
8.	GE8071	Disaster Management	PE	3	3	0	0	3

**SEMESTER VIII
ELECTIVE - IV**

SI. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	EC8093	Digital Image Processing	PE	3	3	0	0	3
2.	CS8085	Social Network Analysis	PE	3	3	0	0	3
3.	IT8073	Information Security	PE	3	3	0	0	3
4.	CS8087	Software Defined Networks	PE	3	3	0	0	3
5.	CS8074	Cyber Forensics	PE	3	3	0	0	3
6.	CS8086	Soft Computing	PE	3	3	0	0	3
7.	GE8076	Professional Ethics in Engineering	PE	3	3	0	0	3

**SEMESTER VIII
ELECTIVE - V**

SI. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	CS8080	Information Retrieval Techniques	PE	3	3	0	0	3
2.	CS8078	Green Computing	PE	3	3	0	0	3
3.	CS8076	GPU Architecture and Programming	PE	3	3	0	0	3
4.	CS8084	Natural Language Processing	PE	3	3	0	0	3
5.	CS8001	Parallel Algorithms	PE	3	3	0	0	3
6.	IT8077	Speech Processing	PE	3	3	0	0	3
7.	GE8073	Fundamentals of Nano Science	PE	3	3	0	0	3

EMPLOYABILITY ENHANCEMENT COURSES (EEC)

SI. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	HS8381	Interpersonal Skills/Listening & Speaking	EEC	2	0	0	2	1
2.	HS8461	Advanced Reading and Writing	EEC	2	0	0	2	1
3.	CS8611	Mini Project	EEC	2	0	0	2	1
4.	HS8581	Professional Communication	EEC	2	0	0	2	1
5.	CS8811	Project Work	EEC	20	0	0	20	10

SUMMARY

S.NO.	SUBJECT AREA	CREDITS AS PER SEMESTER								CREDITS TOTAL	Percentage
		I	II	III	IV	V	VI	VII	VIII		
1.	HS	4	7					3		14	7.60%
2.	BS	12	7	4	4	4				31	16.8%
3.	ES	9	5	9						23	12.5%
4.	PC		5	10	19	18	20	10		82	44.5%
5.	PE						3	6	6	15	8.15%
6.	OE					3		3		6	3.3%
7.	EEC			1	1		2		10	14	7.65%
	Total	25	24	24	24	25	25	22	16	185	
8.	Non Credit / Mandatory										

ANNA UNIVERSITY, CHENNAI
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REGULATIONS – 2017
CHOICE BASED CREDIT SYSTEM
I - VIII SEMESTERS CURRICULA AND SYLLABI

SEMESTER I

Sl. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	HS8151	Communicative English	HS	4	4	0	0	4
2.	MA8151	Engineering Mathematics - I	BS	4	4	0	0	4
3.	PH8151	Engineering Physics	BS	3	3	0	0	3
4.	CY8151	Engineering Chemistry	BS	3	3	0	0	3
5.	GE8151	Problem Solving and Python Programming	ES	3	3	0	0	3
6.	GE8152	Engineering Graphics	ES	6	2	0	4	4
PRACTICALS								
7.	GE8161	Problem Solving and Python Programming Laboratory	ES	4	0	0	4	2
8.	BS8161	Physics and Chemistry Laboratory	BS	4	0	0	4	2
TOTAL				31	19	0	12	25

SEMESTER II

Sl. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	HS8251	Technical English	HS	4	4	0	0	4
2.	MA8251	Engineering Mathematics - II	BS	4	4	0	0	4
3.	PH8253	Physics for Electronics Engineering	BS	3	3	0	0	3
4.	BE8254	Basic Electrical and Instrumentation Engineering	ES	3	3	0	0	3
5.	EC8251	Circuit Analysis	PC	4	4	0	0	4
6.	EC8252	Electronic Devices	PC	3	3	0	0	3
PRACTICALS								
7.	EC8261	Circuits and Devices Laboratory	PC	4	0	0	4	2
8.	GE8261	Engineering Practices Laboratory	ES	4	0	0	4	2
TOTAL				29	21	0	8	25

SEMESTER III

Sl. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	MA8352	Linear Algebra and Partial Differential Equations	BS	4	4	0	0	4
2.	EC8393	Fundamentals of Data Structures In C	ES	3	3	0	0	3
3.	EC8351	Electronic Circuits- I	PC	3	3	0	0	3
4.	EC8352	Signals and Systems	PC	4	4	0	0	4
5.	EC8392	Digital Electronics	PC	3	3	0	0	3
6.	EC8391	Control Systems Engineering	PC	3	3	0	0	3
PRACTICALS								
7.	EC8381	Fundamentals of Data Structures in C Laboratory	ES	4	0	0	4	2
8.	EC8361	Analog and Digital Circuits Laboratory	PC	4	0	0	4	2
9.	HS8381	Interpersonal Skills/Listening &Speaking	EEC	2	0	0	2	1
TOTAL				30	20	0	10	25

SEMESTER IV

Sl. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	MA8451	Probability and Random Processes	BS	4	4	0	0	4
2.	EC8452	Electronic Circuits II	PC	3	3	0	0	3
3.	EC8491	Communication Theory	PC	3	3	0	0	3
4.	EC8451	Electromagnetic Fields	PC	4	4	0	0	4
5.	EC8453	Linear Integrated Circuits	PC	3	3	0	0	3
6.	GE8291	Environmental Science and Engineering	HS	3	3	0	0	3
PRACTICALS								
7.	EC8461	Circuits Design and Simulation Laboratory	PC	4	0	0	4	2
8.	EC8462	Linear Integrated Circuits Laboratory	PC	4	0	0	4	2
TOTAL				28	20	0	8	24

SEMESTER V

Sl. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	EC8501	Digital Communication	PC	3	3	0	0	3
2.	EC8553	Discrete-Time Signal Processing	PC	4	4	0	0	4
3.	EC8552	Computer Architecture and Organization	PC	3	3	0	0	3
4.	EC8551	Communication Networks	PC	3	3	0	0	3
5.		Professional Elective I	PE	3	3	0	0	3
6.		Open Elective I	OE	3	3	0	0	3
PRACTICALS								
7.	EC8562	Digital Signal Processing Laboratory	PC	4	0	0	4	2
8.	EC8561	Communication Systems Laboratory	PC	4	0	0	4	2
9.	EC8563	Communication Networks Laboratory	PC	4	0	0	4	2
TOTAL				31	19	0	12	25

SEMESTER VI

Sl. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	EC8691	Microprocessors and Microcontrollers	PC	3	3	0	0	3
2.	EC8095	VLSI Design	PC	3	3	0	0	3
3.	EC8652	Wireless Communication	PC	3	3	0	0	3
4.	MG8591	Principles of Management	HS	3	3	0	0	3
5.	EC8651	Transmission Lines and RF Systems	PC	3	3	0	0	3
6.		Professional Elective -II	PE	3	3	0	0	3
PRACTICALS								
7.	EC8681	Microprocessors and Microcontrollers Laboratory	PC	4	0	0	4	2
8.	EC8661	VLSI Design Laboratory	PC	4	0	0	4	2
9.	EC8611	Technical Seminar	EEC	2	0	0	2	1
10.	HS8581	Professional Communication	EEC	2	0	0	2	1
TOTAL				30	18	0	12	24

SEMESTER VII

Sl.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	EC8701	Antennas and Microwave Engineering	PC	3	3	0	0	3
2.	EC8751	Optical Communication	PC	3	3	0	0	3
3.	EC8791	Embedded and Real Time Systems	PC	3	3	0	0	3
4.	EC8702	Ad hoc and Wireless Sensor Networks	PC	3	3	0	0	3
5.		Professional Elective -III	PE	3	3	0	0	3
6.		Open Elective - II	OE	3	3	0	0	3
PRACTICALS								
7.	EC8711	Embedded Laboratory	PC	4	0	0	4	2
8.	EC8761	Advanced Communication Laboratory	PC	4	0	0	4	2
TOTAL				26	18	0	8	22

SEMESTER VIII

Sl. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.		Professional Elective IV	PE	3	3	0	0	3
2.		Professional Elective V	PE	3	3	0	0	3
PRACTICALS								
3.	EC8811	Project Work	EEC	20	0	0	20	10
TOTAL				26	6	0	20	16

TOTAL NO. OF CREDITS: 186

HUMANITIES AND SOCIALSCIENCES (HS)

SI.NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	HS8151	Communicative English	HS	4	4	0	0	4
2.	HS8251	Technical English	HS	4	4	0	0	4
3.	GE8291	Environmental Science and Engineering	HS	3	3	0	0	3
4.	MG8591	Principles of Management	HS	3	3	0	0	3

BASIC SCIENCES (BS)

SI.NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	MA8151	Engineering Mathematics I	BS	4	4	0	0	4
2.	PH8151	Engineering Physics	BS	3	3	0	0	3
3.	CY8151	Engineering Chemistry	BS	3	3	0	0	3
4.	BS8161	Physics and Chemistry Laboratory	BS	4	0	0	4	2
5.	MA8251	Engineering Mathematics II	BS	4	4	0	0	4
6.	PH8253	Physics for Electronics Engineering	BS	3	3	0	0	3
7.	MA8352	Linear Algebra and Partial Differential Equations	BS	4	4	0	0	4
8.	MA8451	Probability and Random Processes	BS	4	4	0	0	4

ENGINEERING SCIENCES (ES)

SI. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	GE8151	Problem Solving and Python Programming	ES	3	3	0	0	3
2.	GE8152	Engineering Graphics	ES	6	2	0	4	4
3.	GE8161	Problem Solving and Python Programming Laboratory	ES	4	0	0	4	2
4.	BE8254	Basic Electrical and Instrumentation Engineering	ES	3	3	0	0	3
5.	GE8261	Engineering Practices Laboratory	ES	4	0	0	4	2
6.	EC8393	Fundamentals of Data Structures In C	ES	3	3	0	0	3
7.	EC8381	Fundamentals of Data Structures in C Laboratory	ES	4	0	0	4	2

PROFESSIONAL CORE (PC)

SI.NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	EC8251	Circuit Analysis	PC	4	4	0	0	4
2.	EC8252	Electronic Devices	PC	3	3	0	0	3
3.	EC8261	Circuits and Devices Lab	PC	4	0	0	4	2
4.	EC8351	Electronic Circuits- I	PC	3	3	0	0	3
5.	EC8352	Signals and Systems	PC	4	4	0	0	4
6.	EC8392	Digital Electronics	PC	3	3	0	0	3
7.	EC8391	Control System Engineering	PC	3	3	0	0	3
8.	EC8361	Analog and Digital Circuits Laboratory	PC	4	0	0	4	2
9.	EC8452	Electronic Circuits II	PC	3	3	0	0	3
10.	EC8491	Communication Theory	PC	3	3	0	0	3
11.	EC8451	Electromagnetic Fields	PC	4	4	0	0	4
12.	EC8453	Linear Integrated Circuits	PC	3	3	0	0	3
13.	EC8461	Circuits Design and Simulation Laboratory	PC	4	0	0	4	2
14.	EC8462	Linear Integrated Circuits Laboratory	PC	4	0	0	4	2
15.	EC8501	Digital Communication	PC	3	3	0	0	3
16.	EC8553	Discrete-Time Signal Processing	PC	4	4	0	0	4
17.	EC8651	Transmission Lines and RF Systems	PC	3	3	0	0	3
18.	EC8552	Computer Architecture and Organization	PC	3	3	0	0	3
19.	EC8551	Communication Networks	PC	3	3	0	0	3
20.	EC8562	Digital Signal Processing Laboratory	PC	4	0	0	4	2
21.	EC8561	Communication Systems Laboratory	PC	4	0	0	4	2
22.	EC8563	Communication Networks Laboratory	PC	4	0	0	4	2
23.	EC8691	Microprocessors and Microcontrollers	PC	3	3	0	0	3
24.	EC8095	VLSI Design	PC	3	3	0	0	3
25.	EC8652	Wireless Communication	PC	3	3	0	0	3
26.	EC8661	VLSI Design Laboratory	PC	4	0	0	4	2

27.	EC8681	Microprocessors and Microcontrollers Laboratory	PC	4	0	0	4	2
28.	EC8701	Antennas and Microwave Engineering	PC	3	3	0	0	3
29.	EC8751	Optical Communication	PC	3	3	0	0	3
30.	EC8791	Embedded and Real Time Systems	PC	3	3	0	0	3
31.	EC8702	Ad hoc and Wireless Sensor Networks	PC	3	3	0	0	3
32.	EC8711	Embedded Laboratory	PC	4	0	0	4	2
33.	EC8761	Advanced Communication Laboratory	PC	4	0	0	4	2

**PROFESSIONAL ELECTIVES (PE)*
SEMESTER V
ELECTIVE I**

Sl. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	CS8392	Object Oriented Programming	PE	3	3	0	0	3
2.	EC8073	Medical Electronics	PE	3	3	0	0	3
3.	CS8493	Operating Systems	PE	3	3	0	0	3
4.	EC8074	Robotics and Automation	PE	3	3	0	0	3
5.	EC8075	Nano Technology and Applications	PE	3	3	0	0	3
6.	GE8074	Human Rights	PE	3	3	0	0	3
7.	GE8077	Total Quality Management	PE	3	3	0	0	3

**SEMESTER VI
ELECTIVE II**

Sl. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	CS8792	Cryptography and Network Security	PE	3	3	0	0	3
2.	EC8091	<u>Advanced Digital Signal Processing</u>	PE	3	3	0	0	3
3.	EC8001	MEMS and NEMS	PE	3	3	0	0	3
4.	EC8002	Multimedia Compression and Communication	PE	3	3	0	0	3
5.	EC8003	CMOS Analog IC Design	PE	3	3	0	0	3
6.	EC8004	Wireless Networks	PE	3	3	0	0	3
7.	GE8075	Intellectual Property Rights	PE	3	3	0	0	3

**SEMESTER VII
ELECTIVE III**

Sl. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	EC8092	Advanced Wireless Communication	PE	3	3	0	0	3
2.	EC8071	Cognitive Radio	PE	3	3	0	0	3
3.	GE8072	Foundation Skills in Integrated Product Development	PE	3	3	0	0	3
4.	CS8082	Machine Learning Techniques	PE	3	3	0	0	3
5.	EC8005	Electronics Packaging and Testing	PE	3	3	0	0	3
6.	EC8006	Mixed Signal IC Design	PE	3	3	0	0	3
7.	GE8071	Disaster Management	PE	3	3	0	0	3

**SEMESTER VIII
ELECTIVE IV**

SI.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	EC8072	Electro Magnetic Interference and Compatibility	PE	3	3	0	0	3
2.	EC8007	Low power SoC Design	PE	3	3	0	0	3
3.	EC8008	Photonic Networks	PE	3	3	0	0	3
4.	EC8009	Compressive Sensing	PE	3	3	0	0	3
5.	EC8093	Digital Image Processing	PE	3	3	0	0	3
6.	GE8076	Professional Ethics in Engineering	PE	3	3	0	0	3

**SEMESTER VIII
ELECTIVE V**

SI.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	EC8010	Video Analytics	PE	3	3	0	0	3
2.	EC8011	DSP Architecture and Programming	PE	3	3	0	0	3
3.	EC8094	Satellite Communication	PE	3	3	0	0	3
4.	CS8086	Soft Computing	PE	3	3	0	0	3
5.	IT8006	Principles of Speech Processing	PE	3	3	0	0	3
6.	GE8073	Fundamentals of Nano Science	PE	3	3	0	0	3

*Professional Electives are grouped according to elective number as was done previously.

EMPLOYABILITY ENHANCEMENT COURSES (EEC)

S.NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	HS8381	Interpersonal Skills/Listening & Speaking	EEC	2	0	0	2	1
2.	EC8611	Technical Seminar	EEC	2	0	0	2	1
3.	HS8581	Professional Communication	EEC	2	0	0	2	1
4.	EC8811	Project Work	EEC	20	0	0	20	10

SUMMARY

S.NO.	SUBJECT AREA	CREDITS AS PER SEMESTER								CREDITS TOTAL	Percentage
		I	II	III	IV	V	VI	VII	VIII		
1.	HS	4	4		3		3			14	7.56%
2.	BS	12	7	4	4					27	14.6%
3.	ES	9	5	5						19	10.27%
4.	PC		9	15	17	19	16	16		92	50%
5.	PE					3	3	3	6	15	8.10%
6.	OE					3		3		6	3.24%
7.	EEC			1			2		10	13	6.48%
	Total	25	25	25	24	25	24	22	16	186	
8.	Non Credit / Mandatory										

ANNA UNIVERSITY, CHENNAI
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B.E. MECHANICAL ENGINEERING
REGULATIONS - 2017
CHOICE BASED CREDIT SYSTEM
I TO VIII SEMESTERS CURRICULA AND SYLLABI

SEMESTER I

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	HS8151	Communicative English	HS	4	4	0	0	4
2.	MA8151	Engineering Mathematics - I	BS	4	4	0	0	4
3.	PH8151	Engineering Physics	BS	3	3	0	0	3
4.	CY8151	Engineering Chemistry	BS	3	3	0	0	3
5.	GE8151	Problem Solving and Python Programming	ES	3	3	0	0	3
6.	GE8152	Engineering Graphics	ES	6	2	0	4	4
PRACTICALS								
7.	GE8161	Problem Solving and Python Programming Laboratory	ES	4	0	0	4	2
8.	BS8161	Physics and Chemistry Laboratory	BS	4	0	0	4	2
TOTAL				31	19	0	12	25

SEMESTER II

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	HS8251	Technical English	HS	4	4	0	0	4
2.	MA8251	Engineering Mathematics - II	BS	4	4	0	0	4
3.	PH8251	Materials Science	BS	3	3	0	0	3
4.	BE8253	Basic Electrical, Electronics and Instrumentation Engineering	ES	3	3	0	0	3
5.	GE8291	Environmental Science and Engineering	HS	3	3	0	0	3
6.	GE8292	Engineering Mechanics	ES	5	3	2	0	4
PRACTICALS								
7.	GE8261	Engineering Practices Laboratory	ES	4	0	0	4	2
8.	BE8261	Basic Electrical, Electronics and Instrumentation Engineering Laboratory	ES	4	0	0	4	2
TOTAL				30	20	2	8	25

SEMESTER III

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	MA8353	Transforms and Partial Differential Equations	BS	4	4	0	0	4
2.	ME8391	Engineering Thermodynamics	PC	5	3	2	0	4
3.	CE8394	Fluid Mechanics and Machinery	ES	4	4	0	0	4
4.	ME8351	Manufacturing Technology - I	PC	3	3	0	0	3
5.	EE8353	Electrical Drives and Controls	ES	3	3	0	0	3
PRACTICAL								
6.	ME8361	Manufacturing Technology Laboratory - I	PC	4	0	0	4	2
7.	ME8381	Computer Aided Machine Drawing	PC	4	0	0	4	2
8.	EE8361	Electrical Engineering Laboratory	ES	4	0	0	4	2
9.	HS8381	Interpersonal Skills / Listening & Speaking	EEC	2	0	0	2	1
TOTAL				33	17	2	14	25

SEMESTER IV

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	MA8452	Statistics and Numerical Methods	BS	4	4	0	0	4
2.	ME8492	Kinematics of Machinery	PC	3	3	0	0	3
3.	ME8451	Manufacturing Technology – II	PC	3	3	0	0	3
4.	ME8491	Engineering Metallurgy	PC	3	3	0	0	3
5.	CE8395	Strength of Materials for Mechanical Engineers	ES	3	3	0	0	3
6.	ME8493	Thermal Engineering- I	PC	3	3	0	0	3
PRACTICAL								
7.	ME8462	Manufacturing Technology Laboratory – II	PC	4	0	0	4	2
8.	CE8381	Strength of Materials and Fluid Mechanics and Machinery Laboratory	ES	4	0	0	4	2
9.	HS8461	Advanced Reading and Writing	EEC	2	0	0	2	1
TOTAL				29	19	0	10	24

SEMESTER V

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	ME8595	Thermal Engineering- II	PC	3	3	0	0	3
2.	ME8593	Design of Machine Elements	PC	3	3	0	0	3
3.	ME8501	Metrology and Measurements	PC	3	3	0	0	3
4.	ME8594	Dynamics of Machines	PC	4	4	0	0	4
5.		Open Elective I	OE	3	3	0	0	3
PRACTICAL								
6.	ME8511	Kinematics and Dynamics Laboratory	PC	4	0	0	4	2
7.	ME8512	Thermal Engineering Laboratory	PC	4	0	0	4	2
8.	ME8513	Metrology and Measurements Laboratory	PC	4	0	0	4	2
TOTAL				28	16	0	12	22

SEMESTER VI

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	ME8651	Design of Transmission Systems	PC	3	3	0	0	3
2.	ME8691	Computer Aided Design and Manufacturing	PC	3	3	0	0	3
3.	ME8693	Heat and Mass Transfer	PC	5	3	2	0	4
4.	ME8692	Finite Element Analysis	PC	3	3	0	0	3
5.	ME8694	Hydraulics and Pneumatics	PC	3	3	0	0	3
6.		Professional Elective - I	PE	3	3	0	0	3
PRACTICAL								
7.	ME8681	CAD / CAM Laboratory	PC	4	0	0	4	2
8.	ME8682	Design and Fabrication Project	EEC	4	0	0	4	2
9.	HS8581	Professional Communication	EEC	2	0	0	2	1
TOTAL				30	18	2	10	24

SEMESTER VII

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	ME8792	Power Plant Engineering	PC	3	3	0	0	3
2.	ME8793	Process Planning and Cost Estimation	PC	3	3	0	0	3
3.	ME8791	Mechatronics	PC	3	3	0	0	3
4.		Open Elective - II	OE	3	3	0	0	3
5.		Professional Elective – II	PE	3	3	0	0	3
6.		Professional Elective – III	PE	3	3	0	0	3
PRACTICAL								
7.	ME8711	Simulation and Analysis Laboratory	PC	4	0	0	4	2
8.	ME8781	Mechatronics Laboratory	PC	4	0	0	4	2
9.	ME8712	Technical Seminar	EEC	2	0	0	2	1
TOTAL				28	18	0	10	23

SEMESTER VIII

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	MG8591	Principles of Management	HS	3	3	0	0	3
2.		Professional Elective– IV	PE	3	3	0	0	3
PRACTICAL								
3.	ME8811	Project Work	EEC	20	0	0	20	10
TOTAL				29	9	0	20	16

TOTAL NUMBER OF CREDITS TO BE EARNED FOR AWARD OF THE DEGREE = 184

HUMANITIES AND SOCIAL SCIENCES (HS)

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	HS8151	Communicative English	HS	4	4	0	0	4
2.	HS8251	Technical English	HS	4	4	0	0	4
3.	GE8291	Environmental Science and Engineering	HS	3	3	0	0	3
4.	MG8591	Principles of Management	HS	3	3	0	0	3

BASIC SCIENCE (BS)

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	MA8151	Engineering Mathematics - I	BS	5	3	2	0	4
2.	PH8151	Engineering Physics	BS	3	3	0	0	3
3.	CY8151	Engineering Chemistry	BS	3	3	0	0	3
4.	BS8161	Physics and Chemistry Laboratory	BS	4	0	0	4	2
5.	MA8251	Engineering Mathematics II	BS	4	4	0	0	4
6.	PH8251	Materials Science	BS	3	3	0	0	3
7.	MA8353	Transforms and Partial Differential Equations	BS	4	4	0	0	4
8.	MA8452	Statistics and Numerical Methods	BS	4	4	0	0	4

ENGINEERING SCIENCES (ES)

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	GE8151	Problem Solving and Python Programming	ES	3	3	0	0	3
2.	GE8152	Engineering Graphics	ES	6	2	0	4	4
3.	GE8161	Problem Solving and Python Programming Laboratory	ES	4	0	0	4	2
4.	BE8253	Basic Electrical, Electronics and Instrumentation Engineering	ES	3	3	0	0	3
5.	GE8292	Engineering Mechanics	ES	5	3	2	0	4
6.	GE8261	Engineering Practices Laboratory	ES	4	0	0	4	2
7.	BE8261	Basic Electrical, Electronics and Instrumentation Engineering Laboratory	ES	4	0	0	4	2
8.	CE8394	Fluid Mechanics and Machinery	ES	5	3	2	0	4
9.	EE8353	Electrical Drives and Controls	ES	3	3	0	0	3
10.	EE8361	Electrical Engineering Laboratory	ES	4	0	0	4	2
11.	CE8395	Strength of Materials for Mechanical Engineers	ES	3	3	0	0	3
12.	CE8381	Strength of Materials and Fluid Mechanics and Machinery Laboratory	ES	4	0	0	4	2

PROFESSIONAL CORE (PC)

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	ME8391	Engineering Thermodynamics	PC	5	3	2	0	4
2.	ME8351	Manufacturing Technology - I	PC	3	3	0	0	3
3.	ME8361	Manufacturing Technology Laboratory - I	PC	4	0	0	4	2
4.	ME8381	Computer Aided Machine Drawing	PC	4	0	0	4	2
5.	ME8492	Kinematics of Machinery	PC	3	3	0	0	3
6.	ME8451	Manufacturing Technology– II	PC	3	3	0	0	3
7.	ME8491	Engineering Metallurgy	PC	3	3	0	0	3
8.	ME8493	Thermal Engineering- I	PC	3	3	0	0	3
9.	ME8462	Manufacturing Technology Laboratory–II	PC	4	0	0	4	2
10.	ME8595	Thermal Engineering- II	PC	3	3	0	0	3
11.	ME8593	Design of Machine Elements	PC	3	3	0	0	3
12.	ME8501	Metrology and Measurements	PC	3	3	0	0	3
13.	ME8594	Dynamics of Machines	PC	4	4	0	0	4
14.	ME8511	Kinematics and Dynamics Laboratory	PC	4	0	0	4	2
15.	ME8512	Thermal Engineering Laboratory	PC	4	0	0	4	2
16.	ME8513	Metrology and Measurements Laboratory	PC	4	0	0	4	2
17.	ME8651	Design of Transmission Systems	PC	3	3	0	0	3
18.	ME8691	Computer Aided Design and Manufacturing	PC	3	3	0	0	3
19.	ME8693	Heat and Mass Transfer	PC	5	3	2	0	4
20.	ME8692	Finite Element Analysis	PC	3	3	0	0	3
21.	ME8694	Hydraulics and Pneumatics	PC	3	3	0	0	3
22.	ME8681	C.A.D. / C.A.M. Laboratory	PC	4	0	0	4	2
23.	ME8682	Design and Fabrication Project	PC	4	0	0	4	2
24.	ME8792	Power Plant Engineering	PC	3	3	0	0	3
25.	ME8791	Mechatronics	PC	3	3	0	0	3
26.	ME8793	Process Planning and Cost Estimation	PC	3	3	0	0	3
27.	ME8711	Simulation and Analysis Laboratory	PC	4	0	0	4	2
28.	ME8781	Mechatronics Laboratory	PC	4	0	0	4	2

