ADHIYAMAAN COLLEGE OF ENGINEERING

[An Autonomous Institution Affiliated to Anna University, Chennai]
[Accredited by NAAC]
Dr.M.G.R. NAGAR, HOSUR, KRISHNAGIRI(DT)-635130, TAMILNADU, INDIA

REGULATIONS 2018
CHOICE BASED CREDIT SYSTEM

B.TECH – CHEMICAL ENGINEERING

Vision:

To develop competent, proactive and creative chemical engineers to meet the global standards and expectations of engineering education.

Mission:

M1 To provide a congenial environment and a rigorous teaching-learning process that train students to excel in fundamental sciences, chemical and allied engineering fields

M2 To offer a program to inculcate good engineering design with creative thinking and leadership qualities contributing globally for technological and economical advancements.

M3 To foster principles of sustainability that promotes environmental friendly technologies with ethical values and noble ideas for the benefit of society.

1. PROGRAMME EDUCATIONAL OBJECTIVES (PEOS)

- The graduates of the program will have sound knowledge in Mathematical, Scientific and Engineering concepts necessary to formulate, analyze, design and solve Engineering problems and to prepare them for higher learning, research and industry.
- The graduates of the program will possess innovative skills to asses and apply the rapid changes in technology and to engage in research leading to novel solutions for human, social and global competency.
- The graduates of the program will acquire knowledge and grab opportunities to work as teams on multidisciplinary environment, communicate ideas effectively with diverse audiences, leadership qualities with ethical values and engage in life-long learning.

2. PROGRAMME OUTCOMES (POS)

	Graduate Attribute	Programme Outcomes (POs)
PO1	**Engineering knowledge**	Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	**Problem analysis**	Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	**Design/development of solutions**	Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO4	**Conduct investigations of complex problems**	Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	**Modern tool usage**	Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations
PO6	**The engineer and society**	Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	**Environment and sustainability**	Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	**Ethics**	Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	**Individual and team work**	Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	**Communication**	Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	**Project management and finance**	Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO12	**Life-long learning**	Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technologicalchange.

3. PROGRAMME SPECIFIC OUTCOMES (PSOS)

By the completion of Chemical Engineering Programme the student will have following Program-specific outcomes.

1 Graduates will apply knowledge in physics, chemistry and biology in the field of transfer processes for effective separation and purification of petrochemicals, pharmaceuticals and health care products.
2 Graduates will automate and control processes by applying mathematics, process control, instrumentation, simulation and process modelling
3 Equip Chemical Engineering graduates with integrity and ethical values so that they become responsible Engineers.

4. MAPPING OF PROGRAMME EDUCATIONAL OBJECTIVE WITH PROGRAMME OUTCOMES

Program Educational Objectives (PEOs)	Program Outcomes(POs)												Program Specific Outcomes (PSOs)		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
I	√	√	√	√	√		√				√		√	√	
II		√	√	√	√	√	√	√	√	√		√	√		√
III						√	√	√	√	√	√	√			√

5. MAPPING OF COURSE OUTCOMES AND PROGRAMME OUTCOMES

		Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Year-1	Semester-1	Technical English	3	2	-	-	2	-	-	1	-	-	-	2	2	2	1
		Engineering Mathematics-I	3	3	-	-	-	-	-	-	2	2	-	2	2	1	1
		Engineering Physics	3	2	-	-	3	-	2	-	-	-	-	2	2	2	1
		Engineering Chemistry	3	2	-	3	-	-	-	-	-	-	-	-	-	-	-
		Engineering Graphics	3	3	-	-	-	-	-	-	-	-	2	-	2	2	1
		Basic Civil And Mechanical Engineering	3	2	-	-	2	-	1	-	-	-	-	2	2	2	1
		Engineering Chemistry Laboratory	3	3	-	3	2	1	-	-	2	1	-	-	2	3	1
		Engineering Practice Laboratory	1	-	1	2	1	-	-	1	1	-	1	1	1	-	2
	Semester-2	Communicative English	-	2	2	2	2	-	-	-	-	-	-	-	2	2	1
		Engineering Mathematics-II	2	2	2	2	2	2	-	-	-	-	1	1	2	2	1
		Environmental Science And Engineering	-	2	1	-	-	2	2	-	2	2	-	2	3	2	1
		Engineering Mechanics	1	2	1	1	1	-	-	-	-	-	-	2	1	-	1
		Problem Solving And Python Programming	3	3	2	-	2	-	-	-	-	2	-	2	-	2	1
		Chemistry For Technologists	3	2	1	-	2	-	-	-	2	-	-	-	2	2	1
		Engineering Physics Laboratory	3	2	-	3	-	-	-	-	-	-	-	-	-	-	-
		Problem Solving And Python Programming Laboratory	3	3	2	-	2	-	-	-	-	2	-	2	-	2	-
Year -2	este	Engineering Mathematics – III	3	3	2	3	2	1	-	-	-	-	1	-	3	3	-
		Organic Chemistry	3	-	2	2	3	-	1	-	-	-	-	-	3	-	-