PROFESSIONAL ELECTIVES FOR B.E. MECHANICAL ENGINEERING**SEMESTER VI, ELECTIVE I**

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	ME8091	Automobile Engineering	PE	3	3	0	0	3
2.	PR8592	Welding Technology	PE	3	3	0	0	3
3.	ME8096	Gas Dynamics and Jet Propulsion	PE	3	3	0	0	3
4.	GE8075	Intellectual Property Rights	PE	3	3	0	0	3
5.	GE8073	Fundamentals of Nano Science	PE	3	3	0	0	3

SEMESTER VII, ELECTIVE II

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	ME8071	Refrigeration and Air conditioning	PE	3	3	0	0	3
2.	ME8072	Renewable Sources of Energy	PE	3	3	0	0	3
3.	ME8098	Quality Control and Reliability Engineering	PE	3	3	0	0	3
4.	ME8073	Unconventional Machining Processes	PE	3	3	0	0	3
5.	MG8491	Operations Research	PE	3	3	0	0	3
6.	MF8071	Additive Manufacturing	PE	3	3	0	0	3
7.	GE8077	Total Quality Management	PE	3	3	0	0	3

SEMESTER VII, ELECTIVE III

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	ME8099	Robotics	PE	3	3	0	0	3
2.	ME8095	Design of Jigs, Fixtures and Press Tools	PE	3	3	0	0	3
3.	ME8093	Computational Fluid Dynamics	PE	3	3	0	0	3
4.	ME8097	Non Destructive Testing and Evaluation	PE	3	3	0	0	3
5.	ME8092	Composite Materials and Mechanics	PE	3	3	0	0	3
6.	GE8072	Foundation Skills in Integrated Product Development	PE	3	3	0	0	3
7.	GE8074	Human Rights	PE	3	3	0	0	3
8.	GE8071	Disaster Management	PE	3	3	0	0	3

SEMESTER VIII, ELECTIVE IV

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	IE8693	Production Planning and Control	PE	3	3	0	0	3
2.	MG8091	Entrepreneurship Development	PE	3	3	0	0	3
3.	ME8094	Computer Integrated Manufacturing Systems	PE	3	3	0	0	3
4.	ME8074	Vibration and Noise Control	PE	3	3	0	0	3
5.	EE8091	Micro Electro Mechanical Systems	PE	3	3	0	0	3
6.	GE8076	Professional Ethics in Engineering	PE	3	3	0	0	3

EMPLOYABILITY ENHANCEMENT COURSES (EEC)

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	HS8381	Interpersonal Skills/Listening &	EEC	4	0	0	4	2
2.	ME8712	Technical Seminar	EEC	2	0	0	2	1
3.	ME8811	Project Work	EEC	20	0	0	20	12
4.	HS8461	Advanced Reading and Writing	EEC	2	0	0	2	1
5.	ME8682	Design and Fabrication Project	EEC	4	0	0	4	2
6.	HS8581	Professional Communication	EEC	2	0	0	2	1

SUMMARY

SL. NO.	SUBJECT AREA	CREDITS PER SEMESTER								CREDITS TOTAL	Percentage %
		I	II	III	IV	V	VI	VII	VIII		
1.	HS	4	7	-	-	-		-	3	14	7.61%
2.	BS	12	7	4	4	-	-	-	-	27	14.67%
3.	ES	9	11	9	5	-	-	-	-	33	17.80%
4.	PC	-	-	11	14	19	18	13	-	74	40.22%
5.	PE	-	-	-	-	-	3	6	3	15	8.15%
6.	OE	-	-	-	-	3	-	3		6	3.26%
7.	EEC	-	-	1	1	-	3	1	10	16	7.6%
	Total	25	25	25	24	22	24	23	16	184	
8.	Non Credit / Mandatory										

ANNA UNIVERSITY, CHENNAI
AFFILIATED INSTITUTIONS
B.E. CIVIL ENGINEERING
REGULATIONS – 2017
CHOICE BASED CREDIT SYSTEM
I TO VIII SEMESTERS CURRICULA & SYLLABI
SEMESTER I

S.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	HS8151	Communicative English	HS	4	4	0	0	4
2.	MA8151	Engineering Mathematics – I	BS	4	4	0	0	4
3.	PH8151	Engineering Physics	BS	3	3	0	0	3
4.	CY8151	Engineering Chemistry	BS	3	3	0	0	3
5.	GE8151	Problem Solving and Python Programming	ES	3	3	0	0	3
6.	GE8152	Engineering Graphics	ES	6	2	0	4	4
PRACTICALS								
7.	GE8161	Problem Solving and Python Programming Laboratory	ES	4	0	0	4	2
8.	BS8161	Physics and Chemistry Laboratory	BS	4	0	0	4	2
TOTAL				31	19	0	12	25

SEMESTER II

S.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	HS8251	Technical English	HS	4	4	0	0	4
2.	MA8251	Engineering Mathematics – II	BS	4	4	0	0	4
3.	PH8201	Physics For Civil Engineering	BS	3	3	0	0	3
4.	BE8251	Basic Electrical and Electronics Engineering	ES	3	3	0	0	3
5.	GE8291	Environmental Science and Engineering	HS	3	3	0	0	3
6.	GE8292	Engineering Mechanics	ES	5	3	2	0	4
PRACTICALS								
7.	GE8261	Engineering Practices Laboratory	ES	4	0	0	4	2
8.	CE8211	Computer Aided Building Drawing	PC	4	0	0	4	2
TOTAL				30	20	2	8	25

SEMESTER III

S.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	MA8353	Transforms and Partial Differential Equations	BS	4	4	0	0	4
2.	CE8301	Strength of Materials I	PC	3	3	0	0	3
3.	CE8302	Fluid Mechanics	PC	3	3	0	0	3
4.	CE8351	Surveying	PC	3	3	0	0	3
5.	CE8391	Construction Materials	PC	3	3	0	0	3
6.	CE8392	Engineering Geology	ES	3	3	0	0	3
PRACTICALS								
7.	CE8311	Construction Materials Laboratory	PC	4	0	0	4	2
8.	CE8361	Surveying Laboratory	PC	4	0	0	4	2
9.	HS8381	Interpersonal Skills / Listening and Speaking	EEC	2	0	0	2	1
TOTAL				29	19	0	10	24

SEMESTER IV

S.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	MA8491	Numerical Methods	BS	4	4	0	0	4
2.	CE8401	Construction Techniques and Practices	PC	3	3	0	0	3
3.	CE8402	Strength of Materials II	PC	3	3	0	0	3
4.	CE8403	Applied Hydraulic Engineering	PC	3	3	0	0	3
5.	CE8404	Concrete Technology	PC	3	3	0	0	3
6.	CE8491	Soil Mechanics	PC	3	3	0	0	3
PRACTICALS								
7.	CE8481	Strength of Materials Laboratory	PC	4	0	0	4	2
8.	CE8461	Hydraulic Engineering Laboratory	PC	4	0	0	4	2
9.	HS8461	Advanced Reading and Writing	EEC	2	0	0	2	1
TOTAL				29	19	0	10	24

SEMESTER V

S.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	CE8501	Design of Reinforced Cement Concrete Elements	PC	5	3	2	0	4
2.	CE8502	Structural Analysis I	PC	3	3	0	0	3
3.	EN8491	Water Supply Engineering	PC	3	3	0	0	3
4.	CE8591	Foundation Engineering	PC	3	3	0	0	3
5.		Professional Elective I	PE	3	3	0	0	3
6.		Open Elective I*	OE	3	3	0	0	3
PRACTICALS								
7.	CE8511	Soil Mechanics Laboratory	PC	4	0	0	4	2
8.	CE8512	Water and Waste Water Analysis Laboratory	PC	4	0	0	4	2
9.	CE8513	Survey Camp (2 weeks –During IV Semester)	EEC	0	0	0	0	2
TOTAL				28	18	2	8	25

SEMESTER VI

S.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	CE8601	Design of Steel Structural Elements	PC	5	3	2	0	4
2.	CE8602	Structural Analysis II	PC	3	3	0	0	3
3.	CE8603	Irrigation Engineering	PC	3	3	0	0	3
4.	CE8604	Highway Engineering	PC	3	3	0	0	3
5.	EN8592	Wastewater Engineering	PC	3	3	0	0	3
6.		Professional Elective II	PE	3	3	0	0	3
PRACTICALS								
7.	CE8611	Highway Engineering Laboratory	PC	4	0	0	4	2
8.	CE8612	Irrigation and Environmental Engineering Drawing	PC	4	0	0	4	2
9.	HS8581	Professional Communication	EEC	2	0	0	2	1
TOTAL				30	18	2	10	24

SEMESTER VII

S.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	CE8701	Estimation, Costing and Valuation Engineering	PC	3	3	0	0	3
2.	CE8702	Railways, Airports, Docks and Harbour Engineering	PC	3	3	0	0	3
3.	CE8703	Structural Design and Drawing	PC	5	3	0	2	4
4.		Professional Elective III	PE	3	3	0	0	3
5.		Open Elective II*	OE	3	3	0	0	3
PRACTICALS								
6.	CE8711	Creative and Innovative Project (Activity Based - Subject Related)	EEC	4	0	0	4	2
7.	CE8712	Industrial Training (4 weeks During VI Semester – Summer)	EEC	0	0	0	0	2
TOTAL				21	15	0	6	20

SEMESTER VIII

S.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.		Professional Elective IV	PE	3	3	0	0	3
2.		Professional Elective V	PE	3	3	0	0	3
PRACTICALS								
3.	CE8811	Project Work	EEC	20	0	0	20	10
TOTAL				26	6	0	20	16

TOTAL NO. OF CREDITS: 183

*Course from the curriculum of other UG Programmes.

HUMANITIES AND SOCIAL SCIENCES (HS)

S.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	HS8151	Communicative English	HS	4	4	0	0	4
2.	HS8251	Technical English	HS	4	4	0	0	4
3.	GE8291	Environmental Science and Engineering	HS	3	3	0	0	3

BASIC SCIENCES (BS)

S.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	MA8151	Engineering Mathematics – I	BS	4	4	0	0	4
2.	PH8151	Engineering Physics	BS	3	3	0	0	3
3.	CY8151	Engineering Chemistry	BS	3	3	0	0	3
4.	BS8161	Physics and Chemistry Laboratory	BS	4	0	0	4	2
5.	MA8251	Engineering Mathematics – II	BS	4	4	0	0	4
6.	PH8201	Physics for Civil Engineering	BS	3	3	0	0	3
7.	MA8353	Transforms and Partial Differential Equations	BS	4	4	0	0	4
8.	MA8491	Numerical Methods	BS	4	4	0	0	4

ENGINEERING SCIENCES (ES)

S.No.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	GE8151	Problem Solving and Python Programming	ES	3	3	0	0	3
2.	GE8152	Engineering Graphics	ES	6	2	0	4	4
3.	GE8161	Problem Solving and Python Programming Laboratory	ES	4	0	0	4	2
4.	BE8251	Basic Electrical and Electronics Engineering	ES	3	3	0	0	3
5.	GE8292	Engineering Mechanics	ES	5	3	2	0	4
6.	GE8261	Engineering Practices Laboratory	ES	4	0	0	4	2
7.	CE8392	Engineering Geology	ES	3	3	0	0	3

PROFESSIONAL CORE (PC)

S.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	CE8211	Computer Aided Building Drawing	PC	4	0	0	4	2
2.	CE8391	Construction Materials	PC	3	3	0	0	3
3.	CE8301	Strength of Materials I	PC	3	3	0	0	3
4.	CE8302	Fluid Mechanics	PC	3	3	0	0	3
5.	CE8351	Surveying	PC	3	3	0	0	3

6.	CE8481	Strength of Materials Laboratory	PC	4	0	0	4	2
7.	CE8361	Surveying Laboratory	PC	4	0	0	4	2
8.	CE8311	Construction Materials Laboratory	PC	4	0	0	4	2
9.	CE8401	Construction Techniques and Practices	PC	3	3	0	0	3
10.	CE8402	Strength of Materials II	PC	3	3	0	0	3
11.	CE8403	Applied Hydraulic Engineering	PC	3	3	0	0	3
12.	CE8404	Concrete Technology	PC	3	3	0	0	3
13.	CE8491	Soil Mechanics	PC	3	3	0	0	3
14.	CE8461	Hydraulic Engineering Laboratory	PC	4	0	0	4	2
15.	CE8501	Design of Reinforced Cement Concrete Elements	PC	5	3	2	0	4
16.	CE8502	Structural Analysis I	PC	3	3	0	0	3
17.	CE8511	Soil Mechanics Laboratory	PC	4	0	0	4	2
18.	CE8512	Water and Waste Water Analysis Laboratory	PC	4	0	0	4	2
19.	CE8591	Foundation Engineering	PC	3	3	0	0	3
20.	CE8601	Design of Steel Structural Elements	PC	5	3	2	0	4
21.	CE8602	Structural Analysis II	PC	3	3	0	0	3
22.	CE8603	Irrigation Engineering	PC	3	3	0	0	3
23.	CE8604	Highway Engineering	PC	3	3	0	0	3
24.	CE8611	Highway Engineering Laboratory	PC	4	0	0	4	2
25.	CE8612	Irrigation and Environmental Engineering Drawing	PC	4	0	0	4	2
26.	EN8592	Wastewater Engineering	PC	3	3	0	0	3
27.	EN8491	Water Supply Engineering	PC	3	3	0	0	3
28.	CE8701	Estimation, Costing and Valuation Engineering	PC	3	3	0	0	3
29.	CE8702	Railways, Airports, Docks and Harbour Engineering	PC	3	3	0	0	3
30.	CE8703	Structural Design and Drawing	PC	5	3	0	2	4

EMPLOYABILITY ENHANCEMENT COURSES (EEC)

S.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	HS8381	Interpersonal Skills / Listening and Speaking	EEC	2	0	0	2	1
2.	HS8461	Advanced Reading and Writing	EEC	2	0	0	2	1
3.	CE8513	Survey Camp (2 weeks – During IV Semester)	EEC	0	0	0	0	2
4.	HS8581	Professional Communication	EEC	2	0	0	2	1
5.	CE8711	Creative and Innovative Project (Activity Based - Subject Related)	EEC	4	0	0	4	2
6.	CE8712	Industrial Training (4 weeks During VI Semester – Summer)	EEC	0	0	0	0	2
7.	CE8811	Project Work	EEC	20	0	0	20	10

**PROFESSIONAL ELECTIVE
SEMESTER V
ELECTIVE - I**

S.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	GI8012	Digital Cadastre	PE	3	3	0	0	3
2.	GI8013	Advanced Surveying	PE	3	3	0	0	3
3.	GI8014	Geographic Information System	PE	3	3	0	0	3
4.	GI8015	Geoinformatics Applications for Civil Engineers	PE	3	3	0	0	3
5.	GI8491	Total Station and GPS Surveying	PE	3	3	0	0	3
6.	GE8071	Disaster Management	PE	3	3	0	0	3
7.	GE8074	Human Rights	PE	3	3	0	0	3

**SEMESTER VI
ELECTIVE - II**

S.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	CE8001	Ground Improvement Techniques	PE	3	3	0	0	3
2.	CE8002	Introduction to Soil Dynamics and Machine Foundations	PE	3	3	0	0	3
3.	CE8003	Rock Engineering	PE	3	3	0	0	3
4.	CE8004	Urban Planning and Development	PE	3	3	0	0	3
5.	CE8005	Air Pollution and Control Engineering	PE	3	3	0	0	3
6.	GE8075	Intellectual Property Rights	PE	3	3	0	0	3

**SEMESTER VII
ELECTIVE – III**

S.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	CE8006	Pavement Engineering	PE	3	3	0	0	3
2.	CE8007	Traffic Engineering and Management	PE	3	3	0	0	3
3.	CE8008	Transport and Environment	PE	3	3	0	0	3
4.	CE8009	Industrial Structures	PE	3	3	0	0	3
5.	CE8010	Environmental and Social Impact Assessment	PE	3	3	0	0	3
6.	CE8011	Design of Prestressed Concrete Structures	PE	3	3	0	0	3
7.	CE8012	Construction Planning and Scheduling	PE	3	3	0	0	3
8.	EN8591	Municipal Solid Waste Management	PE	3	3	0	0	3
9.	GE8077	Total Quality Management	PE	3	3	0	0	3
10.	GE8072	Foundation Skills In Integrated Product Development	PE	3	3	0	0	3

**SEMESTER VIII
ELECTIVE – IV**

S.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	CE8013	Coastal Engineering	PE	3	3	0	0	3
2.	CE8014	Participatory Water Resources Management	PE	3	3	0	0	3
3.	CE8015	Integrated Water Resources Management	PE	3	3	0	0	3
4.	CE8016	Groundwater Engineering	PE	3	3	0	0	3
5.	CE8017	Water Resources Systems Engineering	PE	3	3	0	0	3
6.	CE8018	Geo-Environmental Engineering	PE	3	3	0	0	3
7.	CE8091	Hydrology and Water Resources Engineering	PE	3	3	0	0	3
8.	GE8076	Professional Ethics in Engineering	PE	3	3	0	0	3

**SEMESTER VIII
ELECTIVE – V**

S.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	CE8019	Computer Aided Design of Structures	PE	3	3	0	0	3
2.	CE8020	Maintenance, Repair and Rehabilitation of Structures	PE	3	3	0	0	3
3.	CE8021	Structural Dynamics and Earthquake Engineering	PE	3	3	0	0	3
4.	CE8022	Prefabricated Structures	PE	3	3	0	0	3
5.	CE8023	Bridge Engineering	PE	3	3	0	0	3
6.	GE8073	Fundamentals of Nano Science	PE	3	3	0	0	3

S.No	Subject Area	Credits per Semester								Credits Total
		I	II	III	IV	V	VI	VII	VIII	
1	HS	4	7							11
2	BS	12	7	4	4					27
3	ES	9	9	3						21
4	PC		2	16	19	17	20	10		84
5	PE					3	3	3	6	15
6	OE					3		3		6
7	EEC			1	1	2	1	4	10	19
	Total	25	25	24	24	25	24	20	16	183
8	Non-Credit/Mandatory									

SUMMARY

ANNA UNIVERSITY, CHENNAI
AFFILIATED INSTITUTIONS
B.E. ELECTRICAL AND ELECTRONICS ENGINEERING
REGULATIONS – 2017
CHOICE BASED CREDIT SYSTEM
I TO VIII SEMESTERS CURRICULA & SYLLABI

SEMESTER I

S.NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	HS8151	Communicative English	HS	4	4	0	0	4
2.	MA8151	Engineering Mathematics - I	BS	4	4	0	0	4
3.	PH8151	Engineering Physics	BS	3	3	0	0	3
4.	CY8151	Engineering Chemistry	BS	3	3	0	0	3
5.	GE8151	Problem Solving and Python Programming	ES	3	3	0	0	3
6.	GE8152	Engineering Graphics	ES	6	2	0	4	4
PRACTICALS								
7.	GE8161	Problem Solving and Python Programming Laboratory	ES	4	0	0	4	2
8.	BS8161	Physics and Chemistry Laboratory	BS	4	0	0	4	2
TOTAL				31	19	0	12	25

SEMESTER II

S.NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	HS8251	Technical English	HS	4	4	0	0	4
2.	MA8251	Engineering Mathematics - II	BS	4	4	0	0	4
3.	PH8253	Physics for Electronics Engineering	BS	3	3	0	0	3
4.	BE8252	Basic Civil and Mechanical Engineering	ES	4	4	0	0	4
5.	EE8251	Circuit Theory	PC	4	2	2	0	3
6.	GE8291	Environmental Science and Engineering	HS	3	3	0	0	3
PRACTICALS								
7.	GE8261	Engineering Practices Laboratory	ES	4	0	0	4	2
8.	EE8261	Electric Circuits Laboratory	PC	4	0	0	4	2
TOTAL				30	20	2	8	25

SEMESTER III

S.NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	MA8353	Transforms and Partial Differential Equations	BS	4	4	0	0	4
2.	EE8351	Digital Logic Circuits	PC	4	2	2	0	3
3.	EE8391	Electromagnetic Theory	PC	4	2	2	0	3
4.	EE8301	Electrical Machines - I	PC	4	2	2	0	3
5.	EC8353	Electron Devices and Circuits	ES	3	3	0	0	3
6.	ME8792	Power Plant Engineering	ES	3	3	0	0	3
PRACTICALS								
7.	EC8311	Electronics Laboratory	ES	4	0	0	4	2
8.	EE8311	Electrical Machines Laboratory - I	PC	4	0	0	4	2
TOTAL				30	16	6	8	23

SEMESTER IV

S.NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	MA8491	Numerical Methods	BS	4	4	0	0	4
2.	EE8401	Electrical Machines - II	PC	4	2	2	0	3
3.	EE8402	Transmission and Distribution	PC	3	3	0	0	3
4.	EE8403	Measurements and Instrumentation	PC	3	3	0	0	3
5.	EE8451	Linear Integrated Circuits and Applications	PC	3	3	0	0	3
6.	IC8451	Control Systems	PC	5	3	2	0	4
PRACTICALS								
7.	EE8411	Electrical Machines Laboratory - II	PC	4	0	0	4	2
8.	EE8461	Linear and Digital Integrated Circuits Laboratory	PC	4	0	0	4	2
9.	EE8412	Technical Seminar	EEC	2	0	0	2	1
TOTAL				32	18	4	10	25

SEMESTER V

S.NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	EE8501	Power System Analysis	PC	3	3	0	0	3
2.	EE8551	Microprocessors and Microcontrollers	PC	3	3	0	0	3
3.	EE8552	Power Electronics	PC	3	3	0	0	3
4.	EE8591	Digital Signal Processing	PC	4	2	2	0	3
5.	CS8392	Object Oriented Programming	ES	3	3	0	0	3
6.		Open Elective I*	OE	3	3	0	0	3
PRACTICALS								
7.	EE8511	Control and Instrumentation Laboratory	PC	4	0	0	4	2
8.	HS8581	Professional Communication	EEC	2	0	0	2	1
9.	CS8383	Object Oriented Programming Laboratory	ES	4	0	0	4	2
TOTAL				29	17	2	10	23

SEMESTER VI

S.NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	EE8601	Solid State Drives	PC	3	3	0	0	3
2.	EE8602	Protection and Switchgear	PC	3	3	0	0	3
3.	EE8691	Embedded Systems	ES	3	3	0	0	3
4.		Professional Elective I	PE	3	3	0	0	3
5.		Professional Elective II	PE	3	3	0	0	3
PRACTICALS								
6.	EE8661	Power Electronics and Drives Laboratory	PC	4	0	0	4	2
7.	EE8681	Microprocessors and Microcontrollers Laboratory	PC	4	0	0	4	2
8.	EE8611	Mini Project	EEC	4	0	0	4	2
TOTAL				27	15	0	12	21

SEMESTER VII

S.NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	EE8701	High Voltage Engineering	PC	3	3	0	0	3
2.	EE8702	Power System Operation and Control	PC	3	3	0	0	3
3.	EE8703	Renewable Energy Systems	PC	3	3	0	0	3
4.		Open Elective II*	OE	3	3	0	0	3
5.		Professional Elective III	PE	3	3	0	0	3
6.		Professional Elective IV	PE	3	3	0	0	3
PRACTICALS								
7.	EE8711	Power System Simulation Laboratory	PC	4	0	0	4	2
8.	EE8712	Renewable Energy Systems Laboratory	PC	4	0	0	4	2
TOTAL				26	18	0	8	22

SEMESTER VIII

S.NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.		Professional Elective V	PE	3	3	0	0	3
2.		Professional Elective VI	PE	3	3	0	0	3
PRACTICALS								
3.	EE8811	Project Work	EEC	20	0	0	20	10
TOTAL				26	6	0	20	16

TOTAL NO. OF CREDITS: 180

*Course from the curriculum of other UG Programmes.

PROFESSIONAL ELECTIVE – I (VI SEMESTER)

S.NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	IC8651	Advanced Control System	PE	4	2	2	0	3
2.	EE8001	Visual Languages and Applications	PE	3	3	0	0	3
3.	EE8002	Design of Electrical Apparatus	PE	3	3	0	0	3
4.	EE8003	Power Systems Stability	PE	3	3	0	0	3
5.	EE8004	Modern Power Converters	PE	3	3	0	0	3
6.	GE8075	Intellectual Property Rights	PE	3	3	0	0	3

PROFESSIONAL ELECTIVE – II (VI SEMESTER)

1.	RO8591	Principles of Robotics	PE	3	3	0	0	3
2.	EE8005	Special Electrical Machines	PE	3	3	0	0	3
3.	EE8006	Power Quality	PE	3	3	0	0	3
4.	EE8007	EHVAC Transmission	PE	3	3	0	0	3
5.	EC8395	Communication Engineering	PE	3	3	0	0	3

PROFESSIONAL ELECTIVE – III (VII SEMESTER)

1.	GE8071	Disaster Management	PE	3	3	0	0	3
2.	GE8074	Human Rights	PE	3	3	0	0	3
3.	MG8491	Operations Research	PE	3	3	0	0	3
4.	MA8391	Probability and Statistics	PE	4	4	0	0	4
5.	EI8075	Fibre Optics and Laser Instrumentation	PE	3	3	0	0	3
6.	GE8072	Foundation Skills in Integrated Product Development	PE	3	3	0	0	3

PROFESSIONAL ELECTIVE – IV (VII SEMESTER)

1.	EE8008	System Identification and Adaptive Control	PE	3	3	0	0	3
2.	CS8491	Computer Architecture	PE	3	3	0	0	3
3.	EE8009	Control of Electrical Drives	PE	3	3	0	0	3
4.	EC8095	VLSI Design	PE	3	3	0	0	3
5.	EE8010	Power Systems Transients	PE	3	3	0	0	3
6.	GE8077	Total Quality Management	PE	3	3	0	0	3

PROFESSIONAL ELECTIVE – V (VIII SEMESTER)

1.	EE8011	Flexible AC Transmission Systems	PE	3	3	0	0	3
2.	EE8012	Soft Computing Techniques	PE	3	3	0	0	3
3.	EE8013	Power Systems Dynamics	PE	3	3	0	0	3
4.	EE8014	SMPS and UPS	PE	3	3	0	0	3
5.	EE8015	Electric Energy Generation, Utilization and Conservation	PE	3	3	0	0	3
6.	GE8076	Professional Ethics in Engineering	PE	3	3	0	0	3
7.	MG8591	Principles of Management	PE	3	3	0	0	3

PROFESSIONAL ELECTIVE – VI (VIII SEMESTER)

1.	EE8016	Energy Management and Auditing	PE	3	3	0	0	3
2.	CS8391	Data Structures	PE	3	3	0	0	3
3.	EE8017	High Voltage Direct Current Transmission	PE	3	3	0	0	3
4.	EE8018	Microcontroller Based System Design	PE	3	3	0	0	3
5.	EE8019	Smart Grid	PE	3	3	0	0	3
6.	EI8073	Biomedical Instrumentation	PE	3	3	0	0	3
7.	GE8073	Fundamentals of Nano Science	PE	3	3	0	0	3

***Professional Electives are grouped according to elective number as was done previously.**

HUMANITIES AND SOCIALSCIENCES (HS)

S.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	HS8151	Communicative English	HS	4	4	0	0	4
2.	HS8251	Technical English	HS	4	4	0	0	4
3.	GE8291	Environmental Science and Engineering	HS	3	3	0	0	3

BASIC SCIENCES (BS)

S.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	MA8151	Engineering Mathematics I	BS	4	4	0	0	4
2.	PH8151	Engineering Physics	BS	3	3	0	0	3
3.	CY8151	Engineering Chemistry	BS	3	3	0	0	3
4.	BS8161	Physics and Chemistry Laboratory	BS	4	0	0	4	2
5.	MA8251	Engineering Mathematics II	BS	4	4	0	0	4
6.	PH8253	Physics For Electronics Engineering	BS	3	3	0	0	3
7.	MA8353	Transforms and Partial Differential Equations	BS	4	4	0	0	4
8.	MA8491	Numerical Methods	BS	4	4	0	0	4

ENGINEERING SCIENCES (ES)

S.NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	GE8151	Problem Solving and Python programming	ES	3	3	0	0	3
2.	GE8152	Engineering Graphics	ES	6	2	0	4	4
3.	GE8161	Problem Solving and	ES		0	0	4	2

		Python programming Laboratory		4				
4.	BE8252	Basic Civil and Mechanical Engineering	ES	4	4	0	0	4
5.	GE8261	Engineering Practices Laboratory	ES	4	0	0	4	2
6.	EC8353	Electron Devices and Circuits	ES	3	3	0	0	3
7.	ME8792	Power Plant Engineering	ES	3	3	0	0	3
8.	EC8311	Electronics Laboratory	ES	4	0	0	4	2
9.	CS8392	Object Oriented Programming	ES	3	3	0	0	3
10.	CS8383	Object Oriented Programming Laboratory	ES	4	0	0	4	2
11.	EE8691	Embedded Systems	ES	3	3	0	0	3

PROFESSIONAL CORE (PC)

S.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	EE8251	Circuit Theory	PC	4	2	2	0	3
2.	EE8261	Electric Circuits Laboratory	PC	4	0	0	4	2
3.	EE8351	Digital Logic Circuits	PC	4	2	2	0	3
4.	EE8391	Electromagnetic Theory	PC	4	2	2	0	3
5.	EE8301	Electrical Machines - I	PC	4	2	2	0	3
6.	EE8311	Electrical Machines Laboratory - I	PC	4	0	0	4	2
7.	EE8401	Electrical Machines - II	PC	4	2	2	0	3
8.	EE8402	Transmission and Distribution	PC	3	3	0	0	3
9.	EE8403	Measurements and Instrumentation	PC	3	3	0	0	3
10.	EE8451	Linear Integrated Circuits and Applications	PC	3	3	0	0	3
11.	IC8451	Control Systems	PC	5	3	2	0	4
12.	EE8411	Electrical Machines Laboratory II	PC	4	0	0	4	2

13.	EE8461	Linear and Digital Integrated Circuits Laboratory	PC	4	0	0	4	2
14.	EE8501	Power System Analysis	PC	3	3	0	0	3
15.	EE8551	Microprocessors and Microcontrollers	PC	3	3	0	0	3
16.	EE8552	Power Electronics	PC	3	3	0	0	3
17.	EE8591	Digital Signal Processing	PC	4	2	2	0	3
18.	EE8511	Control and Instrumentation Laboratory	PC	4	0	0	4	2
19.	EE8601	Solid State Drives	PC	3	3	0	0	3
20.	EE8602	Protection and Switchgear	PC	3	3	0	0	3
21.	EE8661	Power Electronics and Drives Laboratory	PC	4	0	0	4	2
22.	EE8681	Microprocessors and Microcontrollers Laboratory	PC	4	0	0	4	2
23.	EE8701	High Voltage Engineering	PC	3	3	0	0	3
24.	EE8702	Power System Operation and Control	PC	3	3	0	0	3
25.	EE8703	Renewable Energy Systems	PC	3	3	0	0	3
26.	EE8711	Power System Simulation Laboratory	PC	4	0	0	4	2
27.	EE8712	Renewable Energy Systems Laboratory	PC	4	0	0	4	2

EMPLOYABILITY ENHANCEMENT COURSES (EEC)

S.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	EE8412	Technical seminar	EEC	2	0	0	2	1
2.	HS8581	Professional Communication	EEC	2	0	0	2	1
3.	EE8611	Mini Project	EEC	4	0	0	4	2
4.	EE8811	Project work	EEC	20	0	0	20	10

S.NO.	SUBJECT AREA	CREDITS AS PER SEMESTER								CREDITS TOTAL
		I	II	III	IV	V	VI	VII	VIII	
1.	HS	4	7	-	-	-	-	-		11
2.	BS	12	7	4	4	-	-	-		27
3.	ES	9	6	8	-	5	3	-		31
4.	PC	-	5	11	20	14	10	13	-	73
5.	PE						6	6	6	18
6.	OE					3	-	3		6
7.	EEC				1	1	2		10	14
	Total	25	25	23	25	23	21	22	16	180
	Non Credit / Mandatory	-	-	-	-	-	-	-	-	0

**SUM
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ANNA UNIVERSITY, CHENNAI
AFFILIATED INSTITUTIONS
B.TECH INFORMATION TECHNOLOGY
REGULATIONS – 2017
CHOICE BASED CREDIT SYSTEM
I - VIII SEMESTERS CURRICULA AND SYLLABI

SEMESTER I

Sl. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	HS8151	Communicative English	HS	4	4	0	0	4
2.	MA8151	Engineering Mathematics - I	BS	4	4	0	0	4
3.	PH8151	Engineering Physics	BS	3	3	0	0	3
4.	CY8151	Engineering Chemistry	BS	3	3	0	0	3
5.	GE8151	Problem Solving and Python Programming	ES	3	3	0	0	3
6.	GE8152	Engineering Graphics	ES	6	2	0	4	4
PRACTICALS								
7.	GE8161	Problem Solving and Python Programming Laboratory	ES	4	0	0	4	2
8.	BS8161	Physics and Chemistry Laboratory	BS	4	0	0	4	2
TOTAL				31	19	0	12	25

SEMESTER II

Sl. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	HS8251	Technical English	HS	4	4	0	0	4
2.	MA8251	Engineering Mathematics - II	BS	4	4	0	0	4
3.	PH8252	Physics for Information Science	BS	3	3	0	0	3
4.	BE8255	Basic Electrical, Electronics and Measurement Engineering	ES	3	3	0	0	3
5.	IT8201	Information Technology Essentials	PC	3	3	0	0	3
6.	CS8251	Programming in C	PC	3	3	0	0	3
PRACTICALS								
7.	GE8261	Engineering Practices Laboratory	ES	4	0	0	4	2
8.	CS8261	C Programming Laboratory	PC	4	0	0	4	2
9.	IT8211	Information Technology Essentials Laboratory	PC	2	0	0	2	1
TOTAL				30	20	0	10	25

SEMESTER III

SI. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	MA8351	Discrete Mathematics	BS	4	4	0	0	4
2.	CS8351	Digital Principles and System Design	ES	4	4	0	0	4
3.	CS8391	Data Structures	PC	3	3	0	0	3
4.	CS8392	Object Oriented Programming	PC	3	3	0	0	3
5.	EC8394	Analog and Digital Communication	PC	3	3	0	0	3
PRACTICALS								
6.	CS8381	Data Structures Laboratory	PC	4	0	0	4	2
7.	CS8383	Object Oriented Programming Laboratory	PC	4	0	0	4	2
8.	CS8382	Digital Systems Laboratory	ES	4	0	0	4	2
9.	HS8381	Interpersonal Skills/Listening & Speaking	EEC	2	0	0	2	1
TOTAL				31	17	0	14	24

SEMESTER IV

SI. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	MA8391	Probability and Statistics	BS	4	4	0	0	4
2.	CS8491	Computer Architecture	PC	3	3	0	0	3
3.	CS8492	Database Management Systems	PC	3	3	0	0	3
4.	CS8451	Design and Analysis of Algorithms	PC	3	3	0	0	3
5.	CS8493	Operating Systems	PC	3	3	0	0	3
6.	GE8291	Environmental Science and Engineering	HS	3	3	0	0	3
PRACTICALS								
7.	CS8481	Database Management Systems Laboratory	PC	4	0	0	4	2
8.	CS8461	Operating Systems Laboratory	PC	4	0	0	4	2
9.	HS8461	Advanced Reading and Writing	EEC	2	0	0	2	1
TOTAL				29	19	0	10	24

SEMESTER V

Sl. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	MA8551	Algebra and Number Theory	BS	4	4	0	0	4
2.	CS8591	Computer Networks	PC	3	3	0	0	3
3.	EC8691	Microprocessors and Microcontrollers	PC	3	3	0	0	3
4.	IT8501	Web Technology	PC	3	3	0	0	3
5.	CS8494	Software Engineering	PC	3	3	0	0	3
6.		Open Elective I	OE	3	3	0	0	3
PRACTICALS								
7.	EC8681	Microprocessors and Microcontrollers Laboratory	PC	4	0	0	4	2
8.	CS8581	Networks Laboratory	PC	4	0	0	4	2
9.	IT8511	Web Technology Laboratory	PC	4	0	0	4	2
TOTAL				31	19	0	12	25

SEMESTER VI

Sl. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	IT8601	Computational Intelligence	PC	3	3	0	0	3
2.	CS8592	Object Oriented Analysis and Design	PC	3	3	0	0	3
3.	IT8602	Mobile Communication	PC	3	3	0	0	3
4.	CS8091	Big Data Analytics	PC	3	3	0	0	3
5.	CS8092	Computer Graphics and Multimedia	PC	3	3	0	0	3
6.		Professional Elective I	PE	3	3	0	0	3
PRACTICALS								
7.	CS8662	Mobile Application Development Laboratory	PC	4	0	0	4	2
8.	CS8582	Object Oriented Analysis and Design Laboratory	PC	4	0	0	4	2
9.	IT8611	Mini Project	EEC	2	0	0	2	1
10.	HS8581	Professional Communication	EEC	2	0	0	2	1
TOTAL				30	18	0	12	24

SEMESTER VII

Sl.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	MG8591	Principles of Management	HS	3	3	0	0	3
2.	CS8792	Cryptography and Network Security	PC	3	3	0	0	3
3.	CS8791	Cloud Computing	PC	3	3	0	0	3
4.		Open Elective II	OE	3	3	0	0	3
5.		Professional Elective II	PE	3	3	0	0	3
6.		Professional Elective III	PE	3	3	0	0	3
PRACTICALS								
7.	IT8711	FOSS and Cloud Computing Laboratory	PC	4	0	0	4	2
8.	IT8761	Security Laboratory	PC	4	0	0	4	2
TOTAL				26	18	0	8	22

SEMESTER VIII

Sl. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.		Professional Elective IV	PE	3	3	0	0	3
2.		Professional Elective V	PE	3	3	0	0	3
PRACTICALS								
3.	IT8811	Project Work	EEC	20	0	0	20	10
TOTAL				26	6	0	20	16

TOTAL NO. OF CREDITS: 185

HUMANITIES AND SOCIAL SCIENCES (HS)

SI. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	HS8151	Communicative English	HS	4	4	0	0	4
2.	HS8251	Technical English	HS	4	4	0	0	4
3.	GE8291	Environmental Science and Engineering	HS	3	3	0	0	3
4.	MG8591	Principles of Management	HS	3	3	0	0	3

BASIC SCIENCES (BS)

SI. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	MA8251	Engineering Mathematics I	BS	4	4	0	0	4
2.	PH8151	Engineering Physics	BS	3	3	0	0	3
3.	CY8151	Engineering Chemistry	BS	3	3	0	0	3
4.	BS8161	Physics and Chemistry Laboratory	BS	4	0	0	4	2
5.	MA8251	Engineering Mathematics II	BS	4	4	0	0	4
6.	PH8252	Physics for Information Science	BS	3	3	0	0	3
7.	MA8351	Discrete Mathematics	BS	4	4	0	0	4
8.	MA8391	Probability and Statistics	BS	4	4	0	0	4
9.	MA8551	Algebra and Number Theory	BS	4	4	0	0	4

ENGINEERING SCIENCES (ES)

SI. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	GE8151	Problem Solving and Python Programming	ES	3	3	0	0	3
2.	GE8152	Engineering Graphics	ES	6	2	0	4	4
3.	GE8161	Problem Solving and Python Programming Laboratory	ES	4	0	0	4	2
4.	BE8255	Basic Electrical, Electronics and Measurement Engineering	ES	3	3	0	0	3
5.	GE8261	Engineering Practices Laboratory	ES	4	0	0	4	2
6.	CS8351	Digital Principles and System Design	ES	4	4	0	0	4
7.	CS8382	Digital Systems Laboratory	ES	4	0	0	4	2

PROFESSIONAL CORE (PC)

SI. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	IT8201	Information Technology Essentials	PC	3	3	0	0	3
2.	IT8211	Information Technology Essentials Laboratory	PC	2	0	0	2	1
3.	CS8251	Programming in C	PC	3	3	0	0	3
4.	CS8261	C Programming Laboratory	PC	4	0	0	4	2
5.	CS8391	Data Structures	PC	3	3	0	0	3
6.	CS8392	Object Oriented Programming	PC	3	3	0	0	3
7.	EC8394	Analog and Digital Communication	PC	3	3	0	0	3
8.	CS8381	Data Structures Laboratory	PC	4	0	0	4	2
9.	CS8383	Object Oriented Programming Laboratory	PC	4	0	0	4	2
10.	CS8491	Computer Architecture	PC	3	3	0	0	3
11.	CS8492	Database Management Systems	PC	3	3	0	0	3
12.	CS8451	Design and Analysis of Algorithms	PC	3	3	0	0	3
13.	CS8493	Operating Systems	PC	3	3	0	0	3
14.	CS8481	Database Management Systems Laboratory	PC	4	0	0	4	2
15.	CS8461	Operating Systems Laboratory	PC	4	0	0	4	2
16.	CS8591	Computer Networks	PC	3	3	0	0	3
17.	EC8691	Microprocessors and Microcontrollers	PC	3	3	0	0	3
18.	IT8501	Web Technology	PC	3	3	0	0	3
19.	CS8494	Software Engineering	PC	3	3	0	0	3
20.	EC8681	Microprocessors and Microcontrollers Laboratory	PC	4	0	0	4	2
21.	CS8581	Networks Laboratory	PC	4	0	0	4	2
22.	IT8511	Web Technology Laboratory	PC	4	0	0	4	2
23.	IT8601	Computational Intelligence	PC	3	3	0	0	3
24.	CS8592	Object Oriented Analysis and Design	PC	3	3	0	0	3
25.	IT8602	Mobile Communication	PC	3	3	0	0	3
26.	CS8091	Big Data Analytics	PC	3	3	0	0	3
27.	CS8092	Computer Graphics and Multimedia	PC	3	3	0	0	3
28.	CS8662	Mobile Application Development Laboratory	PC	4	0	0	4	2

29.	CS8582	Object Oriented Analysis and Design Laboratory	PC	4	0	0	4	2
30.	CS8792	Cryptography and Network Security	PC	3	3	0	0	3
31.	CS8791	Cloud Computing	PC	3	3	0	0	3
32.	IT8711	FOSS and Cloud Computing Laboratory	PC	4	0	0	4	2
33.	IT8761	Security Laboratory	PC	4	0	0	4	2

**PROFESSIONAL ELECTIVES (PE)
SEMESTER VI
ELECTIVE - I**

Sl. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	IT8076	Software Testing	PE	3	3	0	0	3
2.	CS8077	Graph Theory and Applications	PE	3	3	0	0	3
3.	IT8071	Digital Signal Processing	PE	3	3	0	0	3
4.	IT8001	Information Storage and Management	PE	3	3	0	0	3
5.	CS8072	Agile Methodologies	PE	3	3	0	0	3
6.	IT8072	Embedded Systems	PE	3	3	0	0	3
7.	GE8075	Intellectual Property Rights	PE	3	3	0	0	3

**SEMESTER VII
ELECTIVE - II**

Sl. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	IT8002	Web Development Frameworks	PE	3	3	0	0	3
2.	CS8082	Machine Learning Techniques	PE	3	3	0	0	3
3.	IT8003	Formal Languages and Automata Theory	PE	3	3	0	0	3
4.	CS8081	Internet of Things	PE	3	3	0	0	3
5.	IT8075	Software Project Management	PE	3	3	0	0	3
6.	IT8074	Service Oriented Architecture	PE	3	3	0	0	3
7.	GE8077	Total Quality Management	PE	3	3	0	0	3

**SEMESTER VII
ELECTIVE - III**

Sl. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	CS8079	Human Computer Interaction	PE	3	3	0	0	3
2.	CS8073	C# and .Net Programming	PE	3	3	0	0	3
3.	CS8088	Wireless Adhoc and Sensor Networks	PE	3	3	0	0	3
4.	GE8072	Foundation Skills in Integrated Product Development	PE	3	3	0	0	3
5.	CS8071	Advanced Topics on Databases	PE	3	3	0	0	3
6.	GE8074	Human Rights	PE	3	3	0	0	3
7.	GE8071	Disaster Management	PE	3	3	0	0	3

**SEMESTER VIII
ELECTIVE - IV**

SI. No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	CS8085	Social Network Analysis	PE	3	3	0	0	3
2.	CS8086	Soft Computing	PE	3	3	0	0	3
3.	CS8074	Cyber Forensics	PE	3	3	0	0	3
4.	IT8073	Information Security	PE	3	3	0	0	3
5.	EC8093	Digital Image Processing	PE	3	3	0	0	3
6.	IT8004	Network Management	PE	3	3	0	0	3
7.	GE8076	Professional Ethics in Engineering	PE	3	3	0	0	3

**SEMESTER VIII
ELECTIVE - V**

SI.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	CS8080	Information Retrieval Techniques	PE	3	3	0	0	3
2.	CS8078	Green Computing	PE	3	3	0	0	3
3.	CS8084	Natural Language Processing	PE	3	3	0	0	3
4.	IT8077	Speech Processing	PE	3	3	0	0	3
5.	IT8078	Web Design and Management	PE	3	3	0	0	3
6.	IT8005	Electronic Commerce	PE	3	3	0	0	3
7.	GE8073	Fundamentals of Nano Science	PE	3	3	0	0	3

***Professional Electives are grouped according to elective number as was done previously.**

EMPLOYABILITY ENHANCEMENT COURSES (EEC)

SI.NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	HS8381	Interpersonal Skills/ Listening & Speaking	EEC	2	0	0	2	1
2.	HS8461	Advanced Reading and Writing	EEC	2	0	0	2	1
3.	IT8611	Mini Project	EEC	2	0	0	2	1
4.	HS8581	Professional Communication	EEC	2	0	0	2	1
5.	IT8811	Project Work	EEC	20	0	0	20	10

SUMMARY

S.NO.	SUBJECT AREA	CREDITS AS PER SEMESTER								CREDITS TOTAL	Percentage
		I	II	III	IV	V	VI	VII	VIII		
1.	HS	4	4		3			3		14	8.6%
2.	BS	12	7	4	4	4				31	16.84%
3.	ES	9	5	6						20	11.41%
4.	PC		9	13	16	18	19	10		85	45.56%
5.	PE					3	3	6	6	18	8.15%
6.	OE							3		3	3.26%
7.	EEC			1	1		2		10	14	7.0%
	Total	25	25	24	24	25	24	22	16	185	
8.	Non Credit / Mandatory										

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SEMESTER I

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	MA5152	Applied Mathematics for Electronics Engineers	FC	4	4	0	0	4
2.	AP5151	Advanced Digital System Design	PC	3	3	0	0	3
3.	AP5152	Advanced Digital Signal Processing	PC	5	3	2	0	4
4.	AP5191	Embedded System Design	PC	3	3	0	0	3
5.	AP5101	Sensors, Actuators and Interface Electronics	PC	3	3	0	0	3
6.		Professional Elective I	PC	3	3	0	0	3
PRACTICALS								
7.	AP5111	Electronic System Design Laboratory I	PC	4	0	0	4	2
TOTAL				25	19	2	4	22

SEMESTER II

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	AP5251	Soft Computing and Optimization Techniques	PC	3	3	0	0	3
2.	AP5252	ASIC and FPGA Design	PC	3	3	0	0	3
3.	AP5291	Hardware – Software Co-design	PC	3	3	0	0	3
4.	AP5292	Digital Image Processing	PC	3	3	0	0	3
5.		Professional Elective II	PE	3	3	0	0	3
6.		Professional Elective III	PE	03	3	0	0	3
PRACTICALS								
7.	AP5211	Electronic System Design Laboratory II	PC	4	0	0	4	2
8.	CP5281	Term Paper Writing and Seminar	EEC	2	0	0	2	1
TOTAL				24	18	0	6	21

SEMESTER III

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	AP5301	Advanced Microprocessor and Microcontroller Architecture	PC	3	3	0	0	3
2.		Professional Elective IV	PE	3	3	0	0	3
3.		Professional Elective V	PE	3	3	0	0	3
PRACTICALS								
4.	AP5311	Project Work Phase I	EEC	12	0	0	12	6
TOTAL				21	9	0	12	15

SEMESTER IV

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
PRACTICALS								
1.	AP5411	Project Work Phase II	EEC	24	0	0	24	12
TOTAL				0	0	24	12	

TOTAL NO. OF CREDITS: 70

FOUNDATION COURSES (FC)

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	MA5152	Applied Mathematics for Electronics Engineers	FC	4	4	0	0	4

PROFESSIONAL CORE (PC)

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	AP5151	Advanced Digital System Design	PC	3	3	0	0	3
2.	AP5152	Advanced Digital Signal Processing	PC	5	3	2	0	4
3.	AP5191	Embedded System Design	PC	3	3	0	0	3
4.	AP5101	Sensors, Actuators and Interface Electronics	PC	3	3	0	0	3
5.	AP5111	Electronic System Design Lab I	PC	4	0	0	4	2
6.	AP5251	Soft Computing and Optimization Techniques	PC	3	3	0	0	3
7.	AP5252	ASIC and FPGA Design	PC	3	3	0	0	3
8.	AP5291	Hardware – Software Co-design	PC	3	3	0	0	3
9.	AP5292	Digital Image Processing	PC	3	3	0	0	3
10.	AP5211	Electronic System Design Lab II	PC	4	0	0	4	2
11.	AP5301	Advanced Microprocessor and Microcontroller Architecture	PC	3	3	0	0	3

EMPLOYABILITY ENHANCEMENT COURSE (EEC)

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	CP5281	Term Paper Writing and Seminar	EEC	2	0	0	2	1
2.	AP5311	Project Work Phase – I	EEC	12	0	0	12	6
3.	AP5411	Project Work Phase – II	EEC	24	0	0	24	12

**PROFESSIONAL ELECTIVES (PE)*
SEMESTER I
ELECTIVE I**

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	AP5091	Digital Control Engineering	PE	3	3	0	0	3
2.	AP5001	Computer Architecture and Parallel Processing	PE	3	3	0	0	3
3.	AP5002	CAD for VLSI Circuits	PE	3	3	0	0	3
4.	CU5292	Electromagnetic Interference and Compatibility	PE	3	3	0	0	3

**SEMESTER II
ELECTIVE II**

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	AP5003	VLSI Design Techniques	PE	3	3	0	0	3
2.	AP5071	Nano Electronics	PE	3	3	0	0	3
3.	CU5097	Wireless Adhoc and Sensor Networks	PE	3	3	0	0	3
4.	AP5004	High Performance Networks	PE	3	3	0	0	3

**SEMESTER II
ELECTIVE III**

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	DS5191	DSP Processor Architecture and Programming	PE	3	3	0	0	3
2.	AP5073	RF System Design	PE	3	3	0	0	3
3.	AP5074	Speech and Audio Signal Processing	PE	3	3	0	0	3
4.	AP5092	Solid State Device Modeling and Simulation	PE	3	3	0	0	3

**SEMESTER III
ELECTIVE IV**

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	CP5292	Internet of Things	PE	3	3	0	0	3
2.	AP5005	System on Chip Design	PE	3	3	0	0	3
3.	AP5093	Robotics	PE	3	3	0	0	3
4.	AP5006	Physical Design of VLSI Circuits	PE	3	3	0	0	3

**SEMESTER III
ELECTIVE V**

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	AP5094	Signal Integrity for High Speed Design	PE	3	3	0	0	3
2.	VL5091	MEMS and NEMS	PE	3	3	0	0	3
3.	AP5007	Secure Computing Systems	PE	3	3	0	0	3
4.	AP5008	Pattern Recognition	PE	3	3	0	0	3

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SEMESTER I

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	MA5160	Applied Probability and Statistics	FC	4	4	0	0	4
2.	CP5151	Advanced Data Structures and Algorithms	PC	4	4	0	0	4
3.	CP5152	Advanced Computer Architecture	PC	3	3	0	0	3
4.	CP5153	Operating System Internals	PC	3	3	0	0	3
5.	CP5154	Advanced Software Engineering	PC	3	3	0	0	3
6.	CP5191	Machine Learning Techniques	PC	3	3	0	0	3
PRACTICALS								
7.	CP5161	Data Structures Laboratory	PC	4	0	0	4	2
TOTAL				24	20	0	4	22