		Chemical Process Calculations	3	3	3	3	2	2	-	-	-	-	2	2	2	3	-
		Instrumentation Methods and Analysis	3	3	3	2	2	2	3	-	-	-	-	-	3	3	-
		Principles of Electrical and Electronics Engineering	3	3	2	3	2	3	-	-	-	-	-	-	2	3	-
		Organic Chemistry Laboratory	3	-	2	2	3	-	1	-	-	-	-	-	3	-	-
		Technical Analysis Laboratory	3	2	2	2	1	2	-	-	-	2	2	-	3	3	-
		Electrical Engineering Laboratory	3	3	2	3	2	2	-	-	-	-	-	-	2	3	-
		Elective															
	Semester 4	Numerical Methods	3	3	3	3	3	-	-	-	-	-	-	-	3	3	-
		Physical Chemistry	3	2	3	3	2	2	3	_	_	_	_	_	3	2	_
		Chemical Process Industries	3	3	3	2	2	3	2	-	-	1	1	-	3	3	-
		Chemical Engineering Fluid Mechanics	3	3	3	3	3	3	2	-	-	-	1	-	3	3	-
		Mechanical Operations	3	3	2	3	3	3	2				1		3	3	3
		Fluid Mechanics Laboratory	3	3	3	3	3	3	2	-	-	-	1	-	3	3	-
		Physical Chemistry Laboratory	2	2	3	2	2	1	2	-	-	-	-	-	3	1	-
		Mechanical Operations Laboratory	3	3	3	2	2	1	-	-	-	-	-	-	3	3	-
		Elective															
Year-3	**Semester-5**	Probability and Statistics	3	2	3	2	2	1	-	-	-	-	-	2	2	-	2
		Chemical Engineering Thermodynamics	2	2	3	2	-	1	2	1	1	2	-	2	3	1	2
		Heat Transfer	2	2	2	2	2	1	2	1	2	2	2	1	2	2	1
		Mass transfer – I	2	3	2	2	2	2	2	2	2	2	3	2	2	2	2
		Heat Transfer Laboratory	3	3	3	3	2	3	1		2	1	1	3	2		1
		Chemical Engineering Computational Laboratory	2	3	3	3	3	1	2	1	2	-	2	2	3	3	3
		Employability Skills Lab	-	-	-	-	-	-	-	-	-	2	2	2	-	-	1
		Elective-1															
		Elective-2															
	Semester-6	Mass Transfer – II	2	2	2	2	2	1	-	1	-	-	-	2	3	2	2
		Chemical Reaction Engineering-I	2	2	2	2	1	1	2	1	1	2	-	1	2	-	1
		Process Dynamics and Control	3	3	3	3	2	1	1	2	1	1	-	1	1	2	2
		Chemical Process Plant Safety	2	2	2	1	1	2	2	3	2	1	1	2	1	-	3
		Process Control Laboratory	3	3	3	3	3	-	-	1	-	-	1	2	3	3	3
		Mass Transfer Laboratory	3	3	3	3	3	-	-	1	-	-	1	2	3	3	3
		Chemical Process Equipment Design & Drawing Lab –I	3	3	2	2	-	1	1	2	2	1.5	-	-	-	-	2
		Elective-1															
		Elective-2															
Year-4	**Semester-7**	Chemical Reaction Engineering – II	3	3	3	3	-	-	-	-	-	-	-	-	3	-	-
		Chemical Engineering Plant Design and Economics	2	2	2	2	-	2	1	2	2	3	3	2	-	-	2
		Transport Phenomena	3	2	3	-	-	-	-	-	-	-	-	-	3	2	-
		Chemical Engineering Modeling and Simulation	2	2	2	2	2	-	-	-	-	-	-	-	2	3	-
		Chemical Reaction Engineering Lab	2	2	2	2	2	-	-	-	-	-	-	-	2	3	-
		Chemical Process Equipment Design & Drawing Lab – II	2	2	-	1	1	2	2	2	1	2	-	2	-	-	1