SEMESTER II

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	CP5201	Network Design and Technologies	PC	3	3	0	0	3
2.	CP5291	Security Practices	PC	3	3	0	0	3
3.	CP5292	Internet of Things	PC	3	3	0	0	3
4.	CP5293	Big Data Analytics	PC	3	3	0	0	3
5.		Professional Elective –I	PE	3	3	0	0	3
6.		Professional Elective –II	PE	3	3	0	0	3
PRACTICALS								
7.	CP5261	Data Analytics Laboratory	PC	4	0	0	4	2
8.	CP5281	Term Paper Writing and Seminar	EEC	2	0	0	2	1
TOTAL				24	18	0	6	21

SEMESTER III

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.		Professional Elective –III	PE	3	3	0	0	3
2.		Professional Elective –IV	PE	3	3	0	0	3
3.		Professional Elective –V	PE	3	3	0	0	3
PRACTICALS								
4.	CP5311	Project Work Phase – I	EEC	12	0	0	12	6
TOTAL				21	9	0	12	15

SEMESTER IV

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
PRACTICALS								
1.	CP5411	Project Work Phase – II	EEC	24	0	0	24	12
TOTAL				24	0	0	24	12

TOTAL NO. OF CREDITS:70

FOUNDATION COURSES (FC)

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	MA5160	Applied Probability and Statistics	FC	4	4	0	0	4

PROFESSIONAL CORE (PC)

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	CP5151	Advanced Data Structures and Algorithms	PC	4	4	0	0	4
2.	CP5152	Advanced Computer Architecture	PC	3	3	0	0	3
3.	CP5153	Operating System Internals	PC	3	3	0	0	3
4.	CP5154	Advanced Software Engineering	PC	3	3	0	0	3
5.	CP5191	Machine Learning Techniques	PC	3	3	0	0	3
6.	CP5161	Data Structures Laboratory	PC	4	0	0	4	2
7.	CP5201	Network Design and Technologies	PC	3	3	0	0	3
8.	CP5291	Security Practices	PC	3	3	0	0	3
9.	CP5292	Internet of Things	PC	3	3	0	0	3
10.	CP5293	Big Data Analytics	PC	3	3	0	0	3
11.	CP5261	Data Analytics Laboratory	PC	4	0	0	4	2

EMPLOYABILITY ENHANCEMENT COURSE (EEC)

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	CP5281	Term Paper and Seminar	EEC	2	0	0	2	1
2.	CP5311	Project Work Phase – I	EEC	12	0	0	12	6
3.	CP5411	Project Work Phase – II	EEC	24	0	0	24	12

**LIST OF ELECTIVES
II SEMESTER
ELECTIVE I**

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	IF5191	Advanced Databases	PE	3	3	0	0	3
2.	CP5001	Principles of Programming Languages	PE	3	3	0	0	3
3.	CP5071	Image Processing and Analysis	PE	3	3	0	0	3
4.	CP5091	Web Engineering	PE	3	3	0	0	3
5.	CP5092	Cloud Computing Technologies	PE	3	3	0	0	3

**II SEMESTER
ELECTIVE II**

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	MP5291	Real Time Systems	PE	3	3	0	0	3
2.	CP5093	Mobile and Pervasive Computing	PE	3	3	0	0	3
3.	CP5002	Parallel Programming Paradigms	PE	3	3	0	0	3
4.	CP5094	Information Retrieval Techniques	PE	3	3	0	0	3
5.	CP5072	Software Architectures and Design	PE	3	3	0	0	3

**SEMESTER III
ELECTIVE III**

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	CP5003	Performance Analysis of Computer Systems	PE	3	3	0	0	3
2.	CP5004	Language Technologies	PE	3	3	0	0	3
3.	CP5095	Computer Vision	PE	3	3	0	0	3
4.	CP5096	Speech Processing and Synthesis	PE	3	3	0	0	3
5.	CP5005	Software Quality Assurance and Testing	PE	3	3	0	0	3

**SEMESTER III
ELECTIVE IV**

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	CP5006	Formal models of software systems	PE	3	3	0	0	3
2.	CP5073	Embedded Software Development	PE	3	3	0	0	3
3.	CP5074	Social Network Analysis	PE	3	3	0	0	3
4.	CP5007	Bio-inspired Computing	PE	3	3	0	0	3
5.	CP5008	Compiler Optimization Techniques	PE	3	3	0	0	3

**SEMESTER III
ELECTIVE V**

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	CP5009	Data Visualization Techniques	PE	3	3	0	0	3
2.	CP5010	Reconfigurable Computing	PE	3	3	0	0	3
3.	CP5097	Mobile Application Development	PE	3	3	0	0	3
4.	CP5075	Bio Informatics	PE	3	3	0	0	3
5.	CP5076	Information Storage Management	PE	3	3	0	0	3

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M.E. ENGINEERING DESIGN
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I TO IV SEMESTERS (FULL TIME) CURRICULUM AND SYLLABUS

SEMESTER I

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	MA5156	Applied Mathematics for Engineers	FC	4	4	0	0	4
2.	ED5191	Engineering Fracture Mechanics	PC	3	3	0	0	3
3.	ED5151	Computer Applications in Design	PC	3	3	0	0	3
4.	ED5152	Quality Concepts in Design	PC	3	3	0	0	3
5.	ED5153	Advanced Finite Element Analysis	PC	3	3	0	0	3
6.		Professional Elective I	PE	3	3	0	0	3
PRACTICAL								
7.	ED5161	CAD Laboratory	PC	4	0	0	4	2
8.	ED5162	Advanced Analysis and Simulation Laboratory	PC	4	0	0	4	2
TOTAL				27	19	0	8	23

SEMESTER II

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	ED5251	Mechanisms Design and Simulation	PC	3	3	0	0	3
2.	ED5252	Mechanical Behavior of Materials	PC	3	3	0	0	3
3.	ED5253	Integrated Mechanical Design	PC	3	3	0	0	3
4.	ED5254	Vibration Analysis and Control	PC	3	3	0	0	3
5.		Professional Elective II	PE	3	3	0	0	3
6.		Professional Elective III	PE	3	3	0	0	3
PRACTICAL								
7.	ED5261	Vibration Laboratory	PC	2	0	0	2	1
8.	ED5211	Design Project	EEC	4	0	0	4	2
TOTAL				24	18	0	6	21

SEMESTER III

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	PD5091	Product Lifecycle Management	PC	3	3	0	0	3
2.		Elective IV	PE	3	3	0	0	3
3.		Elective V	PE	3	3	0	0	3
PRACTICAL								
4.	ED5311	Project Work Phase I	EEC	12	0	0	12	6
TOTAL				21	9	0	12	15

SEMESTER IV

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
PRACTICAL								
1.	ED5411	Project Work Phase II	EEC	24	0	0	24	12
TOTAL				24	0	0	24	12

TOTAL CREDITS TO BE EARNED FOR THE AWARD OF THE DEGREE = 71

FOUNDATION COURSES (FC)

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	MA5156	Applied Mathematics for Engineers	FC	4	4	0	0	4

PROFESSIONAL CORE (PC)

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	ED5191	Engineering Fracture Mechanics	PC	3	3	0	0	3
2.	ED5151	Computer Applications in Design	PC	3	3	0	0	3
3.	ED5152	Quality Concepts in Design	PC	3	3	0	0	3
4.	ED5153	Advanced Finite Element Analysis	PC	3	3	0	0	3
5.	ED5161	CAD Laboratory	PC	4	0	0	4	2
6.	ED5162	Advanced Analysis and Simulation Laboratory	PC	4	0	0	4	2
7.	ED5251	Mechanisms Design and Simulation	PC	3	3	0	0	3
8.	ED5252	Mechanical Behavior of Materials	PC	3	3	0	0	3
9.	ED5253	Integrated Mechanical Design	PC	4	3	0	0	3
10.	ED5254	Vibration Analysis and Control	PC	3	3	0	0	3
11.	ED5261	Vibration Laboratory	PC	2	0	0	2	1
12.	PD5091	Product Lifecycle Management	PC	3	3	0	0	3

LIST OF ELECTIVES FOR M.E. ENGINEERING DESIGN**SEMESTER I (Elective I)**

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	ED5071	Optimization Techniques in Design	PE	3	3	0	0	3
2.	ED5072	Design of Pressure Vessel and Piping	PE	3	3	0	0	3
3.	ED5091	Design of Material Handling Equipments	PE	3	3	0	0	3
4.	CC5292	Additive Manufacturing and Tooling	PE	3	3	0	0	3
5.	ED5073	Information Analytics	PE	3	3	0	0	3

SEMESTER II (Elective II & III)

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	ED5001	Plates and Shells	PE	3	3	0	0	3
2.	ED5002	Modal Analysis of Mechanical Systems	PE	3	3	0	0	3
3.	ED5003	Advanced Metal Forming Techniques	PE	3	3	0	0	3
4.	ED5074	Tribology in Design	PE	3	3	0	0	3
5.	ED5004	Surface Engineering	PE	3	3	0	0	3
6.	ED5092	Advanced Mechanics of Materials	PE	3	3	0	0	3

SEMESTER III (Elective IV & V)

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	ED5075	Design for Internet of Things	PE	3	3	0	0	3
2.	ED5005	Design of Hydraulic and Pneumatic Systems	PE	3	3	0	0	3
3.	ED5006	Bearing Design and Rotor Dynamics	PE	3	3	0	0	3
4.	ED5076	Product Design for Sustainability	PE	3	3	0	0	3
5.	ED5093	Computational Fluid Dynamics	PE	3	3	0	0	3
6.	CC5291	Design for Manufacture, Assembly and Environments	PE	3	3	0	0	3
7.	ED5077	Biomechanics	PE	3	3	0	0	3
8.	ED5078	Composite Materials and Mechanics	PE	3	3	0	0	3

EMPLOYABILITY ENHANCEMENT COURSES (EEC)

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	ED5211	Design Project	EEC	4	0	0	4	2
2.	ED5311	Project Work Phase I	EEC	12	0	0	12	6
3.	ED5411	Project Work Phase II	EEC	24	0	0	24	12

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M.E. POWER ELECTRONICS AND DRIVES (FULL TIME)
CURRICULUM AND SYLLABUS I TO IV SEMESTERS

SEMESTER I

S.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	MA5155	Applied Mathematics for Electrical Engineers	FC	4	4	0	0	4
2.	PX5101	Power Semiconductor Devices	PC	3	3	0	0	3
3.	PX5151	Analysis of Electrical Machines	PC	3	3	0	0	3
4.	PX5152	Analysis and Design of Power Converters	PC	3	3	0	0	3
5.	IN5152	System Theory	PC	5	3	2	0	4
6.		Professional Elective I	PE	3	3	0	0	3
PRACTICALS								
7.	PX5111	Power Electronics Circuits Lab	PC	4	0	0	4	2
TOTAL				25	19	2	4	22

SEMESTER II

S.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	PX5201	Analysis and Design of Inverters	PC	3	3	0	0	3
2.	PX5202	Solid State Drives	PC	5	3	2	0	4
3.	PX5251	Special Electrical Machines	PC	3	3	0	0	3
4.	PX5252	Power Quality	PC	3	3	0	0	3
5.		Professional Elective II	PE	3	3	0	0	3
6.		Professional Elective III	PE	3	3	0	0	3
PRACTICALS								
7.	PX5211	Electrical Drives Laboratory	PC	4	0	0	4	2
8.	PX5212	Mini Project	EEC	4	0	0	4	2
TOTAL				28	18	2	8	23

SEMESTER III

S.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.		Professional Elective IV	PE	3	3	0	0	3
2.		Professional Elective V	PE	3	3	0	0	3
3.		Professional Elective VI	PE	3	3	0	0	3
PRACTICALS								
4.	PX5311	Project Work Phase I	EEC	12	0	0	12	6
TOTAL				21	9	0	12	15

SEMESTER IV

SI.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
PRACTICALS								
1.	PX5411	Project Work Phase II	EEC	24	0	0	24	12
TOTAL				24	0	0	24	12

TOTAL NO. OF CREDITS: 72

FOUNDATION COURSES(FC)

S.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	MA5155	Applied Mathematics for Electrical Engineering	FC	4	4	0	0	4

PROFESSIONAL CORE(PC)

S.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	PX5101	Power Semiconductor Devices	PC	3	3	0	0	3
2.	PX5151	Analysis of Electrical Machines	PC	3	3	0	0	3
3.	PX5152	Analysis and Design of Power Converters	PC	3	3	0	0	3
4.	PX5201	Analysis and Design of Inverters	PC	3	3	0	0	3
5.	IN5152	System Theory	PC	5	3	2	0	4
6.	PX5202	Solid State Drives	PC	5	3	2	0	4
7.	PX5251	Special Electrical Machines	PC	3	3	0	0	3
8.	PX5252	Power Quality	PC	3	3	0	0	3
9.	PX5111	Power Electronics Circuits Lab	PC	4	0	0	4	2
10.	PX5211	Electrical Drives Laboratory	PC	4	0	0	4	2

PROFESSIONAL ELECTIVES(PE)*

Semester I Elective I

S.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	IN5091	Soft Computing Techniques	PE	3	3	0	0	3
2.	PX5001	Electromagnetic Field Computation and Modelling	PE	3	3	0	0	3
3.	PX5091	Control System Design for Power Electronics	PE	3	3	0	0	3

Semester II Elective II and III

S.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	PX5002	Analog and Digital Controllers	PE	3	3	0	0	3

2.	PX5003	Flexible AC Transmission Systems	PE	3	3	0	0	3
3.	PX5004	Modern Rectifiers and Resonant Converters	PE	3	3	0	0	3
4.	PX5092	Electromagnetic Interference and Compatibility	PE	3	3	0	0	3
5.	ET5091	MEMS Technology	PE	3	3	0	0	3
6.	PS5071	Distributed Generation and Microgrid	PE	3	3	0	0	3

Semester III
Elective IV, V and VI

S.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	PX5005	High Voltage Direct Current Transmission	PE	3	3	0	0	3
2.	PS5092	Solar and Energy Storage Systems	PE	3	3	0	0	3
3.	PX5071	Wind Energy Conversion Systems	PE	3	3	0	0	3
4.	PS5072	Energy Management and Auditing	PE	3	3	0	0	3
5.	PS5073	Electric Vehicles and Power Management	PE	3	3	0	0	3
6.	PX5006	Non Linear Dynamics for Power Electronics Circuits	PE	3	3	0	0	3
7.	PS5091	Smart Grid	PE	3	3	0	0	3
8.	PX5072	Power Electronics for Renewable Energy Systems	PE	3	3	0	0	3
9.	IN5079	Robotics and Control	PE	3	3	0	0	3
10.	PX5007	Non Linear Control	PE	3	3	0	0	3

Professional Electives are grouped according to elective number as was done previously.

EMPLOYABILITY ENHANCEMENT COURSES(EEC)

S.No	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	PX5212	Mini Project	EEC	4	0	0	4	2
2.	PX5311	Project Work Phase I	EEC	12	0	0	12	6
3.	PX5411	Project Work Phase II	EEC	24	0	0	24	12

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SEMESTER I

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	MA5156	Applied Mathematics for Engineers	FC	4	4	0	0	4
2.	ED5151	Computer Applications in Design	PC	3	3	0	0	3
3.	CD5291	Computer Aided Tools for Manufacturing	PC	3	3	0	0	3
4.	CC5101	Competitive Manufacturing Systems	PC	3	3	0	0	3
5.	ED5153	Advanced Finite Element Analysis	PC	3	3	0	0	3
6.		Professional Elective I	PE	3	3	0	0	3
PRACTICAL								
7.	ED5161	CAD Laboratory	PC	4	0	0	4	2
8.	ED5162	Advanced Analysis and Simulation Laboratory	PC	4	0	0	4	2
TOTAL				27	19	0	8	23

SEMESTER II

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	CC5291	Design for Manufacture, Assembly and Environments	PC	3	3	0	0	3
2.	CC5292	Additive Manufacturing and Tooling	PC	3	3	0	0	3
3.	ED5252	Mechanical Behavior of Materials	PC	3	3	0	0	3
4.	PD5251	Integrated Product Design and Process Development	PC	5	3	2	0	4
5.		Professional Elective II	PE	3	3	0	0	3
6.		Professional Elective III	PE	3	3	0	0	3
PRACTICAL								
7.	CC5211	CAM Laboratory	PC	2	0	0	2	1
8.	CC5212	Design Project	EEC	4	0	0	4	2
TOTAL				26	18	2	6	22

SEMESTER III

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	PD5091	Product Lifecycle Management	PC	3	3	0	0	3
2.		Professional Elective IV	PE	3	3	0	0	3
3.		Professional Elective V	PE	3	3	0	0	3
PRACTICAL								
4.	CC5311	Project Work Phase I	EEC	12	0	0	12	6
TOTAL				21	9	0	12	15

SEMESTER IV

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
PRACTICAL								
1.	CC5411	Project Work Phase II	EEC	24	0	0	24	12
TOTAL				24	0	0	24	12

TOTAL CREDITS TO BE EARNED FOR THE AWARD OF THE DEGREE: 72

FOUNDATION COURSES (FC)

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	MA5156	Applied Mathematics for Engineers	FC	4	4	0	0	4

PROFESSIONAL CORE (PC)

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	ED5151	Computer Applications in Design	PC	3	3	0	0	3
2.	CD5291	Computer Aided Tools for Manufacturing	PC	3	3	0	0	3
3.	CC5101	Competitive Manufacturing Systems	PC	3	3	0	0	3
4.	ED5153	Advanced Finite Element Analysis	PC	3	3	0	0	3
5.	ED5161	CAD Laboratory	PC	4	0	0	4	2
6.	ED5162	Advanced Analysis and Simulation Laboratory	PC	4	0	0	4	2
7.	CC5291	Design for Manufacture, Assembly and Environments	PC	3	3	0	0	3
8.	CC5292	Additive Manufacturing and Tooling	PC	3	3	0	0	3
9.	ED5252	Mechanical Behavior of Materials	PC	3	3	0	0	3
10.	PD5251	Integrated Product and Process Development	PC	5	3	2	0	4
11.	CC5211	CAM Laboratory	PC	2	0	0	2	1
12.	PD5091	Product Lifecycle Management	PC	3	3	0	0	3

LIST OF ELECTIVES FOR M.E. CAD / CAM

SEMESTER I (Elective I)

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	CC5001	Computer Control in Process Planning	PE	3	3	0	0	3
2.	ED5071	Optimization Techniques in Design	PE	3	3	0	0	3
3.	ED5092	Advanced Mechanics of Materials	PE	3	3	0	0	3
4.	ED5073	Information Analytics	PE	3	3	0	0	3
5.	CC5002	Mechatronics Applications in Manufacturing	PE	3	3	0	0	3

SEMESTER II (Elective II & III)

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	CC5003	Industrial Safety Management	PE	3	3	0	0	3
2.	CD5071	Advanced Tool Design	PE	3	3	0	0	3
3.	ED5251	Mechanisms Design and Simulation	PE	3	3	0	0	3
4.	ED5093	Computational Fluid Dynamics	PE	3	3	0	0	3
5.	CC5004	Reliability in Engineering Systems	PE	3	3	0	0	3
6.	ED5253	Integrated Mechanical Design	PE	3	3	0	0	3

SEMESTER III (Elective IV & V)

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	CC5008	Performance Modeling and Analysis of Manufacturing System	PE	3	3	0	0	3
2.	CC5005	Metrology and Non Destructive Testing	PE	3	3	0	0	3
3.	CC5006	Quality Management Techniques	PE	3	3	0	0	3
4.	CC5007	Design for Cellular Manufacturing Systems	PE	3	3	0	0	3
5.	ED5078	Composite Materials and Mechanics	PE	3	3	0	0	3
6.	ED5091	Design of Material Handling Equipments	PE	3	3	0	0	3
7.	CD5091	Industrial Robotics and Expert Systems	PE	3	3	0	0	3
8.	ED5075	Design for Internet of Things	PE	3	3	0	0	3

EMPLOYABILITY ENHANCEMENT COURSES (EEC)

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	CC5212	Design Project	EEC	4	0	0	4	2
2.	CC5311	Project Work Phase I	EEC	12	0	0	12	6
3.	CC5411	Project Work Phase II	EEC	24	0	0	24	12

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SEMESTER I

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	MA5152	Applied Mathematics for Electronics Engineers	FC	4	4	0	0	4
2.	AP5151	Advanced Digital System Design	PC	3	3	0	0	3
3.	VL5101	CMOS Digital VLSI Design	PC	3	3	0	0	3
4.	VL5191	DSP Integrated Circuits	PC	3	3	0	0	3
5.	VL5102	CAD for VLSI Circuits	PC	3	3	0	0	3
6.	VL5103	Analog IC Design	PC	4	4	0	0	4
PRACTICALS								
7.	VL5111	VLSI Design Laboratory I	PC	4	0	0	4	2
TOTAL				24	20	0	4	22

SEMESTER II

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	VL5201	Testing of VLSI Circuits	PC	3	3	0	0	3
2.	VL5291	VLSI Signal Processing	PC	3	3	0	0	3
3.	VL5202	Low Power VLSI Design	PC	3	3	0	0	3
4.		Professional Elective I	PE	3	3	0	0	3
5.		Professional Elective II	PE	3	3	0	0	3
6.		Professional Elective III	PE	3	3	0	0	3
PRACTICALS								
7.	VL5211	VLSI Design Laboratory II	PC	4	0	0	4	2
8.	CP5281	Term Paper Writing and Seminar	EEC	2	0	0	2	1
TOTAL				24	18	0	6	21

SEMESTER III

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	VL5301	Analog to Digital Interfaces	PC	3	3	0	0	3
2.		Professional Elective IV	PE	3	3	0	0	3
3.		Professional Elective V	PE	3	3	0	0	3
PRACTICALS								
4.	VL5311	Project Work Phase-I	EEC	12	0	0	12	6
TOTAL				21	9	0	12	15

SEMESTER IV

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
PRACTICALS								
1.	VL5411	Project Work Phase-II	EEC	24	0	0	24	12
TOTAL				24	0	0	24	12

TOTAL NO. OF CREDITS:70

FOUNDATION COURSES (FC)

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	MA5152	Applied Mathematics for Electronics Engineers	FC	4	4	0	0	4

PROFESSIONAL CORE (PC)

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	AP5151	Advanced Digital System Design	PC	3	3	0	0	3
2.	VL5101	CMOS Digital VLSI Design	PC	3	3	0	0	3
3.	VL5191	DSP Integrated Circuits	PC	3	3	0	0	3
4.	VL5102	CAD for VLSI Circuits	PC	3	3	0	0	3
5.	VL5103	Analog IC Design	PC	4	4	0	0	4
6.	VL5111	VLSI Design Laboratory I	PC	4	0	0	4	2
7.	VL5201	Testing of VLSI Circuits	PC	3	3	0	0	3
8.	VL5291	VLSI Signal Processing	PC	3	3	0	0	3
9.	VL5202	Low Power VLSI Design	PC	3	3	0	0	3
10.	VL5211	VLSI Design Laboratory II	PC	4	0	0	4	2
11.	VL5301	Analog to Digital Interfaces	PC	3	3	0	0	3

EMPLOYABILITY ENHANCEMENT COURSE (EEC)

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	CP5281	Term Paper Writing and Seminar	EEC	2	0	0	2	1
2.	VL5311	Project Work Phase – I	EEC	12	0	0	12	6
3.	VL5411	Project Work Phase – II	EEC	24	0	0	24	12

**PROFESSIONAL ELECTIVES (PE)*
SEMESTER II
ELECTIVE I**

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	VL5001	Device Modeling - I	PE	3	3	0	0	3
2.	VL5002	RF IC Design	PE	3	3	0	0	3
3.	VL5003	Design of Analog Filters and Signal Conditioning Circuits	PE	3	3	0	0	3
4.	VL5004	Nano Scale Devices	PE	3	3	0	0	3

**SEMESTER II
ELECTIVE II**

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	DS5191	DSP Processor Architecture and Programming	PE	3	3	0	0	3
2.	VL5005	Networks on Chip	PE	3	3	0	0	3
3.	AP5094	Signal Integrity for High Speed Design	PE	3	3	0	0	3
4.	AP5091	Digital Control Engineering	PE	3	3	0	0	3

**SEMESTER II
ELECTIVE III**

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	AP5191	Embedded System Design	PE	3	3	0	0	3
2.	AP5251	Soft Computing and Optimization Techniques	PE	3	3	0	0	3
3.	VL5006	Reconfigurable Architectures	PE	3	3	0	0	3
4.	VL5007	Advanced Microprocessors and Architectures	PE	3	3	0	0	3

**SEMESTER III
ELECTIVE IV**

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	VL5008	Selected Topics in ASIC Design	PE	3	3	0	0	3
2.	VL5009	Design and Analysis of Computer Algorithms	PE	3	3	0	0	3
3.	VL5010	Device Modeling- II	PE	3	3	0	0	3
4.	AP5292	Digital Image Processing	PE	3	3	0	0	3

**SEMESTER III
ELECTIVE V**

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	VL5091	MEMS and NEMS	PE	3	3	0	0	3
2.	VL5011	Scripting Languages for VLSI	PE	3	3	0	0	3
3.	AP5291	Hardware – Software Co-Design	PE	3	3	0	0	3
4.	VL5012	Selected Topics in IC Design	PE	3	3	0	0	3

ANNA UNIVERSITY, CHENNAI
AFFILIATED INSTITUTIONS
REGULATIONS – 2017
CHOICE BASED CREDIT SYSTEM
MASTER OF BUSINESS ADMINISTRATION (FULL TIME)
CURRICULA AND SYLLABI I TO IV SEMESTERS
SEMESTER - I

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	BA5101	Economic Analysis for Business	PC	4	4	0	0	4
2.	BA5102	Principles of Management	PC	3	3	0	0	3
3.	BA5103	Accounting for Management	PC	4	4	0	0	4
4.	BA5104	Legal Aspects of Business	PC	3	3	0	0	3
5.	BA5105	Organizational Behaviour	PC	3	3	0	0	3
6.	BA5106	Statistics for Management	PC	3	3	0	0	3
7.	BA5107	Total Quality Management	PC	3	3	0	0	3
PRACTICALS								
8	BA5111	Spoken and Written Communication #	EEC	4	0	0	4	2
TOTAL				27	23	0	4	25

No end semester examination is required for this course.

SEMESTER - II

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	BA5201	Applied Operations Research	PC	3	3	0	0	3
2.	BA5202	Business Research Methods	PC	3	3	0	0	3
3.	BA5203	Financial Management	PC	3	3	0	0	3
4.	BA5204	Human Resource Management	PC	3	3	0	0	3
5.	BA5205	Information Management	PC	3	3	0	0	3
6.	BA5206	Operations Management	PC	3	3	0	0	3
7	BA5207	Marketing Management	PC	4	4	0	0	4
PRACTICALS								
8	BA5211	Data Analysis and Business Modelling	EEC	4	0	0	4	2
TOTAL				26	22	0	4	24

SUMMER SEMESTER (4 WEEKS)

SUMMER TRAINING

Summer Training – The training report along with the company certificate should be submitted within the two weeks of the reopening date of 3rd semester. The training report should be around 40 pages containing the details of training undergone, the departments wherein he was trained with duration (chronological diary), along with the type of managerial skills developed during training. The training report should be sent to the Controller of Examinations by the HOD through the Principal, before the last working day of the 3rd Semester.

SEMESTER - III

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
THEORY								
1.	BA5301	International Business Management	PC	3	3	0	0	3
2	BA5302	Strategic Management	PC	3	3	0	0	3
3		Professional Elective I ***	PE	3	3	0	0	3
4		Professional Elective II***	PE	3	3	0	0	3
5		Professional Elective III***	PE	3	3	0	0	3
6		Professional Elective IV***	PE	3	3	0	0	3
7		Professional Elective V***	PE	3	3	0	0	3
8		Professional Elective VI***	PE	3	3	0	0	3
PRACTICALS								
9	BA5311	Summer Training	EEC	2	0	0	2	1
TOTAL				26	24	0	2	25

*** Chosen electives should be from two streams of management of three electives each.

SEMESTER - IV

SI. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
PRACTICALS								
1.	BA5411	Project Work	EEC	24	0	0	24	12
TOTAL				0	0	24	12	

TOTAL NO. OF CREDITS:86

PROFESSIONAL CORE (PC)

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.		Principles of Management	PC	3	3	0	0	3
2.		Accounting for Management	PC	4	4	0	0	4
3.		Economic Analysis for Business	PC	4	4	0	0	4
4.		Legal Aspects of Business	PC	3	3	0	0	3
5.		Organizational Behaviour	PC	3	3	0	0	3
6.		Statistics for Management	PC	3	3	0	0	3
7.		Marketing Management	PC	4	4	0	0	4
8.		Spoken and Written Communication	PC	4	0	0	4	2
9.		Applied Operations Research	PC	3	3	0	0	3
10.		Business Research Methods	PC	3	3	0	0	3
11.		Strategic Management	PC	3	3	0	0	3
12.		Financial Management	PC	3	3	0	0	3
13.		Human Resource Management	PC	3	3	0	0	3
14.		Information Management	PC	3	3	0	0	3
15.		Operations Management	PC	3	3	0	0	3
16.		International Business Management	PC	3	3	0	0	3
17.		Total Quality Management	PC	3	3	0	0	3

PROFESSIONAL ELECTIVES (PE)

FUNCTIONAL SPECIALIZATIONS

1. Students can take three elective subjects from two functional specializations
- Or
2. Students can take six elective subjects from any one sectoral specializations

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
Stream/ Specialization : Marketing Management								
1.	BA5001	Brand Management	PE	3	3	0	0	3
2.	BA5002	Consumer Behaviour	PE	3	3	0	0	3
3.	BA5003	Customer Relationship Management	PE	3	3	0	0	3
4.	BA5004	Integrated Marketing Communication	PE	3	3	0	0	3
5.	BA5005	Retail Marketing	PE	3	3	0	0	3
6.	BA5006	Services Marketing	PE	3	3	0	0	3
7.	BA5007	Social Marketing	PE	3	3	0	0	3
Stream/ Specialization : Financial Management								
8.	BA5008	Banking Financial Services Management	PE	3	3	0	0	3
9.	BA5009	Corporate Finance	PE	3	3	0	0	3
10.	BA5010	Derivatives Management	PE	3	3	0	0	3
11.	BA5011	Merchant Banking and Financial Services	PE	3	3	0	0	3
12.	BA5012	Security Analysis and Portfolio Management	PE	3	3	0	0	3
13.	BA5013	Strategic Investment and Financing Decisions	PE	3	3	0	0	3
14.	BA5031	International Trade Finance	PE	3	3	0	0	3
Stream/ Specialization : Human Resource Management								
15.	BA5014	Entrepreneurship Development	PE	3	3	0	0	3
16.	BA5015	Industrial Relations and Labour Welfare	PE	3	3	0	0	3
17.	BA5016	Labour Legislations	PE	3	3	0	0	3
18.	BA5017	Managerial	PE	3	3	0	0	3

		Behaviour and Effectiveness						
19.	BA5018	Organizational Theory, Design and Development	PE	3	3	0	0	3
20.	BA5019	Strategic Human Resource Management	PE	3	3	0	0	3
Stream/ Specialization : Systems Management								
21.	BA5020	Advanced Database Management System	PE	3	3	0	0	3
22.	BA5021	Datamining for Business Intelligence	PE	3	3	0	0	3
23.	BA5022	Enterprise Resource Planning	PE	3	3	0	0	3
24.	BA5023	Software Project Management and Quality	PE	3	3	0	0	3
25.	BA5024	E-Business Management	PE	3	3	0	0	3
Stream/ Specialization : Operations Management								
26.	BA5025	Logistics Management	PE	3	3	0	0	3
27.	BA5026	Materials Management	PE	3	3	0	0	3
28.	BA5027	Product Design	PE	3	3	0	0	3
29.	BA5028	Project Management	PE	3	3	0	0	3
30.	BA5029	Services Operations Management	PE	3	3	0	0	3
31.	BA5030	Supply Chain Management	PE	3	3	0	0	3

SECTORAL SPECIALIZATIONS

1. Students can take three electives subjects from two functional specializations
or
2. Students can take six elective subjects from any one sectoral specializations

SL. NO	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
Sectoral Specialization : Logistics and Supply Chain Management								
1.	BA5051	Supply Chain Concepts and Planning	PE	3	3	0	0	3
2.	BA5052	Sourcing and Supply Management	PE	3	3	0	0	3
3.	BA5053	Supply Chain Inventory Management	PE	3	3	0	0	3
4.	BA5054	Supply Chain Information System	PE	3	3	0	0	3
5.	BA5055	Warehouse Management	PE	3	3	0	0	3
6.	BA5056	Transportation and Distribution Management	PE	3	3	0	0	3
7.	BA5057	Reverse and Contract Logistics	PE	3	3	0	0	3
8.	BA5058	Air Cargo Management	PE	3	3	0	0	3
9.	BA5059	Containerization and Allied Business	PE	3	3	0	0	3
10.	BA5060	Exim Management	PE	3	3	0	0	3
11.	BA5061	Fundamentals of Shipping	PE	3	3	0	0	3
12.	BA5062	Port and Terminal Management	PE	3	3	0	0	3
Sectoral Specialization :Infrastructure and Real Estate Management								
13.	BA5063	Infrastructure Planning Scheduling and Control	PE	3	3	0	0	3
14.	BA5064	Contracts and Arbitration	PE	3	3	0	0	3
15.	BA5065	Project Management for Infrastructure	PE	3	3	0	0	3
16.	BA5066	Management of Human Resources, Safety and Quality	PE	3	3	0	0	3
17.	BA5067	Disaster Mitigation and Management	PE	3	3	0	0	3
18.	BA5068	Economics and Financial Management in Construction	PE	3	3	0	0	3
19.	BA5069	Urban Environmental Management	PE	3	3	0	0	3
20.	BA5070	Smart Materials, Techniques and Equipments for Infrastructure	PE	3	3	0	0	3
21.	BA5071	Strategic Airport Infrastructure Management	PE	3	3	0	0	3
22.	BA5072	Real Estate Marketing and Management	PE	3	3	0	0	3
23.	BA5073	Infrastructure and Real Estate Entrepreneurship	PE	3	3	0	0	3
24.	BA5074	Valuation of Real Estate and Infrastructure Assets	PE	3	3	0	0	3

EMPLOYABILITY ENHANCEMENT COURSES (EEC)

SL. NO.	COURSE CODE	COURSE TITLE	CATEGORY	CONTACT PERIODS	L	T	P	C
1.	BA5111	Spoken and Written Communication #	EEC	4	0	0	4	2
2.	BA5211	Data Analysis and Business Modeling	EEC	4	0	0	4	2
3.	BA5311	Summer Training	EEC	2	0	0	2	1
4.	BA5411	Project Work	EEC	24	0	0	24	12

ANNA UNIVERSITY, CHENNAI
AFFILIATED INSTITUTIONS
R - 2013
B.E. AERONAUTICAL ENGINEERING
I – VIII SEMESTERS CURRICULUM AND SYLLABUS

SEMESTER I

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	HS6151	<u>Technical English – I</u>	3	1	0	4
2.	MA6151	<u>Mathematics – I</u>	3	1	0	4
3.	PH6151	<u>Engineering Physics – I</u>	3	0	0	3
4.	CY6151	<u>Engineering Chemistry – I</u>	3	0	0	3
5.	GE6151	<u>Computer Programming</u>	3	0	0	3
6.	GE6152	<u>Engineering Graphics</u>	2	0	3	4
PRACTICALS						
7.	GE6161	<u>Computer Practices Laboratory</u>	0	0	3	2
8.	GE6162	<u>Engineering Practices Laboratory</u>	0	0	3	2
9.	GE6163	<u>Physics and Chemistry Laboratory - I</u>	0	0	2	1
TOTAL			17	2	11	26

SEMESTER II

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	HS6251	<u>Technical English – II</u>	3	1	0	4
2.	MA6251	<u>Mathematics – II</u>	3	1	0	4
3.	PH6251	<u>Engineering Physics – II</u>	3	0	0	3
4.	CY6251	<u>Engineering Chemistry – II</u>	3	0	0	3
5.	GE6252	<u>Basic Electrical and Electronics Engineering</u>	4	0	0	4
6.	GE6253	<u>Engineering Mechanics</u>	3	1	0	4
PRACTICALS						
7.	GE6261	<u>Computer Aided Drafting and Modeling Laboratory</u>	0	1	2	2
8.	GE6262	<u>Physics and Chemistry Laboratory - II</u>	0	0	2	1
TOTAL			19	4	4	25

SEMESTER III

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	MA6351	<u>Transforms and Partial Differential Equations</u>	3	1	0	4
2.	ME6352	<u>Manufacturing Technology</u>	3	0	0	3
3.	AE6301	<u>Aero Engineering Thermodynamics</u>	3	0	0	3
4.	CE6451	<u>Fluid Mechanics and Machinery</u>	3	0	0	3
5.	CE6452	<u>Solid Mechanics</u>	3	0	0	3
6.	AE6302	<u>Elements of Aeronautics</u>	3	0	0	3
PRACTICAL						
7.	CE6315	<u>Strength of Materials Laboratory</u>	0	0	3	2
8.	CE6461	<u>Fluid Mechanics and Machinery Laboratory</u>	0	0	3	2
9.	AE6311	<u>Thermodynamics Laboratory</u>	0	0	3	2
10.	AE6312	<u>CAM and Manufacturing Laboratory</u>	0	0	3	2
TOTAL			18	1	12	27

SEMESTER IV

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	MA6459	<u>Numerical Methods</u>	3	1	0	4
2.	AE6401	<u>Aerodynamics - I</u>	3	0	0	3
3.	AE6402	<u>Aircraft Systems and Instruments</u>	3	0	0	3
4.	AT6302	<u>Mechanics of Machines</u>	3	1	0	4
5.	AE6403	<u>Aircraft Structures - I</u>	3	1	0	4
6.	AE6404	<u>Propulsion - I</u>	3	0	0	3
PRACTICAL						
7.	AE6411	<u>Aircraft Structures Laboratory - I</u>	0	0	3	2
8.	AE6412	<u>Aerodynamics Laboratory</u>	0	0	3	2
9.	AE6413	<u>CAD and Aircraft Component Drawing</u>	0	0	4	2
TOTAL			18	3	10	27

SEMESTER V

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	AE6501	<u>Flight Dynamics</u>	3	1	0	4
2.	AE6502	<u>Aircraft Structures - II</u>	3	1	0	4
3.	AE6503	<u>Aerodynamics - II</u>	3	1	0	4
4.	AE6504	<u>Propulsion - II</u>	3	0	0	3
5.	AE6505	<u>Control Engineering</u>	3	0	0	3
6.	GE6351	<u>Environmental Science and Engineering</u>	3	0	0	3
PRACTICAL						
7.	AE6511	<u>Aircraft Structures Laboratory - II</u>	0	0	3	2
8.	AE6512	<u>Propulsion Laboratory</u>	0	0	3	2
9.	GE6674	<u>Communication and Soft Skills- Laboratory Based</u>	0	0	4	2
TOTAL			18	3	10	27

SEMESTER VI

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	MG6851	<u>Principles of Management</u>	3	0	0	3
2.	AE6601	<u>Finite Element Methods</u>	3	1	0	4
3.	AE6602	<u>Vibrations and Elements of Aeroelasticity</u>	3	0	0	3
4.	AE6603	<u>Composite Materials and Structures</u>	3	0	0	3
5.	AE6604	<u>Aircraft Materials and Processes</u>	3	0	0	3
6.		Elective – I	3	0	0	3
PRACTICAL						
7.	AE6611	<u>Aero Engine and Airframe Laboratory</u>	0	0	3	2
8.	AE6612	<u>Aircraft Design Project - I</u>	0	0	3	2
9.	AE6613	<u>Computer Aided Simulation Laboratory</u>	0	0	3	2
TOTAL			18	1	9	25

SEMESTER VII

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	GE6757	<u>Total Quality Management</u>	3	0	0	3
2.	AE6701	<u>Avionics</u>	3	0	0	3
3.	ME6014	<u>Computational Fluid Dynamics</u>	3	0	0	3
4.	AE6702	<u>Experimental Stress Analysis</u>	3	0	0	3
5.		Elective – II	3	0	0	3
6.		Elective – III	3	0	0	3
PRACTICAL						
7.	AE6711	<u>Aircraft Design Project - II</u>	0	0	3	2
8.	AE6712	<u>Aircraft Systems Laboratory</u>	0	0	3	2
9.	AE6713	<u>Flight Integration Systems and Control Laboratory</u>	0	0	3	2
TOTAL			18	0	9	24

SEMESTER VIII

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	AE6801	<u>Wind Tunnel Techniques</u>	3	0	0	3
2.		Elective – IV	3	0	0	3
PRACTICAL						
3.	AE6811	<u>Project Work</u>	0	0	12	6
TOTAL			6	0	12	12

TOTAL NUMBER OF CREDITS TO BE EARNED FOR AWARD OF THE DEGREE = 193

ELECTIVES FOR M.E. AERONAUTICAL ENGINEERING

SEMESTER VI ELECTIVE – I

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P	C
1.	AE6001	<u>Theory of Elasticity</u>	3	0	0	3
2.	AE6002	<u>Aircraft General Engineering and Maintenance Practices</u>	3	0	0	3
3.	AE6003	<u>Space Mechanics</u>	3	0	0	3
4.	AE6004	<u>Heat Transfer</u>	3	0	0	3
5.	GE6084	Human Rights	3	0	0	3

SEMESTER VII ELECTIVES– II

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P	C
1.	AE6005	<u>Helicopter Theory</u>	3	0	0	3
2.	AE6006	<u>Theory of Plates and Shells</u>	3	0	0	3
3.	AE6007	<u>Fatigue and Fracture</u>	3	0	0	3
4.	AE6008	<u>UAV Systems</u>	3	0	0	3
5.	GE6083	Disaster Management	3	0	0	3

ELECTIVES – III

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P	C
1.	AE6009	<u>Industrial Aerodynamics</u>	3	0	0	3
2.	AE6010	<u>Airframe Maintenance and Repair</u>	3	0	0	3
3.	AE6011	<u>Aero Engine Maintenance and Repair</u>	3	0	0	3
4.	AE6012	<u>Air Traffic Control and Planning</u>	3	0	0	3

SEMESTER VIII ELECTIVES – IV

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P	C
1.	AE6013	<u>Hypersonic Aerodynamics</u>	3	0	0	3
2.	AE6014	<u>Experimental Aerodynamics</u>	3	0	0	3
3.	AE6015	<u>Rockets and Missiles</u>	3	0	0	3
4.	AE6016	<u>Structural Dynamics</u>	3	0	0	3

ANNA UNIVERSITY, CHENNAI

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B. E. CIVIL ENGINEERING

I TO VIII SEMESTERS CURRICULUM & SYLLABUS

SEMESTER I

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	HS6151	Technical English - I	3	1	0	4
2.	MA6151	Mathematics – I	3	1	0	4
3.	PH6151	Engineering Physics – I	3	0	0	3
4.	CY6151	Engineering Chemistry – I	3	0	0	3
5.	GE6151	Computer Programming	3	0	0	3
6.	GE6152	Engineering Graphics	2	0	3	4
PRACTICAL						
7.	GE6161	Computer Practices Laboratory	0	0	3	2
8.	GE6162	Engineering Practices Laboratory	0	0	3	2
9.	GE6163	Physics and Chemistry Laboratory - I	0	0	2	1
TOTAL			17	2	11	26

SEMESTER II

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	HS6251	Technical English - II	3	1	0	4
2.	MA6251	Mathematics – II	3	1	0	4
3.	PH6251	Engineering Physics – II	3	0	0	3
4.	CY6251	Engineering Chemistry – II	3	0	0	3
5.	GE6252	Basic Electrical and Electronics Engineering	4	0	0	4
6.	GE6253	Engineering Mechanics	3	1	0	4
PRACTICAL						
7.	GE6261	Computer Aided Drafting and Modeling Laboratory	0	1	2	2
8.	GE6262	Physics and Chemistry Laboratory - II	0	0	2	1
TOTAL			19	4	4	25

SEMESTER III

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	MA6351	Transforms and Partial Differential Equations	3	1	0	4
2.	GE6351	Environmental Science and Engineering	3	0	0	3
3.	CE6301	Engineering Geology	3	0	0	3
4.	CE6302	Mechanics of Solids	3	1	0	4
5.	CE6303	Mechanics of Fluids	3	0	0	3
6.	CE6304	Surveying I	3	0	0	3
PRACTICAL						
7.	CE6311	Survey Practical I	0	0	4	2
8.	CE6312	Computer Aided Building Drawing	0	0	4	2
TOTAL			18	2	8	24

SEMESTER IV

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	MA6459	Numerical Methods	3	1	0	4
2.	CE6401	Construction Materials	3	0	0	3
3.	CE6402	Strength of Materials	3	1	0	4
4.	CE6403	Applied Hydraulic Engineering	3	1	0	4
5.	CE6404	Surveying II	3	0	0	3
6.	CE6405	Soil Mechanics	3	0	0	3
PRACTICAL						
7.	CE6411	Strength of Materials Laboratory	0	0	3	2
8.	CE6412	Hydraulic Engineering Laboratory	0	0	3	2
9.	CE6413	Survey Practical II	0	0	4	2
TOTAL			18	3	10	27

SEMESTER V

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	CE6501	Structural Analysis I	3	1	0	4
2.	CE6502	Foundation Engineering	3	0	0	3
3.	CE6503	Environmental Engineering I	3	0	0	3
4.	CE6504	Highway Engineering	3	0	0	3
5.	CE6505	Design of Reinforced Concrete Elements	3	0	0	3
6.	CE6506	Construction Techniques, Equipment and Practice	3	0	0	3
PRACTICAL						
7.	GE6674	Communication and Soft skills- Laboratory Based	0	0	4	2
8.	CE6511	Soil Mechanics Laboratory	0	0	4	2
9.	CE6512	Survey Camp*	-	-	-	1
TOTAL			18	1	8	24

* Survey Camp to be conducted for a period of 2 weeks during 4th Semester Summer Vacation

SEMESTER VI

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	CE6601	Design of Reinforced Concrete & Brick Masonry Structures	3	0	0	3
2.	CE6602	Structural Analysis II	3	1	0	4
3.	CE6603	Design of Steel Structures	3	1	0	4
4.	CE6604	Railways, Airports and Harbour Engineering	3	0	0	3
5.	CE6605	Environmental Engineering II	3	0	0	3
6.		Elective I	3	0	0	3
PRACTICAL						
7.	CE6611	Environmental Engineering Laboratory	0	0	3	2
8.	CE6612	Concrete and Highway Engineering Laboratory	0	0	3	2
TOTAL			18	2	6	24

SEMESTER VII

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	CE6701	Structural Dynamics and Earthquake Engineering	3	0	0	3
2.	CE6702	Prestressed Concrete Structures	3	0	0	3
3.	CE6703	Water Resources and Irrigation Engineering	3	0	0	3
4.	CE6704	Estimation and Quantity Surveying	3	0	0	3
5.		Elective II	3	0	0	3
6.		Elective III	3	0	0	3
PRACTICAL						
7.	CE6711	Computer Aided Design and Drafting Laboratory	0	0	4	2
8.	CE6712	Design Project	0	0	4	2
TOTAL			18	0	8	22

SEMESTER VIII

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	MG6851	Principles of Management	3	0	0	3
2.		Elective IV	3	0	0	3
3.		Elective V	3	0	0	3
PRACTICAL						
4.	CE6811	<u>Project Work</u>	0	0	12	6
TOTAL			9	0	12	15

TOTAL NO OF CREDITS: 187

LIST OF ELECTIVES

ELECTIVE I

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
1.	CE6001	Hydrology	3	0	0	3
2.	CE6002	Concrete Technology	3	0	0	3
3.	CE6003	Remote Sensing Techniques and GIS	3	0	0	3
4.	CE6004	Architecture	3	0	0	3
5.	GE6075	Professional Ethics in Engineering	3	0	0	3
6.	CE6005	Construction Planning and Scheduling	3	0	0	3

ELECTIVE II

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
7.	CE6006	Traffic Engineering and Management	3	0	0	3
8.	CE6007	Housing Planning and Management	3	0	0	3
9.	CE6008	Groundwater Engineering	3	0	0	3
10.	CE6009	Water Resources Systems Analysis	3	0	0	3
11.	CE6010	Pavement Engineering	3	0	0	3

ELECTIVE III

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
12.	EN6801	Environmental Impact Assessment	3	0	0	3
13.	CE6023	Industrial Waste Management	3	0	0	3
14.	CE6011	Air Pollution Management	3	0	0	3
15.	EN6501	Municipal Solid Waste Management	3	0	0	3
16.	CE6012	Ground Improvement Techniques	3	0	0	3
17.	GE6083	Disaster Management	3	0	0	3

ELECTIVE IV

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
18.	CE6013	Bridge Structures	3	0	0	3
19.	CE6014	Storage Structures	3	0	0	3
20.	CE6015	Tall Buildings	3	0	0	3
21.	CE6016	Prefabricated Structures	3	0	0	3
22.	CE6017	Experimental Analysis of Stress	3	0	0	3
23.	GE6757	Total Quality Management	3	0	0	3
24.	GE6084	Human Rights	3	0	0	3

ELECTIVE V

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
25.	CE6018	Computer Aided Design of Structures	3	0	0	3
26.	CE6019	Industrial Structures	3	0	0	3
27.	CE6020	Finite Element Techniques	3	0	0	3
28.	CE6021	Repair and Rehabilitation of Structures	3	0	0	3
29.	CE6022	Earthquake Geotechnical Engineering	3	0	0	3

ANNA UNIVERSITY, CHENNAI
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B.E. COMPUTER SCIENCE AND ENGINEERING
I TO VIII SEMESTER CURRICULUM AND SYLLABUS

SEMESTER I

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	HS6151	<u>Technical English – I</u>	3	1	0	4
2.	MA6151	<u>Mathematics – I</u>	3	1	0	4
3.	PH6151	<u>Engineering Physics – I</u>	3	0	0	3
4.	CY6151	<u>Engineering Chemistry – I</u>	3	0	0	3
5.	GE6151	<u>Computer Programming</u>	3	0	0	3
6.	GE6152	<u>Engineering Graphics</u>	2	0	3	4
PRACTICALS						
7.	GE6161	<u>Computer Practices Laboratory</u>	0	0	3	2
8.	GE6162	<u>Engineering Practices Laboratory</u>	0	0	3	2
9.	GE6163	<u>Physics and Chemistry Laboratory - I</u>	0	0	2	1
TOTAL			17	2	11	26

SEMESTER II

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	HS6251	<u>Technical English – II</u>	3	1	0	4
2.	MA6251	<u>Mathematics – II</u>	3	1	0	4
3.	PH6251	<u>Engineering Physics – II</u>	3	0	0	3
4.	CY6251	<u>Engineering Chemistry – II</u>	3	0	0	3
5.	CS6201	<u>Digital Principles and System Design</u>	3	0	0	3
6.	CS6202	<u>Programming and Data Structures I</u>	3	0	0	3
PRACTICALS						
7.	GE6262	<u>Physics and Chemistry Laboratory - II</u>	0	0	2	1
8.	CS6211	<u>Digital Laboratory</u>	0	0	3	2
9.	CS6212	<u>Programming and Data Structures Laboratory I</u>	0	0	3	2
TOTAL			18	2	8	25

SEMESTER III

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	MA6351	<u>Transforms and Partial Differential Equations</u>	3	1	0	4
2.	CS6301	<u>Programming and Data Structure II</u>	3	0	0	3
3.	CS6302	<u>Database Management Systems</u>	3	0	0	3
4.	CS6303	<u>Computer Architecture</u>	3	0	0	3
5.	CS6304	<u>Analog and Digital Communication</u>	3	0	0	3
6.	GE6351	<u>Environmental Science and Engineering</u>	3	0	0	3
PRACTICAL						
7.	CS6311	<u>Programming and Data Structure Laboratory II</u>	0	0	3	2
8.	CS6312	<u>Database Management Systems Laboratory</u>	0	0	3	2
TOTAL			18	1	6	23