		Chemical Engineering Simulation Laboratory	2	2	-	1	1	2	2	2	1	2	-	2	-	-	1
		Elective-1															
		Elective-2															
	Semester-8	Total Quality Management	-	-	-	3	-	3	3	2	-	1	2	3	-	-	2
		Project Work – Viva voce	3	3	3	3	3	2	2	1	3	2	2	3	3	3	3
		Elective-1															
		Elective-2															

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

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CHOICE BASED CREDIT SYSTEM (CBCS)

B.TECH – CHEMICAL ENGINEERING

CURRICULA AND SYLLABI FOR SEMESTERS I TO VIII

SEMESTER I

S. NO.	CODE NO.	COURSE TITLE	CATEGORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P		
THEORY								
1.	118ENT01	Technical English	HS	2	0	0	2	2
2.	118MAT02	Engineering Mathematics-I	BS	3	0	0	3	3
3.	118PHT03	Engineering Physics	BS	2	0	0	2	2
4.	118CYT04	Engineering Chemistry	BS	3	0	0	3	3
5.	118EGT05	Engineering Graphics	ES	2	0	4	4	4
6.	118ESE0X	ELECTIVE (GROUP1)	ES	3	0	0	3	3
PRACTICALS								
7.	118CYP07	Engineering Chemistry Laboratory	BS	0	0	2	1	1
8.	118EPP08	Engineering Practice Laboratory	ES	0	0	2	1	1
			TOTAL	15	0	8	19	19

SEMESTER -II

S. NO.	CODE NO.	COURSE TITLE	CATEGORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P		
THEORY								
1.	218ENT01	Communicative English	HS	2	0	2	3	3
2.	218MAT02	Engineering Mathematics-II	BS	3	1	0	4	4
3.	218GET03	Environmental Science and Engineering	HS	2	0	0	2	2
4.	218EMT04	Engineering Mechanics	ES	3	0	0	3	3
5.	218PPT05	Problem Solving and Python Programming	ES	3	0	0	3	3
6.	218BSE0X	ELECTIVE (GROUP2)	BS	2	0	0	2	2
PRACTICALS								
7.	218PHP07	Engineering Physics Laboratory	BS	2	0	0	1	1
8.	218PPP08	Problem Solving and Python Programming Laboratory	ES	0	0	2	1	1
			TOTAL	15	1	6	19	19

SEMESTER – III

S. NO.	CODE NO.	COURSE TITLE	CATE GORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P		
THEORY								
1.	318MAT01	Engineering Mathematics – III	BS	3	4	0	4	4
2.	318CHT02	Organic Chemistry	BS	3	3	0	3	3
3.	318CHT03	Chemical Process Calculations	PC	3	3	0	3	3
4.	318CHT04	Instrumentation Methods And Analysis	PC	3	3	0	3	3
5.	318EET05	Principles of Electrical and Electronics Engineering	ES	3	3	0	3	3
6.		**Professional Elective – I**	PE	3	3	0	3	3
7.	**X18ECT01**	**Gender, Culture And Development**	MC	1	0	0	0	0
PRACTICALS								
8.	318CHP07	Organic Chemistry Laboratory	BS	0	1	2	1	1
9.	318CHP08	Technical Analysis Laboratory	PC	0	1	2	1	1
10.	318CHP09	Electrical Engineering Laboratory	ES	0	1	2	1	1
			TOTAL	**18**	**3**	**06**	**22**	**22**