SEMESTER IV

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	MA6453	<u>Probability and Queueing Theory</u>	3	1	0	4
2.	CS6551	<u>Computer Networks</u>	3	0	0	3
3.	CS6401	<u>Operating Systems</u>	3	0	0	3
4.	CS6402	<u>Design and Analysis of Algorithms</u>	3	0	0	3
5.	EC6504	<u>Microprocessor and Microcontroller</u>	3	0	0	3
6.	CS6403	<u>Software Engineering</u>	3	0	0	3
PRACTICAL						
7.	CS6411	<u>Networks Laboratory</u>	0	0	3	2
8.	CS6412	<u>Microprocessor and Microcontroller Laboratory</u>	0	0	3	2
9.	CS6413	<u>Operating Systems Laboratory</u>	0	0	3	2
TOTAL			18	1	9	25

SEMESTER V

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	MA6566	<u>Discrete Mathematics</u>	3	1	0	4
2.	CS6501	<u>Internet Programming</u>	3	1	0	4
3.	CS6502	<u>Object Oriented Analysis and Design</u>	3	0	0	3
4.	CS6503	<u>Theory of Computation</u>	3	0	0	3
5.	CS6504	<u>Computer Graphics</u>	3	0	0	3
PRACTICAL						
6.	CS6511	<u>Case Tools Laboratory</u>	0	0	3	2
7.	CS6512	<u>Internet Programming Laboratory</u>	0	0	3	2
8.	CS6513	<u>Computer Graphics Laboratory</u>	0	0	3	2
TOTAL			15	2	9	23

SEMESTER VI

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	CS6601	<u>Distributed Systems</u>	3	0	0	3
2.	IT6601	<u>Mobile Computing</u>	3	0	0	3
3.	CS6660	<u>Compiler Design</u>	3	0	0	3
4.	IT6502	<u>Digital Signal Processing</u>	3	1	0	4
5.	CS6659	<u>Artificial Intelligence</u>	3	0	0	3
6.		Elective I	3	0	0	3
PRACTICAL						
7.	CS6611	<u>Mobile Application Development Laboratory</u>	0	0	3	2
8.	CS6612	<u>Compiler Laboratory</u>	0	0	3	2
9.	GE6674	<u>Communication and Soft Skills - Laboratory Based</u>	0	0	4	2
TOTAL			18	1	10	25

SEMESTER VII

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	CS6701	<u>Cryptography and Network Security</u>	3	0	0	3
2.	CS6702	<u>Graph Theory and Applications</u>	3	0	0	3
3.	CS6703	<u>Grid and Cloud Computing</u>	3	0	0	3
4.	CS6704	<u>Resource Management Techniques</u>	3	0	0	3
5.		Elective II	3	0	0	3
6.		Elective III	3	0	0	3
PRACTICAL						
7.	CS6711	<u>Security Laboratory</u>	0	0	3	2
8.	CS6712	<u>Grid and Cloud Computing Laboratory</u>	0	0	3	2
TOTAL			18	0	6	22

SEMESTER VIII

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	CS6801	<u>Multi – Core Architectures and Programming</u>	3	0	0	3
2.		Elective IV	3	0	0	3
3.		Elective V	3	0	0	3
PRACTICAL						
4.	CS6811	<u>Project Work</u>	0	0	12	6
TOTAL			9	0	12	15

TOTAL NO. OF CREDITS: 184

LIST OF ELECTIVES

SEMESTER VI – Elective I

S.NO.	CODE NO.	COURSE TITLE	L	T	P	C
1.	CS6001	<u>C# and .Net programming</u>	3	0	0	3
2.	GE6757	<u>Total Quality Management</u>	3	0	0	3
3.	IT6702	<u>Data Warehousing and Data Mining</u>	3	0	0	3
4.	CS6002	<u>Network Analysis and Management</u>	3	0	0	3
5.	IT6004	<u>Software Testing</u>	3	0	0	3
6.	GE6084	Human Rights	3	0	0	3

SEMESTER VII – Elective II

S.NO.	CODE NO.	COURSE TITLE	L	T	P	C
7.	CS6003	<u>Ad hoc and Sensor Networks</u>	3	0	0	3
8.	CS6004	<u>Cyber Forensics</u>	3	0	0	3
9.	CS6005	<u>Advanced Database Systems</u>	3	0	0	3
10.	BM6005	<u>Bio Informatics</u>	3	0	0	3
11.	IT6801	<u>Service Oriented Architecture</u>	3	0	0	3

SEMESTER VII – Elective III

S.NO	CODE NO.	COURSE TITLE	L	T	P	C
12.	IT6005	<u>Digital Image Processing</u>	3	0	0	3
13.	EC6703	<u>Embedded and Real Time Systems</u>	3	0	0	3
14.	CS6006	<u>Game Programming</u>	3	0	0	3
15.	CS6007	<u>Information Retrieval</u>	3	0	0	3
16.	IT6006	<u>Data Analytics</u>	3	0	0	3

SEMESTER VIII – Elective IV

S.NO.	CODE NO.	COURSE TITLE	L	T	P	C
17.	CS6008	<u>Human Computer Interaction</u>	3	0	0	3
18.	CS6009	<u>Nano Computing</u>	3	0	0	3
19.	IT6011	<u>Knowledge Management</u>	3	0	0	3
20.	CS6010	<u>Social Network Analysis</u>	3	0	0	3
21.	CS6013	Foundation Skills in Integrated Product Development	3	0	0	3

SEMESTER VIII – Elective V

S.NO.	CODE NO.	COURSE TITLE	L	T	P	C
22.	MG6088	<u>Software Project Management</u>	3	0	0	3
23.	GE6075	<u>Professional Ethics in Engineering</u>	3	0	0	3
24.	CS6011	<u>Natural Language Processing</u>	3	0	0	3
25.	CS6012	<u>Soft Computing</u>	3	0	0	3
26.	GE6083	Disaster Management	3	0	0	3

ANNA UNIVERSITY, CHENNAI

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B.E. ELECTRONICS AND COMMUNICATION ENGINEERING

I – VIII SEMESTERS CURRICULUM AND SYLLABUS

SEMESTER I

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	HS6151	<u>Technical English – I</u>	3	1	0	4
2.	MA6151	<u>Mathematics – I</u>	3	1	0	4
3.	PH6151	<u>Engineering Physics – I</u>	3	0	0	3
4.	CY6151	<u>Engineering Chemistry – I</u>	3	0	0	3
5.	GE6151	<u>Computer Programming</u>	3	0	0	3
6.	GE6152	<u>Engineering Graphics</u>	2	0	3	4
PRACTICALS						
7.	GE6161	<u>Computer Practices Laboratory</u>	0	0	3	2
8.	GE6162	<u>Engineering Practices Laboratory</u>	0	0	3	2
9.	GE6163	<u>Physics and Chemistry Laboratory - I</u>	0	0	2	1
TOTAL			17	2	11	26

SEMESTER II

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	HS6251	<u>Technical English – II</u>	3	1	0	4
2.	MA6251	<u>Mathematics – II</u>	3	1	0	4
3.	PH6251	<u>Engineering Physics – II</u>	3	0	0	3
4.	CY6251	<u>Engineering Chemistry – II</u>	3	0	0	3
5.	EC6201	<u>Electronic Devices</u>	3	0	0	3
6.	EE6201	<u>Circuit Theory</u>	3	1	0	4
PRACTICALS						
7.	GE6262	<u>Physics and Chemistry Laboratory - II</u>	0	0	2	1
8.	EC6211	<u>Circuits and Devices Laboratory</u>	0	0	3	2
TOTAL			18	3	5	24

SEMESTER III

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	MA6351	<u>Transforms and Partial Differential Equations</u>	3	1	0	4
2.	EE6352	<u>Electrical Engineering and Instrumentation</u>	3	1	0	4
3.	EC6301	<u>Object Oriented Programming and Data Structures</u>	3	0	0	3
4.	EC6302	<u>Digital Electronics</u>	3	0	0	3
5.	EC6303	<u>Signals and Systems</u>	3	1	0	4
6.	EC6304	<u>Electronic Circuits- I</u>	3	1	0	4
PRACTICAL						
7.	EC6311	<u>Analog and Digital Circuits Laboratory</u>	0	0	3	2
8.	EC6312	<u>OOPS and Data Structures Laboratory</u>	0	0	3	2
TOTAL			18	4	6	26

SEMESTER IV

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	MA6451	Probability and Random Processes	3	1	0	4
2.	EC6401	<u>Electronic Circuits II</u>	3	0	0	3
3.	EC6402	<u>Communication Theory</u>	3	0	0	3
4.	EC6403	Electromagnetic Fields	3	1	0	4
5.	EC6404	<u>Linear Integrated Circuits</u>	3	0	0	3
6.	EC6405	<u>Control System Engineering</u>	3	0	0	3
PRACTICAL						
7.	EC6411	<u>Circuit and Simulation Integrated Laboratory</u>	0	0	3	2
8.	EC6412	<u>Linear Integrated Circuit Laboratory</u>	0	0	3	2
9.	EE6461	<u>Electrical Engineering and Control System Laboratory</u>	0	0	3	2
TOTAL			18	2	9	26

SEMESTER V

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	EC6501	<u>Digital Communication</u>	3	0	0	3
2.	EC6502	<u>Principles of Digital Signal Processing</u>	3	1	0	4
3.	EC6503	<u>Transmission Lines and Wave Guides</u>	3	1	0	4
4.	GE6351	<u>Environmental Science and Engineering</u>	3	0	0	3
5.	EC6504	<u>Microprocessor and Microcontroller</u>	3	0	0	3
PRACTICAL						
6.	EC6511	<u>Digital Signal Processing Laboratory</u>	0	0	3	2
7.	EC6512	<u>Communication System Laboratory</u>	0	0	3	2
8.	EC6513	<u>Microprocessor and Microcontroller Laboratory</u>	0	0	3	2
		TOTAL	15	2	9	23

SEMESTER VI

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	MG6851	<u>Principles of Management</u>	3	0	0	3
2.	CS6303	<u>Computer Architecture</u>	3	0	0	3
3.	CS6551	<u>Computer Networks</u>	3	0	0	3
4.	EC6601	<u>VLSI Design</u>	3	0	0	3
5.	EC6602	<u>Antenna and Wave propagation</u>	3	0	0	3
6.		Elective I	3	0	0	3
PRACTICAL						
7.	EC6611	<u>Computer Networks Laboratory</u>	0	0	3	2
8.	EC6612	<u>VLSI Design Laboratory</u>	0	0	3	2
9.	GE6674	<u>Communication and Soft Skills - Laboratory Based</u>	0	0	4	2
		TOTAL	18	0	10	24

SEMESTER VII

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	EC6701	<u>RF and Microwave Engineering</u>	3	0	0	3
2.	EC6702	<u>Optical Communication and Networks</u>	3	0	0	3
3.	EC6703	<u>Embedded and Real Time Systems</u>	3	0	0	3
4.		Elective II	3	0	0	3
5.		Elective III	3	0	0	3
6.		Elective IV	3	0	0	3
PRACTICAL						
7.	EC6711	<u>Embedded Laboratory</u>	0	0	3	2
8.	EC6712	<u>Optical and Microwave Laboratory</u>	0	0	3	2
TOTAL			18	0	6	22

SEMESTER VIII

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	EC6801	<u>Wireless Communication</u>	3	0	0	3
2.	EC6802	<u>Wireless Networks</u>	3	0	0	3
3.		Elective V	3	0	0	3
4.		Elective VI	3	0	0	3
PRACTICAL						
5.	EC6811	<u>Project Work</u>	0	0	12	6
TOTAL			12	0	12	18

TOTAL CREDITS:189

SEMESTER VI

ELECTIVE – I

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
1.	EC6001	<u>Medical Electronics</u>	3	0	0	3
2.	EC6002	<u>Advanced Digital Signal Processing</u>	3	0	0	3
3.	CS6401	<u>Operating Systems</u>	3	0	0	3
4.	EC6003	<u>Robotics and Automation</u>	3	0	0	3

SEMESTER VII**ELECTIVE- II**

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
5.	EC6004	<u>Satellite Communication</u>	3	0	0	3
6.	EC6005	<u>Electronic Testing</u>	3	0	0	3
7.	EC6006	Avionics	3	0	0	3
8.	CS6012	<u>Soft Computing</u>	3	0	0	3
9.	IT6005	<u>Digital Image Processing</u>	3	0	0	3
10.	CS6013	Foundation Skills in Integrated Product Development	3	0	0	3

ELECTIVE- III

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
11.	EC6007	<u>Speech Processing</u>	3	0	0	3
12.	EC6008	<u>Web Technology</u>	3	0	0	3
13.	EC6009	<u>Advanced Computer Architecture</u>	3	0	0	3
14.	EC 6010	<u>Electronics Packaging</u>	3	0	0	3
15.	EC6011	<u>Electro Magnetic Interference and Compatibility</u>	3	0	0	3

ELECTIVE - IV

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
16.	EC6012	<u>CMOS Analog IC Design</u>	3	0	0	3
17.	EC6013	<u>Advanced Microprocessors and Microcontrollers</u>	3	0	0	3
18.	EC6014	<u>Cognitive Radio</u>	3	0	0	3
19.	EC6015	<u>Radar and Navigational Aids</u>	3	0	0	3
20.	EC6016	<u>Opto Electronic Devices</u>	3	0	0	3

SEMESTER VIII**ELECTIVE –V**

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
21.	EC6017	<u>RF System Design</u>	3	0	0	3
22.	CS6003	<u>Ad hoc and Sensors Networks</u>	3	0	0	3
23.	GE6082	<u>Indian Constitution and Society</u>	3	0	0	3
24.	EC6018	<u>Multimedia Compression and Communication</u>	3	0	0	3
25.	GE6075	<u>Professional Ethics in Engineering</u>	3	0	0	3
26.	GE6083	Disaster Management	3	0	0	3

ELECTIVE – VI

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
27.	EC6019	<u>Data Converters</u>	3	0	0	3
28.	CS6701	<u>Cryptography and Network Security</u>	3	0	0	3
29.	GE6757	<u>Total Quality Management</u>	3	0	0	3
30.	MG6071	<u>Entrepreneurship Development</u>	3	0	0	3
31.	MG6088	<u>Software Project Management</u>	3	0	0	3
32.	GE6084	Human Rights	3	0	0	3

ANNA UNIVERSITY, CHENNAI

AFFILIATED INSTITUTIONS

R - 2013

B. E. ELECTRICAL AND ELECTRONICS ENGINEERING

I TO VIII SEMESTERS CURRICULUM AND SYLLABUS

SEMESTER I

S.NO.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	HS6151	Technical English - I	3	1	0	4
2.	MA6151	Mathematics - I	3	1	0	4
3.	PH6151	Engineering Physics - I	3	0	0	3
4.	CY6151	Engineering Chemistry - I	3	0	0	3
5.	GE6151	Computer Programming	3	0	0	3
6.	GE6152	Engineering Graphics	2	0	3	4
PRACTICAL						
7.	GE6161	Computer Practices Laboratory	0	0	3	2
8.	GE6162	Engineering Practices Laboratory	0	0	3	2
9.	GE6163	Physics and Chemistry Laboratory - I	0	0	2	1
			17	2	11	26

SEMESTER II

S.NO.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	HS6251	Technical English - II	3	1	0	4
2.	MA6251	Mathematics - II	3	1	0	4
3.	PH6251	Engineering Physics - II	3	0	0	3
4.	CY6251	Engineering Chemistry - II	3	0	0	3
5.	GE6251	Basic Civil and Mechanical Engineering	4	0	0	4
6.	EE6201	Circuit Theory	3	1	0	4
PRACTICAL						
7.	GE6262	Physics and Chemistry Laboratory - II	0	0	2	1
8.	GE6263	Computer Programming Laboratory	0	1	2	2
9.	EE6211	Electric Circuits Laboratory	0	0	3	2
TOTAL			19	4	7	27

SEMESTER III

S.NO.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	MA6351	Transforms and Partial Differential Equations	3	1	0	4
2.	EE6301	Digital Logic Circuits	3	1	0	4
3.	EE6302	Electromagnetic Theory	3	1	0	4
4.	GE6351	Environmental Science and Engineering	3	0	0	3
5.	EC6202	Electronic Devices and Circuits	3	1	0	4
6.	EE6303	Linear Integrated Circuits and Applications	3	0	0	3
PRACTICAL						
7.	EC6361	Electronics Laboratory	0	0	3	2
8.	EE6311	Linear and Digital Integrated Circuits Laboratory	0	0	3	2
TOTAL			18	4	6	26

SEMESTER IV

S.NO.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	MA6459	Numerical Methods	3	1	0	4
2.	EE6401	Electrical Machines - I	3	1	0	4
3.	CS6456	Object Oriented Programming	3	0	0	3
4.	EE6402	Transmission and Distribution	3	0	0	3
5.	EE6403	Discrete Time Systems and Signal Processing	3	0	0	3
6.	EE6404	Measurements and Instrumentation	3	0	0	3
PRACTICAL						
7.	CS6461	Object Oriented Programming Laboratory	0	0	3	2
8.	EE6411	Electrical Machines Laboratory - I	0	0	3	2
TOTAL			18	2	6	24

SEMESTER V

S.NO.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	EE6501	Power System Analysis	3	0	0	3
2.	EE6502	Microprocessors and Microcontrollers	3	0	0	3
3.	ME6701	Power Plant Engineering	3	0	0	3
4.	EE6503	Power Electronics	3	0	0	3
5.	EE6504	Electrical Machines - II	3	1	0	4
6.	IC6501	Control Systems	3	1	0	4
PRACTICAL						
7.	EE6511	Control and Instrumentation Laboratory	0	0	3	2
8.	GE6674	Communication and Soft Skills- Laboratory Based	0	0	4	2
9.	EE6512	Electrical Machines Laboratory - II	0	0	3	2
TOTAL			18	2	10	26

SEMESTER VI

S.NO.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	EC6651	Communication Engineering	3	0	0	3
2.	EE6601	Solid State Drives	3	0	0	3
3.	EE6602	Embedded Systems	3	0	0	3
4.	EE6603	Power System Operation and Control	3	0	0	3
5.	EE6604	Design of Electrical Machines	3	1	0	4
6.		Elective - I	3	0	0	3
PRACTICAL						
7.	EE6611	Power Electronics and Drives Laboratory	0	0	3	2
8.	EE6612	Microprocessors and Microcontrollers Laboratory	0	0	3	2
9.	EE6613	Presentation Skills and Technical Seminar	0	0	2	1
TOTAL			18	1	8	24

SEMESTER VII

S.NO.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	EE6701	High Voltage Engineering	3	0	0	3
2.	EE6702	Protection and Switchgear	3	0	0	3
3.	EE6703	Special Electrical Machines	3	0	0	3
4.	MG6851	Principles of Management	3	0	0	3
5.		Elective – II	3	0	0	3
6.		Elective – III	3	0	0	3
PRACTICAL						
7.	EE6711	Power System Simulation Laboratory	0	0	3	2
8.	EE6712	Comprehension	0	0	2	1
TOTAL			18	0	5	21

SEMESTER VIII

S.NO.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	EE6801	Electric Energy Generation, Utilization and Conservation	3	0	0	3
2.		Elective – IV	3	0	0	3
3.		Elective – V	3	0	0	3
PRACTICAL						
4.	EE6811	Project Work	0	0	12	6
TOTAL			9	0	12	15

TOTAL CREDITS: 189

ELECTIVE - I

S.NO.	COURSE CODE	COURSE TITLE	L	T	P	C
1.	EE6001	Visual Languages and Applications	3	0	0	3
2.	IC6601	Advanced Control System	3	0	0	3
3.	EE6002	Power System Transients	3	0	0	3
4.	EE6003	Optimisation Techniques	3	0	0	3

ELECTIVE - II

S.NO.	COURSE CODE	COURSE TITLE	L	T	P	C
5.	EI6703	Fibre Optics and Laser Instruments	3	0	0	3
6.	EI6704	Biomedical Instrumentation	3	0	0	3
7.	EE6004	Flexible AC Transmission Systems	3	0	0	3
8.	EE6005	Power Quality	3	0	0	3
9.	EE6006	Applied Soft Computing	3	0	0	3

ELECTIVE - III

S.NO.	COURSE CODE	COURSE TITLE	L	T	P	C
10.	GE6081	Fundamentals of Nanoscience	3	0	0	3
11.	IC6002	System Identification and Adaptive Control	3	0	0	3
12.	EE6007	Micro Electro Mechanical Systems	3	0	0	3
13.	EE6008	Microcontroller Based System Design	3	0	0	3

ELECTIVE - IV

S.NO.	COURSE CODE	COURSE TITLE	L	T	P	C
14.	EE6009	Power Electronics for Renewable Energy Systems	3	0	0	3
15.	EE6010	High Voltage Direct Current Transmission	3	0	0	3
16.	EE6011	Power System Dynamics	3	0	0	3
17.	IC6003	Principles of Robotics	3	0	0	3
18.	GE6083	Disaster Management	3	0	0	3

ELECTIVE - V

S.NO.	COURSE CODE	COURSE TITLE	L	T	P	C
19.	GE6075	Professional Ethics in Engineering	3	0	0	3
20.	GE6757	Total Quality Management	3	0	0	3
21.	EC6002	Advanced Digital Signal Processing	3	0	0	3
22.	EE6012	Computer Aided Design of Electrical Apparatus	3	0	0	3
23.	EC6601	VLSI Design	3	0	0	3
24.	GE6084	Human Rights	3	0	0	3
25.	MA6468	Probability and Statistics	3	1	0	4
26.	EI6001	Data Structures and Algorithms	3	0	0	3

ANNA UNIVERSITY, CHENNAI
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R-2013
B.TECH INFORMATION TECHNOLOGY
I - VIII SEMESTERS CURRICULUM AND SYLLABUS

SEMESTER I

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	HS6151	<u>Technical English – I</u>	3	1	0	4
2.	MA6151	<u>Mathematics – I</u>	3	1	0	4
3.	PH6151	<u>Engineering Physics – I</u>	3	0	0	3
4.	CY6151	<u>Engineering Chemistry – I</u>	3	0	0	3
5.	GE6151	<u>Computer Programming</u>	3	0	0	3
6.	GE6152	<u>Engineering Graphics</u>	2	0	3	4
PRACTICALS						
7.	GE6161	<u>Computer Practices Laboratory</u>	0	0	3	2
8.	GE6162	<u>Engineering Practices Laboratory</u>	0	0	3	2
9.	GE6163	<u>Physics and Chemistry Laboratory - I</u>	0	0	2	1
TOTAL			17	2	11	26

SEMESTER II

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	HS6251	Technical English – II	3	1	0	4
2.	MA6251	Mathematics – II	3	1	0	4
3.	PH6251	<u>Engineering Physics – II</u>	3	0	0	3
4.	CY6251	<u>Engineering Chemistry – II</u>	3	0	0	3
5.	CS6201	<u>Digital Principles and System Design</u>	3	0	0	3
	CS6202	<u>Programming and Data Structures I</u>	3	0	0	3
PRACTICALS						
7.	GE6262	<u>Physics and Chemistry Laboratory - II</u>	0	0	2	1
8.	IT6211	<u>Digital Laboratory</u>	0	0	3	2
9.	IT6212	<u>Programming and Data Structures Laboratory I</u>	0	0	3	2
TOTAL			18	2	8	25

SEMESTER III

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	MA6351	<u>Transforms and Partial Differential Equations</u>	3	1	0	4
2.	CS6301	<u>Programming and Data Structures II</u>	3	0	0	3
3.	CS6302	<u>Database Management Systems</u>	3	0	0	3
4.	CS6303	<u>Computer Architecture</u>	3	0	0	3
5.	CS6304	<u>Analog and Digital Communication</u>	3	0	0	3
6.	GE6351	<u>Environmental Science and Engineering</u>	3	0	0	3
PRACTICAL						
7.	IT6311	<u>Programming and Data Structures Laboratory II</u>	0	0	3	2
8.	IT6312	<u>Database Management Systems Laboratory</u>	0	0	3	2
9.	IT6313	<u>Digital Communication Laboratory</u>	0	0	3	2
TOTAL			18	1	9	25

SEMESTER IV

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	MA6453	<u>Probability and Queuing Theory</u>	3	1	0	4
2.	EC6504	<u>Microprocessor and Microcontroller</u>	3	0	0	3
3.	CS6402	<u>Design and Analysis of Algorithms</u>	3	0	0	3
4.	CS6401	<u>Operating Systems</u>	3	0	0	3
5.	CS6403	<u>Software Engineering</u>	3	0	0	3
PRACTICAL						
6.	IT6411	<u>Microprocessor and Microcontroller Laboratory</u>	0	0	3	2
7.	IT6412	<u>Operating Systems Laboratory</u>	0	0	3	2
8.	IT6413	<u>Software Engineering Laboratory</u>	0	0	3	2
TOTAL			15	1	9	22

SEMESTER V

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	CS6551	<u>Computer Networks</u>	3	0	0	3
2.	IT6501	<u>Graphics and Multimedia</u>	3	0	0	3
3.	CS6502	<u>Object Oriented Analysis and Design</u>	3	0	0	3
4.	IT6502	Digital Signal Processing	3	1	0	4
5.	IT6503	Web Programming	3	1	0	4
6.	EC6801	Wireless Communication	3	0	0	3
PRACTICAL						
7.	IT6511	<u>Networks Laboratory</u>	0	0	3	2
8.	IT6512	<u>Web Programming Laboratory</u>	0	0	3	2
9.	IT6513	<u>Case Tools Laboratory</u>	0	0	3	2
TOTAL			18	2	9	26

SEMESTER VI

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	CS6601	<u>Distributed Systems</u>	3	0	0	3
2.	IT6601	<u>Mobile Computing</u>	3	0	0	3
3.	CS6659	<u>Artificial Intelligence</u>	3	0	0	3
4.	CS6660	<u>Compiler Design</u>	3	0	0	3
5.	IT6602	<u>Software Architectures</u>	3	0	0	3
6.		Elective I	3	0	0	3
PRACTICAL						
7.	IT6611	<u>Mobile Application Development Laboratory</u>	0	0	3	2
8.	IT6612	<u>Compiler Laboratory</u>	0	0	3	2
9.	GE6674	<u>Communication and Soft Skills - Laboratory Based</u>	0	0	4	2
TOTAL			18	0	10	24

SEMESTER VII

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	IT6701	<u>Information Management</u>	3	0	0	3
2.	CS6701	<u>Cryptography and Network Security</u>	3	0	0	3
3.	IT6702	<u>Data Ware Housing and Data Mining</u>	3	0	0	3
4.	CS6703	<u>Grid and Cloud Computing</u>	3	0	0	3
5.		Elective II	3	0	0	3
PRACTICAL						
6.	IT6711	<u>Data Mining Laboratory</u>	0	0	3	2
7.	IT6712	<u>Security Laboratory</u>	0	0	3	2
8.	IT6713	<u>Grid and Cloud Computing Laboratory</u>	0	0	3	2
TOTAL			15	0	9	21

SEMESTER VIII

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	IT6801	Service Oriented Architecture	3	0	0	3
2.		Elective III	3	0	0	3
3.		Elective IV	3	0	0	3
		Elective V	3	0	0	3
PRACTICAL						
4.	IT6811	Project Work	0	0	12	6
TOTAL			12	0	12	18

TOTAL NO. OF CREDITS: 187**LIST OF ELECTIVES****SEMESTER VI – ELECTIVE I**

S.NO.	COURSE CODE	COURSE TITLE	L	T	P	C
1.	IT6001	Advanced Database Technology	3	0	0	3
2.	IT6002	Information Theory and Coding Techniques	3	0	0	3
3.	CS6001	C# and .Net Programming	3	0	0	3
4.	GE6757	Total Quality Management	3	0	0	3
5.	CS6012	Soft Computing	3	0	0	3
6.	GE6084	Human Rights	3	0	0	3

SEMESTER VII – ELECTIVE II

S.NO.	CODE NO.	COURSE TITLE	L	T	P	C
1.	IT6003	Multimedia Compression Techniques	3	0	0	3
2.	IT6004	Software Testing	3	0	0	3
3.	IT6005	Digital Image Processing	3	0	0	3
4.	CS6003	Ad hoc and Sensor Networks	3	0	0	3
5.	IT6006	Data Analytics	3	0	0	3

SEMESTER VIII – ELECTIVE III

S.NO.	CODE NO.	COURSE TITLE	L	T	P	C
1.	IT6007	Free and Open Source Software	3	0	0	3
2.	IT6008	Network Programming and Management	3	0	0	3
3.	GE6075	Professional Ethics in Engineering	3	0	0	3
4.	CS6503	Theory of Computation	3	0	0	3
5.	IT6009	Web Engineering	3	0	0	3
6.	GE6083	Disaster Management	3	0	0	3

SEMESTER VIII – ELECTIVE IV

S.NO.	CODE NO.	COURSE TITLE	L	T	P	C
1.	BM6005	Bio Informatics	3	0	0	3
2.	CS6004	Cyber Forensics	3	0	0	3
3.	CS6702	Graph Theory and Applications	3	0	0	3
4.	CS6010	Social Network Analysis	3	0	0	3
5.	IT6010	Business Intelligence	3	0	0	3
6.	CS6013	Foundation Skills in Integrated Product Development	3	0	0	3

SEMESTER VIII - ELECTIVE V

S.NO.	CODE NO.	COURSE TITLE	L	T	P	C
1.	IT6011	Knowledge Management	3	0	0	3
2.	IT6012	TCP/ IP Design and Implementation	3	0	0	3
3.	CS6008	Human Computer Interaction	3	0	0	3
4.	IT6013	Software Quality Assurance	3	0	0	3
5.	MG6088	Software Project Management	3	0	0	3

ANNA UNIVERSITY, CHENNAI
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B.E. MECHANICAL ENGINEERING
I – VIII SEMESTERS CURRICULUM AND SYLLABUS

SEMESTER I

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	HS6151	<u>Technical English – I</u>	3	1	0	4
2.	MA6151	<u>Mathematics – I</u>	3	1	0	4
3.	PH6151	<u>Engineering Physics – I</u>	3	0	0	3
4.	CY6151	<u>Engineering Chemistry – I</u>	3	0	0	3
5.	GE6151	<u>Computer Programming</u>	3	0	0	3
6.	GE6152	<u>Engineering Graphics</u>	2	0	3	4
PRACTICALS						
7.	GE6161	<u>Computer Practices Laboratory</u>	0	0	3	2
8.	GE6162	<u>Engineering Practices Laboratory</u>	0	0	3	2
9.	GE6163	<u>Physics and Chemistry Laboratory - I</u>	0	0	2	1
TOTAL			17	2	11	26

SEMESTER II

SL. No.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	HS6251	<u>Technical English – II</u>	3	1	0	4
2.	MA6251	<u>Mathematics – II</u>	3	1	0	4
3.	PH6251	<u>Engineering Physics – II</u>	3	0	0	3
4.	CY6251	<u>Engineering Chemistry – II</u>	3	0	0	3
5.	GE6252	<u>Basic Electrical and Electronics Engineering</u>	4	0	0	4
6.	GE6253	<u>Engineering Mechanics</u>	3	1	0	4
PRACTICALS						
7.	GE6261	<u>Computer Aided Drafting and Modeling Laboratory</u>	0	1	2	2
8.	GE6262	<u>Physics and Chemistry Laboratory - II</u>	0	0	2	1
TOTAL			19	4	4	25

SEMESTER III

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	MA6351	Transforms and Partial Differential Equations	3	1	0	4
2.	CE6306	Strength of Materials	3	1	0	4
3.	ME6301	Engineering Thermodynamics	3	0	0	3
4.	CE6451	Fluid Mechanics and Machinery	3	0	0	3
5.	ME6302	Manufacturing Technology - I	3	0	0	3
6.	EE6351	Electrical Drives and Controls	3	0	0	3
PRACTICAL						
7.	ME6311	Manufacturing Technology Laboratory - I	0	0	3	2
8.	CE6461	Fluid Mechanics and Machinery Laboratory	0	0	3	2
9.	EE6365	Electrical Engineering Laboratory	0	0	3	2
TOTAL			18	2	9	26

SEMESTER IV

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	MA6452	Statistics and Numerical Methods	3	1	0	4
2.	ME6401	Kinematics of Machinery	3	0	0	3
3.	ME6402	Manufacturing Technology– II	3	0	0	3
4.	ME6403	Engineering Materials and Metallurgy	3	0	0	3
5.	GE6351	Environmental Science and Engineering	3	0	0	3
6.	ME6404	Thermal Engineering	3	0	0	3
PRACTICAL						
7.	ME6411	Manufacturing Technology Laboratory–II	0	0	3	2
8.	ME6412	Thermal Engineering Laboratory - I	0	0	3	2
9.	CE6315	Strength of Materials Laboratory	0	0	3	2
TOTAL			18	1	9	25

SEMESTER V

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	ME6501	Computer Aided Design	3	0	0	3
2.	ME6502	Heat and Mass Transfer	3	0	0	3
3.	ME6503	Design of Machine Elements	3	0	0	3
4.	ME6504	Metrology and Measurements	3	0	0	3
5.	ME6505	Dynamics of Machines	3	0	0	3
6.	GE6075	Professional Ethics in Engineering	3	0	0	3
PRACTICAL						
7.	ME6511	Dynamics Laboratory	0	0	3	2
8.	ME6512	Thermal Engineering Laboratory-II	0	0	3	2
9.	ME6513	Metrology and Measurements Laboratory	0	0	3	2
TOTAL			18	0	9	24

SEMESTER VI

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	ME6601	Design of Transmission Systems	3	0	0	3
2.	MG6851	Principles of Management	3	0	0	3
3.	ME6602	Automobile Engineering	3	0	0	3
4.	ME6603	Finite Element Analysis	3	0	0	3
5.	ME6604	Gas Dynamics and Jet Propulsion	3	0	0	3
6.		Elective - I	3	0	0	3
PRACTICAL						
7.	ME6611	C.A.D. / C.A.M. Laboratory	0	0	3	2
8.	ME6612	Design and Fabrication Project	0	0	4	2
9.	GE6674	Communication and Soft Skills- Laboratory Based	0	0	4	2
TOTAL			18	0	11	24

SEMESTER VII

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	ME6701	Power Plant Engineering	3	0	0	3
2.	ME6702	Mechatronics	3	0	0	3
3.	ME6703	Computer Integrated Manufacturing Systems	3	0	0	3
4.	GE6757	Total Quality Management	3	0	0	3
5.		Elective – II	3	0	0	3
6.		Elective – III	3	0	0	3
PRACTICAL						
7.	ME6711	Simulation and Analysis Laboratory	0	0	3	2
8.	ME6712	Mechatronics Laboratory	0	0	3	2
9.	ME6713	Comprehension	0	0	2	1
TOTAL			18	0	8	23

SEMESTER VIII

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	MG6863	<u>Engineering Economics</u>	3	0	0	3
2.		Elective – IV	3	0	0	3
3.		Elective – V	3	0	0	3
PRACTICAL						
4.	ME6811	<u>Project Work</u>	0	0	12	6
TOTAL			9	0	12	15

TOTAL NUMBER OF CREDITS TO BE EARNED FOR AWARD OF THE DEGREE = 188

ELECTIVES FOR B.E. MECHANICAL ENGINEERING

SEMESTER VI

Elective I

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P	C
1.	MG6072	<u>Marketing Management</u>	3	0	0	3
2.	ME6001	Quality Control and Reliability Engineering	3	0	0	3
3.	ME6002	Refrigeration and Air conditioning	3	0	0	3
4.	ME6003	Renewable Sources of Energy	3	0	0	3
5.	ME6004	Unconventional Machining Processes	3	0	0	3

SEMESTER VII

Elective II

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P	C
1.	ME6005	Process Planning and Cost Estimation	3	0	0	3
2.	ME6006	Design of Jigs, Fixtures and Press Tools	3	0	0	3
3.	ME6007	Composite Materials and Mechanics	3	0	0	3
4.	ME6008	Welding Technology	3	0	0	3
5.	ME6009	Energy Conservation and Management	3	0	0	3
6.	GE6083	Disaster Management	3	0	0	3

Elective III

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P	C
1.	ME6010	Robotics	3	0	0	3
2.	GE6081	Fundamentals of Nanoscience	3	0	0	3
3.	ME6011	Thermal Turbo Machines	3	0	0	3
4.	ME6012	Maintenance Engineering	3	0	0	3
5.	EE6007	<u>Micro Electro Mechanical Systems</u>	3	0	0	3
6.	ME6021	<u>Hydraulics and Pneumatics</u>	3	0	0	3

**SEMESTER-VIII
Elective IV**

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P	C
1.	IE6605	Production Planning and Control	3	0	0	3
2.	MG6071	Entrepreneurship Development	3	0	0	3
3.	ME6013	Design of Pressure Vessels and Piping	3	0	0	3
4.	ME6014	Computational Fluid Dynamics	3	0	0	3
5.	ME6015	Operations Research	3	0	0	3
6.	GE6084	Human Rights	3	0	0	3

Elective V

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P	C
1.	ME6016	Advanced I.C. Engines	3	0	0	3
2.	ME6017	Design of Heat Exchangers	3	0	0	3
3.	ME6018	Additive Manufacturing	3	0	0	3
4.	ME6019	Non Destructive Testing and Materials	3	0	0	3
5.	ME6020	Vibration and Noise Control	3	0	0	3

AFFILIATED INSTITUTIONS
ANNA UNIVERSITY, CHENNAI
REGULATION – 2013
M.E. APPLIED ELECTRONICS
I TO IV SEMESTERS CURRICUM AND SYLLABUS (FULL TIME)

SEMESTER I

SL. NO	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1	MA7157	Applied Mathematics for Electronics Engineers	3	1	0	4
2	AP7101	Advanced Digital Signal Processing	3	1	0	4
3	AP7102	Advanced Digital Logic System Design	3	0	0	3
4	AP7103	Advanced Microprocessor and Microcontroller	3	0	0	3
5		Elective I	3	0	0	3
6		Elective II	3	0	0	3
PRACTICAL						
1	AP7111	Electronics System Design Laboratory I	0	0	3	2
TOTAL			18	2	3	22

SEMESTER II

SL. NO	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1	AP7201	Analysis and Design of Analog Integrated Circuits	3	0	0	3
2	AP7202	ASIC and FPGA Design	3	0	0	3
3	AP7203	Embedded Systems	3	0	0	3
4	CP7103	Multicore Architectures	3	0	0	3
5		Elective III	3	0	0	3
6		Elective IV	3	0	0	3
PRACTICAL						
1	AP7211	Electronics System Design Laboratory II	0	0	3	2
TOTAL			18	0	3	20

SEMESTER III

SL. NO	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1	AP7301	Electromagnetic Interference and Compatibility	3	0	0	3
2		Elective V	3	0	0	3
3		Elective VI	3	0	0	3
PRACTICAL						
4	AP7311	Project Work (Phase I)	0	0	12	6
TOTAL			9	0	12	15

SEMESTER IV

SL. NO	COURSE CODE	COURSE TITLE	L	T	P	C
PRACTICAL						
1	AP7411	Project Work (Phase II)	0	0	24	12
TOTAL			0	0	24	12

TOTAL NO. OF CREDITS: 69

LIST OF ELECTIVES

ELECTIVE I

SL. NO	COURSE CODE	COURSE TITLE	L	T	P	C
1	DS7201	Advanced Digital Image Processing	3	0	0	3
2	CU7006	Wavelet Transforms and Applications	3	0	0	3
3	IF7301	Soft Computing	3	0	0	3
4	AP7001	Computer Architecture and Parallel Processing	3	0	0	3
5	AP7002	Three Dimensional Network on Chip	3	0	0	3

ELECTIVE II

1	VL7201	CAD for VLSI Circuits	3	0	0	3
2	AP7003	Digital Control Engineering	3	0	0	3
3	AP7004	Hardware - Software Co Design	3	0	0	3
4	AP7005	Quantum Electronics	3	0	0	3
5	AP7006	Sensors and Signal Conditioning	3	0	0	3

ELECTIVE III

1	VL7102	VLSI Design Techniques	3	0	0	3
2	VL7202	Low Power VLSI Design	3	0	0	3
3	AP7007	Fiber Optic Sensors	3	0	0	3
4	AP7008	DSP Integrated Circuits	3	0	0	3
5	AP7009	RF System Design	3	0	0	3
6	VL7001	Analog and Mixed Mode VLSI Design	3	0	0	3

ELECTIVE IV

1	VL7006	Analog VLSI Design	3	0	0	3
2	VL7005	Physical Design of VLSI Circuits	3	0	0	3
3	VL7101	VLSI Signal Processing	3	0	0	3
4	AP7010	Data Converters	3	0	0	3
5	VL7103	Solid State Device Modeling and Simulation	3	0	0	3
6	NC7101	High Performance Networks	3	0	0	3

ELECTIVE V

1	VL7301	Testing of VLSI Circuits	3	0	0	3
2	VL7013	VLSI for Wireless Communication	3	0	0	3
3	AP7011	Photonics	3	0	0	3
4	AP7012	Nano Electronics	3	0	0	3
5	AP7013	Pattern Recognition	3	0	0	3
6	AP7014	Optical Computing	3	0	0	3

ELECTIVE VI

1	CP7030	Robotics	3	0	0	3
2	AP7015	Optical Imaging Techniques	3	0	0	3
3	CU7002	MEMS and NEMS	3	0	0	3
4	DS7301	Speech and Audio Signal Processing	3	0	0	3
5	AP7016	System on Chip Design	3	0	0	3
6	CP7023	Reconfigurable Computing	3	0	0	3
7	NC7202	Wireless Adhoc and Sensor Networks	3	0	0	3

ANNA UNIVERSITY, CHENNAI

AFFILIATED INSTITUTIONS

REGULATIONS 2013

M.E. CAD / CAM

I TO IV SEMESTERS (FULL TIME) CURRICULUM AND SYLLABUS

SEMESTER I

SL. NO	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	MA7169	Advanced Numerical Methods	3	1	0	4
2.	ED7102	Computer Application in Design	3	0	2	4
3.	ED7204	Integrated Mechanical Design	3	1	0	4
4.	CM7201	Competitive Manufacturing Systems	3	0	0	3
5.	CC7101	Finite Element Applications in Manufacturing Engineering	3	1	0	4
6.		Elective I	3	0	0	3
PRACTICAL						
7.	CC7111	CAD / CAE Laboratory	0	0	2	1
TOTAL			18	3	4	23

SEMESTER II

SL. NO	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	CC7201	Design for Manufacture, Assembly and Environments	3	0	0	3
2.	CM7001	Additive Manufacturing	3	0	0	3
3.	CM7202	Applied Materials Engineering	3	0	0	3
4.	CC7202	Integrated Product and Process Development	3	1	0	4
5.		Elective II	3	0	0	3
6.		Elective III	3	0	0	3
PRACTICAL						
7.	CC7211	CAM Laboratory	0	0	2	1
8.	CC7212	Design Project	0	0	3	2
TOTAL			18	1	5	22

SEMESTER III

SL. NO	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.		Elective IV	3	0	0	3
2.		Elective V	3	0	0	3
3.		Elective VI	3	0	0	3
PRACTICAL						
4.	CC7311	Project Work (Phase I)	0	0	12	6
TOTAL			9	0	12	15

SEMESTER IV

SL. NO	COURSE CODE	COURSE TITLE	L	T	P	C
PRACTICAL						
1.	CC7411	Project Work (Phase II)	0	0	24	12
TOTAL			0	0	24	12

TOTAL CREDITS TO BE EARNED FOR THE AWARD OF THE DEGREE: 72

LIST OF ELECTIVES FOR M.E. CAD / CAM**SEMESTER I (Elective I)**

SL. NO	COURSE CODE	COURSE TITLE	L	T	P	C
1	CC7001	Computer Control in Process Planning	3	0	0	3
2	ED7001	Optimization Techniques in Design	3	0	0	3
3	ED7101	Advanced Mechanics of Materials	3	0	0	3
4	ED7005	Design of Material Handling Equipments	3	0	0	3

SEMESTER II (Elective II & III)

SL. NO	COURSE CODE	COURSE TITLE	L	T	P	C
1.	CC7002	Mechatronics Applications in Manufacturing	3	0	0	3
2.	CC7003	Industrial Safety Management	3	0	0	3
3.	CD7003	Advanced Tool Design	3	0	0	3
4.	ED7202	Mechanisms Design and Simulation	3	0	0	3
5.	IC7072	Computational Fluid Dynamics	3	0	0	3
6.	CC7004	Reliability in Engineering Systems	3	0	0	3
7.	ED7071	Industrial Robotics and Expert Systems	3	0	0	3

SEMESTER III (Elective IV, V & VI)

SL. NO	COURSE CODE	COURSE TITLE	L	T	P	C
1.	ED7004	Design of Hydraulic and Pneumatic Systems	3	0	0	3
2.	CC7005	Data Communication in CAD/CAM	3	0	0	3
3.	CC7006	Performance Modelling and Analysis of Manufacturing System	3	0	0	3
4.	ED7010	Tribology in Design	3	0	0	3
5.	CC7007	Metrology and Non Destructive Testing	3	0	0	3
6.	CC7008	Quality Management Techniques	3	0	0	3
7.	CC7009	Design for Cellular Manufacturing Systems	3	0	0	3

ANNA UNIVERSITY, CHENNAI
AFFILIATED INSTITUTIONS
REGULATIONS 2013
M.E. ENGINEERING DESIGN
I TO IV SEMESTERS (FULL TIME) CURRICULUM AND SYLLABUS

SEMESTER I

SL. NO	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	MA7169	Advanced Numerical Methods	3	1	0	4
2.	ED7101	Advanced Mechanics of Materials	3	0	0	3
3.	ED7102	Computer Applications in Design	3	0	2	4
4.	ED7103	Quality Concepts in Design	3	0	0	3
5.	ED7104	Vibration Analysis and Control	3	0	2	4
6.		Elective I	3	0	0	3
PRACTICAL						
7.	ED7111	CAD Laboratory	0	0	2	1
TOTAL			18	1	6	22

SEMESTER II

SL. NO	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	ED7201	Finite Element Methods in Mechanical Design	3	1	0	4
2.	ED7202	Mechanisms Design and Simulation	3	0	2	4
3.	ED7203	Mechanical Behavior of Materials	3	0	0	3
4.	ED7204	Integrated Mechanical Design	3	1	0	4
5.		Elective II	3	0	0	3
6.		Elective III	3	0	0	3
PRACTICAL						
7.	ED7211	Analysis and Simulation Laboratory	0	0	2	1
8.	ED7212	Design Project	0	0	3	2
TOTAL			18	2	7	24

SEMESTER III

SL. NO	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.		Elective IV	3	0	0	3
2.		Elective V	3	0	0	3
3.		Elective VI	3	0	0	3
PRACTICAL						
4.	ED7311	Project Work (Phase I)	0	0	12	6
TOTAL			9	0	12	15

SEMESTER IV

SL. NO	COURSE CODE	COURSE TITLE	L	T	P	C
PRACTICAL						
1.	ED7411	Project Work (Phase II)	0	0	24	12
TOTAL			0	0	24	12

TOTAL CREDITS TO BE EARNED FOR THE AWARD OF THE DEGREE = 73

LIST OF ELECTIVES FOR M.E. ENGINEERING DESIGN**SEMESTER I (Elective I)**

SL. NO	COURSE CODE	COURSE TITLE	L	T	P	C
1	ED7001	Optimization Techniques in Design	3	0	0	3
2.	ED7003	Composite Materials and Mechanics	3	0	0	3
3	ED7005	Design of Material Handling Equipments	3	0	0	3

SEMESTER II (Elective II & III)

SL. NO	COURSE CODE	COURSE TITLE	L	T	P	C
1	ED7006	Plates and Shells	3	0	0	3
2.	ED7007	Modal Analysis of Mechanical Systems	3	0	0	3
3.	ED7008	Advanced Metal Forming Techniques	3	0	0	3
4.	ED7010	Tribology in Design	3	0	0	3
5.	ED7012	Surface Engineering	3	0	0	3

SEMESTER III (Elective IV, V & VI)

SL. NO	COURSE CODE	COURSE TITLE	L	T	P	C
1.	ED7002	Engineering Fracture Mechanics	3	0	0	3
2.	ED7004	Design of Hydraulic and Pneumatic Systems	3	0	0	3
3	ED7009	Design of Pressure Vessel and Piping	3	0	0	3
4.	ED7011	Bearing Design and Rotor Dynamics	3	0	0	3
5	ED7013	Advanced Finite Element Analysis	3	0	0	3
6	IC7072	Computational Fluid Dynamics	3	0	0	3
7	CC7201	Design for Manufacture Assembly and Environments	3	0	0	3

**AFFILIATED INSTITUTIONS
ANNA UNIVERSITY, CHENNAI**

REGULATIONS – 2013

M.E POWER ELECTRONICS AND DRIVES

I TO IV SEMESTERS (FULL TIME) CURRICULUM AND SYLLABUS

I SEMESTER

SL.NO	CODE	SUBJECT	L	T	P	C
THEORY						
1	MA7163	Applied Mathematics for Electrical Engineers	3	1	0	4
2	PX7101	Analysis of Electrical Machines	3	0	0	3
3	PX7102	Analysis of Power Converters	3	0	0	3
4	PX7103	Analysis and Design of Inverters	3	0	0	3
5	PX7104	Advanced Power Semiconductor Devices	3	0	0	3
6		Elective I	3	0	0	3
TOTAL			18	1	0	19

II SEMESTER

SL.NO	CODE	SUBJECT	L	T	P	C
THEORY						
1	PX7201	Solid State DC Drives	3	0	0	3
2	PX7202	Solid State AC Drives	3	0	0	3
3	PX7203	Special Electrical Machines	3	0	0	3
4	PX7204	Power Quality	3	0	0	3
5		Elective II	3	0	0	3
6		Elective III	3	0	0	3
PRACTICAL						
7	PX7211	Power Electronics and Drives Lab	0	0	3	2
TOTAL			18	0	3	20

III SEMESTER

SL.NO	CODE	SUBJECT	L	T	P	C
THEORY						
1	PX7301	Power Electronics for Renewable Energy Systems	3	0	0	3
2		Elective IV	3	0	0	3
3		Elective V	3	0	0	3
PRACTICAL						
4	PX7311	Project work (Phase I)	0	0	12	6
TOTAL			9	0	12	15

IV SEMESTER

SL.NO	CODE	SUBJECT	L	T	P	C
1	PX7411	Project work (Phase II)	0	0	24	12
TOTAL			0	0	24	12

TOTAL NUMBER OF CREDITS = 66

ELECTIVES OF POWER ELECTRONICS AND DRIVES

ELECTIVE I

SL.NO	CODE	SUBJECT	L	T	P	C
1	CL7103	System Theory	3	0	0	3
2	ET7102	Microcontroller Based System Design	3	0	0	3
3	PX7001	Electromagnetic Field Computation and Modelling	3	0	0	3

ELECTIVE II & III

SL.NO	CODE	SUBJECT	L	T	P	C
1.	CL7204	Soft Computing Techniques	3	0	0	3
2.	EB7212	Digital Simulation of Power Electronic Circuits Laboratory	0	0	3	2
3.	ET7201	VLSI Architecture and Design Methodologies	3	0	0	3
4.	PS7202	Flexible AC Transmission Systems	3	0	0	3
5.	PS7002	Energy Management and Auditing	3	0	0	3
6.	PX7002	SMPS and UPS	3	0	0	3

ELECTIVE IV & V

SL.NO	CODE	SUBJECT	L	T	P	C
1.	PS7005	High Voltage Direct Current Transmission	3	0	0	3
2.	ET7014	Application of MEMS Technology	3	0	0	3
3.	PS7004	Solar and Energy Storage Systems	3	0	0	3
4.	PS7007	Wind Energy Conversion Systems	3	0	0	3
5.	PX7003	Non Linear Dynamics for Power Electronics Circuits	3	0	0	3
6.	PS7008	Smart Grid	3	0	0	3

**AFFILIATED INSTITUTIONS
ANNA UNIVERSITY, CHENNAI
REGULATIONS - 2013
M.E. VLSI DESIGN**

I TO IV SEMESTERS CURRICULA AND SYLLABI (FULL TIME)

SEMESTER I

SL. NO	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	MA7157	Applied Mathematics for Electronics Engineers	3	1	0	4
2.	VL7101	VLSI Signal Processing	3	0	0	3
3.	VL7102	VLSI Design Techniques	3	0	0	3
4.	VL7103	Solid State Device Modelling and Simulation	3	0	0	3
5.		Elective I	3	0	0	3
6.		Elective II	3	0	0	3
PRACTICAL						
7.	VL7111	VLSI Design Laboratory I	0	0	3	2
TOTAL			18	1	3	21

SEMESTER II

SL. NO	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	AP7201	Analysis and Design of Analog Integrated Circuits	3	0	0	3
2.	VL7201	CAD for VLSI Circuits	3	0	0	3
3.	VL7202	Low Power VLSI Design	3	0	0	3
4.		Elective III	3	0	0	3
5.		Elective IV	3	0	0	3
6.		Elective V	3	0	0	3
PRACTICAL						
7.	VL7211	VLSI Design Laboratory II	0	0	3	2
TOTAL			18	0	3	20

SEMESTER III

SL. NO	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	VL7301	Testing of VLSI Circuits	3	0	0	3
2.		Elective VI	3	0	0	3
3.		Elective VII	3	0	0	3
PRACTICAL						
1.	VL7311	Project Work (Phase I)	0	0	12	6
TOTAL			9	0	12	15

SEMESTER IV

SL. NO	COURSE CODE	COURSE TITLE	L	T	P	C
PRACTICAL						
1.	VL7411	Project Work (Phase II)	0	0	24	12
TOTAL			0	0	24	12

TOTAL NO. OF CREDITS:68

**LIST OF ELECTIVES
ELECTIVE I**

SL. NO	COURSE CODE	COURSE TITLE	L	T	P	C
1.	AP7008	DSP Integrated Circuits	3	0	0	3
2.	AP7001	Computer Architecture and Parallel Processing	3	0	0	3
3.	AP7202	ASIC and FPGA Design	3	0	0	3
4.	VL7001	Analog and Mixed Mode VLSI Design	3	0	0	3

ELECTIVE II

5.	VL7002	Security Solutions in VLSI	3	0	0	3
6.	VL7003	Genetic Algorithms and its Applications	3	0	0	3
7.	VL7004	Asynchronous System Design	3	0	0	3

ELECTIVE III

8.	CU7002	MEMS and NEMS	3	0	0	3
9.	VL7005	Physical Design of VLSI Circuits	3	0	0	3
10.	VL7006	Analog VLSI Design	3	0	0	3
11.	VL7007	Process and Device Simulation	3	0	0	3

ELECTIVE IV

12.	VL7008	Design of Semiconductor Memories	3	0	0	3
13.	AP7071	Hardware Software Co-Design	3	0	0	3
14.	CU7001	Real Time Embedded Systems	3	0	0	3
15.	VL7009	Nano Scale Transistors	3	0	0	3

ELECTIVE V

16.	AP7016	System on Chip design	3	0	0	3
17.	CP7023	Reconfigurable Computing	3	0	0	3
18.	VL7010	Submicron VLSI Design	3	0	0	3

ELECTIVE VI

19.	AP7301	Electro Magnetic Interference and Compatibility	3	0	0	3
20.	VL7011	Signal Integrity for High Speed Devices	3	0	0	3
21.	VL7012	Mixed signal IC Test and Measurements	3	0	0	3

ELECTIVE VII

22.	AP7010	Data Converters	3	0	0	3
23.	VL7013	VLSI for Wireless Communication	3	0	0	3
24.	VL7014	IP Based VLSI Design	3	0	0	3
25.	VL7015	Nanoscale Devices and Circuit Design	3	0	0	3

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ANNA UNIVERSITY, CHENNAI
REGULATIONS – 2013**

**M.E. COMPUTER SCIENCE AND ENGINEERING
I TO IV SEMESTERS CURRICULA AND SYLLABI (FULL TIME)**

SEMESTER I

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	MA7155	Applied Probability and Statistics	3	1	0	4
2.	CP7101	Design and Management of Computer Networks	3	0	0	3
3.	CP7102	Advanced Data Structures and Algorithms	3	0	0	3
4.	CP7103	Multicore Architectures	3	0	0	3
5.		Elective I	3	0	0	3
6.		Elective II	3	0	0	3
PRACTICAL						
7.	CP7111	Advanced Data Structures Laboratory	0	0	4	2
8.	CP7112	Case Study - Network Design (Team Work)	0	0	2	1
TOTAL			18	1	6	22

SEMESTER II

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	CP7201	Theoretical Foundations of Computer Science	3	1	0	4
2.	CP7202	Advanced Databases	3	0	0	3
3.	CP7203	Principles of Programming Languages	3	0	0	3
4.	CP7204	Advanced Operating Systems	3	0	0	3
5.		Elective III	3	0	0	3
6.		Elective IV	3	0	0	3
PRACTICAL						
7.	CP7211	Advanced Databases Laboratory	0	0	4	2
8.	CP7212	Case Study - Operating Systems Design (Team Work)	0	0	2	1
TOTAL			18	1	6	22

SEMESTER III

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P	C
THEORY						
1.	CP7301	Software Process and Project Management	3	1	0	4
2.		Elective V	3	0	0	3
3.		Elective VI	3	0	0	3
4.		Elective VII	3	0	0	3
PRACTICAL						
5.	CP7311	Project Work (Phase I)	0	0	12	6
TOTAL			12	1	12	19

SEMESTER IV

SL. NO	COURSE CODE	COURSE TITLE	L	T	P	C
PRACTICAL						
1.	CP7411	Project Work (Phase II)	0	0	24	12
TOTAL			0	0	24	12

TOTAL NO.OF CREDITS:75**LIST OF ELECTIVES****ELECTIVE I**

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P	C
1.	SE7103	Formal models of software systems	3	0	0	3
2.	CP7001	Performance Evaluation of Computer Systems	3	0	0	3
3.	CP7002	Probabilistic Reasoning Systems	3	0	0	3
4.	CP7003	Data Analysis and Business Intelligence	3	0	0	3
5.	CP7004	Image Processing and Analysis	3	0	0	3
6.	NE7001	Sensing Techniques and Sensors	3	0	0	3

ELECTIVE II

SL. NO	COURSE CODE	COURSE TITLE	L	T	P	C
1.	CP7005	Randomized Algorithms	3	0	0	3
2.	NE7002	Mobile and Pervasive Computing	3	0	0	3
3.	CP7006	Parallel Programming Paradigms	3	0	0	3
4.	CP7007	Software Requirements Engineering	3	0	0	3
5.	CP7008	Speech Processing and Synthesis	3	0	0	3
6.	CP7009	Machine Learning Techniques	3	0	0	3

ELECTIVE III

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P	C
1.	CP7010	Concurrency Models	3	0	0	3
2.	CP7011	Real Time Systems	3	0	0	3
3.	CP7012	Computer Vision	3	0	0	3
4.	NE7202	Network and Information Security	3	0	0	3
5.	CP7013	Design and Analysis of Parallel Algorithms	3	0	0	3
6.	CP7014	Software Architectures	3	0	0	3

ELECTIVE IV

SL. NO.	COURSE CODE	COURSE TITLE	L	T	P	C
1.	CP7015	Model Checking and Program Verification	3	0	0	3
2.	CP7016	Embedded Software Development	3	0	0	3
3.	IF7202	Cloud Computing	3	0	0	3
4.	CP7017	Data Visualization Techniques	3	0	0	3
5.	NE7005	Protocols and Architecture for Wireless Sensor Networks	3	0	0	3
6.	CP7018	Language Technologies	3	0	0	3

ELECTIVE V

SL. NO	COURSE CODE	COURSE TITLE	L	T	P	C
1.	NE7012	Social Network Analysis	3	0	0	3
2.	CP7019	Managing Big Data	3	0	0	3
3.	NE7011	Mobile Application Development	3	0	0	3
4.	CP7020	Bio-inspired Computing	3	0	0	3
5.	CP7021	Medical Image Processing	3	0	0	3
6.	CP7022	Software Design	3	0	0	3

ELECTIVE VI

SL. NO	COURSE CODE	COURSE TITLE	L	T	P	C
1.	CP7023	Reconfigurable Computing	3	0	0	3
2.	IF7013	Energy Aware Computing	3	0	0	3
3.	CP7024	Information Retrieval Techniques	3	0	0	3
4.	CP7025	Data Mining Techniques	3	0	0	3
5.	IF7002	Bio Informatics	3	0	0	3
6.	CP7026	Software Quality Assurance	3	0	0	3

ELECTIVE VII

SL. NO	COURSE CODE	COURSE TITLE	L	T	P	C
1.	CP7027	Multi Objective Optimization Techniques	3	0	0	3
2.	CP7028	Enterprise Application Integration	3	0	0	3
3.	CP7029	Information Storage Management	3	0	0	3
5.	CP7030	Robotics	3	0	0	3
6.	CP7031	Compiler Optimization Techniques	3	0	0	3

AFFILIATED INSTITUTIONS**ANNA UNIVERSITY: : CHENNAI 600 025****REGULATIONS - 2013****I TO IV SEMESTERS (FULL TIME) CURRICULUM AND SYLLABUS****MASTER OF BUSINESS ADMINISTRATION (MBA)****SEMESTER – I**

SL.NO.	CODE NO.	COURSE TITLE	L	T	P	C
THEORY						
1.	BA7101	Principles of Management	3	0	0	3
2.	BA7102	Statistics for Management	3	1	0	4
3.	BA7103	Economic Analysis for Business	4	0	0	4
4.	BA7104	Total Quality Management	3	0	0	3
5.	BA7105	Organizational Behaviour	3	0	0	3
6.	BA7106	Accounting for Management	3	1	0	4
7.	BA7107	Legal Aspects of Business	3	0	0	3
8.	BA7108	Written Communication	3	0	0	3
TOTAL			25	2	0	27

SEMESTER – II

SL.NO.	CODE NO.	COURSE TITLE	L	T	P	C
THEORY						
1.	BA7201	Operations Management	3	0	0	3
2.	BA7202	Financial Management	3	0	0	3
3.	BA7203	Marketing Management	4	0	0	4
4.	BA7204	Human Resource Management	3	0	0	3
5.	BA7205	Information Management	3	0	0	3
6.	BA7206	Applied Operations Research	3	1	0	4
7.	BA7207	Business Research Methods	3	0	0	3
PRACTICAL						
8.	BA7211	Data Analysis and Business Modeling	0	0	4	2
TOTAL			22	1	4	25

SUMMER SEMESTER (4 WEEKS)**SUMMER TRAINING**

Summer Training – The training report along with the company certificate should be submitted within the two weeks of the reopening date of 3rd semester. The training report should be around 40 pages containing the details of training undergone, the departments wherein he was trained with duration (chronological diary), along with the type of managerial skills developed during training. The training report should be sent to the Controller of Examinations by the HOD through the Principal, before the last working day of the 3rd Semester.

SEMESTER – III

SL.NO.	CODE NO.	COURSE TITLE	L	T	P	C
THEORY						
1.	BA7301	Enterprise Resource Planning	3	0	0	3
2.	BA7302	Strategic Management	3	0	0	3
3.	E1	Elective I	3	0	0	3
4.	E2	Elective II	3	0	0	3
5.	E3	Elective III	3	0	0	3
6.	E4	Elective IV	3	0	0	3
7.	E5	Elective V	3	0	0	3
8.	E6	Elective VI	3	0	0	3
PRACTICAL						
9.	BA7311	Professional Skill Development	0	0	4	2
10.	BA7312	Summer Training	0	0	2	1
TOTAL			24	0	6	27

SEMESTER – IV

SL.NO.	CODE NO.	COURSE TITLE	L	T	P	C
THEORY						
1.	BA7401	International Business Management	3	0	0	3
2.	BA7402	Business Ethics, Corporate Social Responsibility and Governance	3	0	0	3
PRACTICAL						
3.	BA7411	Creativity and Innovation	0	0	4	2
4.	BA7412	Project Work	0	0	18	9
TOTAL			6	0	22	17

TOTAL NUMBER OF CREDITS = 96

AE6612

AIRCRAFT DESIGN PROJECT - I

L T P C

0 0 3 2

OBJECTIVES:

- To make the student work in groups and understand the Concepts involved in Aerodynamic design, Performance analysis and stability aspects of different types of airplanes
1. Comparative studies of different types of airplanes and their specifications and performance details with reference to the design work under taken.
 2. Preliminary weight estimation, Selection of design parameters, power plant selection, aerofoil selection, fixing the geometry of Wing, tail, control surfaces Landing gear selection.
 3. Preparation of layout drawing, construction of balance and three view diagrams of the airplane under consideration.
 4. Drag estimation, Performance calculations, Stability analysis and V-n diagram.

TOTAL: 45 PERIODS

OUTCOMES:

- Upon completion of the Aircraft Design Project I students will be in a position to design aircraft and demonstrate the performance of the design.

AE6711

AIRCRAFT DESIGN PROJECT - II

L T P C

0 0 3 2

OBJECTIVES:

Each group of students is assigned to continue the structural design part of the airplane. The following are the assignments are to be carried out.

1. Preliminary design of an aircraft wing – Shrenck’s curve, structural load distribution, shear force, bending moment and torque diagrams
2. Detailed design of an aircraft wing – Design of spars and stringers, bending stress and shear flow calculations – buckling analysis of wing panels
Preliminary design of an aircraft fuselage – load distribution on an aircraft fuselage
3. Detailed design of an aircraft fuselage – design of bulkheads and longerons – bending stress and shear flow calculations – buckling analysis of fuselage panels
4. Design of control surfaces - balancing and maneuvering loads on the tail plane and aileron, rudder loads
5. Design of wing-root attachment
6. Landing gear design

7. Preparation of a detailed design report with CAD drawings

TOTAL: 45 PERIODS

OUTCOMES:

- On completion of Aircraft design project II the students will be in a position to design aircraft wings, fuselage, landing gears etc., and also able to angle the design in terms of structural point of view.

AE6811

PROJECT WORK

L T P C

0 0 12 6

OBJECTIVES:

- To develop the ability to solve a specific problem right from its identification and literature review till the successful solution of the same. To train the students in preparing project reports and to face reviews and viva voce examination.

The students in a group of 3 to 4 works on a topic approved by the head of the department under the guidance of a faculty member and prepares a comprehensive project report after completing the work to the satisfaction of the supervisor. The progress of the project is evaluated based on a minimum of three reviews. The review committee may be constituted by the Head of the Department. A project report is required at the end of the semester. The project work is evaluated based on oral presentation and the project report jointly by external and internal examiners constituted by the Head of the Department.

TOTAL: 180 PERIODS

OUTCOMES:

- On Completion of the project work students will be in a position to take up any challenging practical problems and find solution by formulating proper methodology.

CE6712

DESIGN PROJECT

L T P C

0 0 4 2

OBJECTIVES:

- The objective of this course is to impart and improve the design capability of the student. This course conceives purely a design problem in any one of the disciplines of Civil Engineering; e.g., Design of an RC structure, Design of a waste water treatment plant, Design of a foundation system, Design of traffic intersection etc. The design problem can be allotted to either an individual student or a group of students comprising of not more than four. At the end of the course the group should submit a complete report on the design problem consisting of the data given, the design calculations, specifications if any and complete set of drawings which follow the design.

TOTAL: 60 PERIODS

EVALUATION PROCEDURE

The method of evaluation will be as follows:

1. Internal Marks : 20 marks
(Decided by conducting 3 reviews by the guide appointed by the Institution)
2. Evaluation of Project Report : 30 marks
(Evaluated by the external examiner appointed the University).
Every student belonging to the same group gets the same mark
3. Viva voce examination : 50 marks
(Evaluated by the internal examiner appointed by the HOD with the approval of HOI, external examiner appointed by the University and Guide of the course – with equal Weightage)

Total: 100 marks

OUTCOMES:

- On completion of the design project students will have a better experience in designing various design problems related to Civil Engineering.

CE6811

PROJECT WORK

L T P C

0 0 12 6

OBJECTIVES:

- To develop the ability to solve a specific problem right from its identification and literature review till the successful solution of the same. To train the students in preparing project reports and to face reviews and viva voce examination.

The students in a group of 3 to 4 works on a topic approved by the head of the department under the guidance of a faculty member and prepares a comprehensive project report after completing the work to the satisfaction of the supervisor. The progress of the project is evaluated based on a minimum of three reviews. The review committee may be constituted by the Head of the Department. A project report is required at the end of the semester. The project work is evaluated based on oral presentation and the project report jointly by external and internal examiners constituted by the Head of the Department.

TOTAL: 180 PERIODS

OUTCOMES:

- On Completion of the project work students will be in a position to take up any challenging practical problems and find solution by formulating proper methodology.

CS6811

PROJECT WORK

L T P C

0 0 12 6

OBJECTIVES:

- To develop the ability to solve a specific problem right from its identification and literature review till the successful solution of the same. To train the students in preparing project reports and to face reviews and viva voce examination.

The students in a group of 3 to 4 works on a topic approved by the head of the department under the guidance of a faculty member and prepares a comprehensive project report after completing the work to the satisfaction of the supervisor. The progress of the project is evaluated based on a minimum of three reviews. The review committee may be constituted by the Head of the Department. A project report is required at the end of the semester. The project work is evaluated based on oral presentation and the project report jointly by external and internal examiners constituted by the Head of the Department.

TOTAL: 180 PERIODS

OUTCOMES:

- On Completion of the project work students will be in a position to take up any challenging practical problems and find solution by formulating proper methodology.

EE6811

PROJECT WORK

L T P C

0 0 12 6

OBJECTIVES:

- To develop the ability to solve a specific problem right from its identification and literature review till the successful solution of the same. To train the students in preparing project reports and to face reviews and viva voce examination.

The students in a group of 3 to 4 works on a topic approved by the head of the department under the guidance of a faculty member and prepares a comprehensive project report after completing the work to the satisfaction of the supervisor. The progress of the project is evaluated based on a minimum of three reviews. The review committee may be constituted by the Head of the Department. A project report is required at the end of the semester. The project work is evaluated based on oral presentation and the project report jointly by external and internal examiners constituted by the Head of the Department.

TOTAL: 180 PERIODS

OUTCOMES:

- On Completion of the project work students will be in a position to take up any challenging practical problems and find solution by formulating proper methodology.

EC6811

PROJECT WORK

L T P C

0 0 12 6

OBJECTIVES:

- To develop the ability to solve a specific problem right from its identification and literature review till the successful solution of the same. To train the students in preparing project reports and to face reviews and viva voce examination.

The students in a group of 3 to 4 works on a topic approved by the head of the department under the guidance of a faculty member and prepares a comprehensive project report after completing the work to the satisfaction of the supervisor. The progress of the project is evaluated based on a minimum of three reviews. The review committee may be constituted by the Head of the Department. A project report is required at the end of the semester. The project work is evaluated based on oral presentation and the project report jointly by external and internal examiners constituted by the Head of the Department.

TOTAL: 180 PERIODS

OUTCOMES:

- On Completion of the project work students will be in a position to take up any challenging practical problems and find solution by formulating proper methodology.

ME6612

DESIGN AND FABRICATION PROJECT

L T P C

0 0 4 2

OBJECTIVES:

- The main objective is to give an opportunity to the student to get hands on training in the fabrication of one or more components of a complete working model, which is designed by them.

GUIDELINE FOR REVIEW AND EVALUATION

The students may be grouped into 2 to 4 and work under a project supervisor. The device/ system/component(s) to be fabricated may be decided in consultation with the supervisor and if possible with an industry. A project report to be submitted by the group and the fabricated model, which will be reviewed and evaluated for internal assessment by a Committee constituted by the Head of the Department. At the end of the semester examination the project work is evaluated based on oral presentation and the project report jointly by external and internal examiners constituted by the Head of the Department.

TOTAL: 60 PERIODS

OUTCOMES:

- Use of design principles and develop conceptual and engineering design of any components.
- Ability to fabricate any components using different manufacturing tools.

ME6811**PROJECT WORK****L T P C****0 0 12 6****OBJECTIVES:**

- To develop the ability to solve a specific problem right from its identification and literature review till the successful solution of the same. To train the students in preparing project reports and to face reviews and viva voce examination.

The students in a group of 3 to 4 works on a topic approved by the head of the department under the guidance of a faculty member and prepares a comprehensive project report after completing the work to the satisfaction of the supervisor. The progress of the project is evaluated based on a minimum of three reviews. The review committee may be constituted by the Head of the Department. A project report is required at the end of the semester. The project work is evaluated based on oral presentation and the project report jointly by external and internal examiners constituted by the Head of the Department.

TOTAL: 180 PERIODS**OUTCOMES:**

- On Completion of the project work students will be in a position to take up any challenging practical problems and find solution by formulating proper methodology.

IT6811**PROJECT WORK****L T P C****0 0 12 6****OBJECTIVES:**

- To develop the ability to solve a specific problem right from its identification and literature review till the successful solution of the same. To train the students in preparing project reports and to face reviews and viva voce examination.

The students in a group of 3 to 4 works on a topic approved by the head of the department under the guidance of a faculty member and prepares a comprehensive project report after completing the work to the satisfaction of the supervisor. The progress of the project is evaluated based on a minimum of three reviews. The review committee may be constituted by the Head of the Department. A project report is required at the end of the semester. The project work is evaluated based on oral presentation and the project report jointly by external and internal examiners constituted by the Head of the Department.

TOTAL: 180 PERIODS

OUTCOMES:

- On Completion of the project work students will be in a position to take up any challenging practical problems and find solution by formulating proper methodology.

CC5212

DESIGN PROJECT

L T P C

0 0 4 2

OBJECTIVE:

- It is proposed to carryout detailed design calculations and analysis of any mechanical component or mechanical system. This helps the students to get familiar with respect to the design methodologies applied to any component or mechanical system subjected to static, dynamic and thermo-mechanical loads.

Each student is required to select any new component or an integrated mechanical system that involves various sub components which are to be designed as per design standards and further required to be analyzed for optimum dimensions with respect to the strength and stiffness.

OUTCOME:

- It helps the students to get familiarized with respect to design standards, design calculations and analysis in designing any mechanical component or system.

TOTAL: 60 PERIODS

CC5311

PROJECT WORK PHASE I

L T P C

0 0 12 6

OBJECTIVES:

- To identify a specific problem for the current need of the society and collecting information related to the same through detailed review of literature.
- To develop the methodology to solve the identified problem.
- To train the students in preparing project reports and to face reviews and viva-voce examination.

SYLLABUS: The student individually works on a specific topic approved by the head of the division under the guidance of a faculty member who is familiar in this area of interest. The student can select any topic which is relevant to the area of engineering design. The topic may be theoretical or case studies. At the end of the semester, a detailed report on the work done should be submitted which contains clear definition of the identified problem, detailed literature review related to the area of work and methodology for carrying out the work. The students will be evaluated through a viva-voce examination by a panel of examiners including one external examiner.

TOTAL: 180 PERIODS

OUTCOME:

At the end of the course the students will have a clear idea of their area of work and they will be in a position to carry out the remaining phase II work in a systematic way.

CC5411

PROJECT WORK PHASE II

L T P C

0 0 24 12

OBJECTIVES:

- To solve the identified problem based on the formulated methodology.
- To develop skills to analyze and discuss the test results, and make conclusions.

SYLLABUS:

The student should continue the phase I work on the selected topic as per the formulated methodology under the same supervisor. At the end of the semester, after completing the work to the satisfaction of the supervisor and review committee, a detailed report should be prepared and submitted to the head of the department. The students will be evaluated based on the report submitted and the viva-voce examination by a panel of examiners including one external examiner

TOTAL: 360 PERIODS

OUTCOME:

- On completion of the project work students will be in a position to take up any challenging practical problem in the field of engineering design and find better solutions to it

ED5211

DESIGN PROJECT

L T P C

0 0 4 2

OBJECTIVE:

- It is proposed to carryout detailed design calculations and analysis of any mechanical component or mechanical system. This helps the students to get familiar with respect to the design methodologies applied to any component or mechanical system subjected to static, dynamic and thermo-mechanical loads.

Each student is required to select any new component or an integrated mechanical system that involves various sub components which are to be designed as per design standards and further required to be analyzed for optimum dimensions with respect to the strength and stiffness.

OUTCOME:

- It helps the students to get familiarized with respect to design standards, design calculations and analysis in designing any mechanical component or system.

TOTAL: 60 PERIOD

ED5311

PROJECT WORK PHASE I

L T P C

0 0 12 6

OBJECTIVES:

- To identify a specific problem for the current need of the society and collecting information related to the same through detailed review of literature.
- To develop the methodology to solve the identified problem.
- To train the students in preparing project reports and to face reviews and viva-voce examination.

SYLLABUS: The student individually works on a specific topic approved by the head of the division under the guidance of a faculty member who is familiar in this area of interest. The student can select any topic which is relevant to the area of engineering design. The topic may be theoretical or case studies. At the end of the semester, a detailed report on the work done should be submitted which contains clear definition of the identified problem, detailed literature review related to the area of work and methodology for carrying out the work. The students will be evaluated through a viva-voce examination by a panel of examiners including one external examiner.

TOTAL: 180 PERIODS

OUTCOME:

- At the end of the course the students will have a clear idea of their area of work and they will be in a position to carry out the remaining phase II work in a systematic way.

ED5411

PROJECT WORK PHASE II

L T P C

0 0 24 12

OBJECTIVES:

- To solve the identified problem based on the formulated methodology.
- To develop skills to analyze and discuss the test results, and make conclusions.

SYLLABUS:

The student should continue the phase I work on the selected topic as per the formulated methodology under the same supervisor. At the end of the semester, after completing the work to the satisfaction of the supervisor and review committee, a detailed report should be prepared and submitted to the head of the department. The students will be evaluated based on the report submitted and the viva-voce examination by a panel of examiners including one external examiner

TOTAL: 360 PERIODS

OUTCOME:

- On completion of the project work students will be in a position to take up any challenging practical problem in the field of engineering design and find better solutions to it.

OBJECTIVES:

- To develop the ability to solve a specific problem right from its identification and literature review till the successful solution of the same.
- To train the students in preparing project reports and to face reviews and viva voce examination.

A project to be developed based on one or more of the following concepts.

1. Rectifiers, DC-DC Converters, Inverters, cycloconverters, DC drives, AC drives, Special Electrical Machines, Renewable Energy Systems, Linear and non-linear control systems, Power supply design for industrial and other applications, AC-DC power factor circuits, micro grid, smart grid and robotics.

TOTAL: 60 PERIODS**OUTCOMES:**

- Acquire practical knowledge within the chosen area of technology for project development
- Identify, analyze, formulate and handle programming projects with a comprehensive and systematic approach
- Contribute as an individual or in a team in development of technical projects
- Develop effective communication skills for presentation of project related activities