SEMESTER – IV

S. NO.	CODE NO.	COURSE TITLE	CATE GORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P		
THEORY								
1.	418NMT01	Numerical Methods	BS	3	0	0	3	3
2.	418CHT02	Physical Chemistry	BS	3	0	0	3	3
3.	418CHT03	Chemical Process Industries	PC	3	0	0	3	3
4.	418CHT04	Chemical Engineering Fluid Mechanics	PC	3	2	0	4	4
5.	418CHT05	Mechanical Operations	PC	3	0	0	3	3
6.		**Professional Elective – II**	PE	3	0	0	3	3
7.	X18MC01	**Indian Constitution**	MC	1	0	0	1	0
PRACTICALS								
8.	418CHP07	Fluid Mechanics Laboratory	PC	0	0	2	1	1
9.	418CHP08	Physical Chemistry Laboratory	PC	0	0	2	1	1
10.	418CHP09	Mechanical Operations Laboratory	PC	0	0	2	1	1
			TOTAL	**18**	**2**	**06**	**22**	**22**

SEMESTER –V

S. NO.	CODE NO.	COURSE TITLE	CATE GORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P		
THEORY								
1.	518PST01	Probability and Statistics	BS	3	0	0	3	3
2.	518CHT02	Chemical Engineering Thermodynamics	PC	3	0	0	3	3
3.	518CHT03	Heat Transfer	PC	3	0	0	3	3
4.	518CHT04	Mass Transfer-I	PC	3	0	0	3	3
5.		Professional Elective - III	PE	3	0	0	3	3
6.		Open Elective – I	OE	3	0	0	3	3
PRACTICALS								
7.	518CHP07	Heat Transfer Laboratory	PC	0	0	4	1	1
8.	518CHP08	Chemical Engineering Computation Laboratory	PC	0	0	4	1	1
9.	518CHP09	Employability skills Laboratory	EEC	0	0	4	1	1
			TOTAL	18	0	12	21	21

SEMESTER –VI

S. NO.	CODE NO.	COURSE TITLE	CATE GORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P		
THEORY								
1.	618CHT01	Mass Transfer – II	PC	3	0	0	3	3
2.	618CHT02	Chemical Reaction Engineering-I	PC	3	0	0	3	3
3.	618CHT03	Process Dynamics and Control	PC	3	0	0	3	3
4.	618CHT04	Chemical Process Plant Safety	PC	3	0	0	3	3
5.		Professional Elective - IV	PE	3	0	0	3	3
6.		Open Elective – II	OE	3	0	0	3	3
PRACTICALS								
7.	618CHP07	Process Control Lab	PC	0	0	4	1	1
8.	618CHP08	Mass Transfer Laboratory	PC	0	0	4	1	1
9.	618CHP09	Chemical Process Equipment Design and Drawing Laboratory - I	PC	0	0	4	1	1
			TOTAL	18	0	12	21	21

SEMESTER –VII

S. NO.	CODE NO.	COURSE TITLE	CATE GORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P		
THEORY								
1.	718CHT01	Chemical Reaction Engineering - II	PC	3	0	0	3	3
2.	718CHT02	Chemical Engineering Plant Design and Economics	PC	3	0	0	3	3
3.	718CHT03	Transport Phenomena	PC	3	0	0	3	3
4.	718CHT04	Chemical Engineering Modelling and Simulation	PC	3	0	0	3	3
5.		**Professional Elective - V**	PE	3	0	0	3	3
6.		**Professional Elective - VI**	PE	3	0	0	3	3
PRACTICALS								
7.	718CHP07	Chemical Reaction Engineering Laboratory	PC	0	0	2	1	1
8.	718CHP08	Chemical Process Equipment Design & Drawing Laboratory -II	PC	0	0	2	1	1
9.	718CHP09	Chemical Engineering Simulation Laboratory	PC	0	0	2	1	1
			TOTAL	**18**	**0**	**6**	**21**	**21**

SEMESTER-VIII

S. NO.	CODE NO.	COURSE TITLE	CATE GORY	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P		
THEORY								
1.	818CHT01	Total Quality Management	HS	3	0	0	3	3
2.		**Professional Elective - VII**	PE	3	0	0	3	3
3.		**Professional Elective - VIII**	PE	3	0	0	3	3
4.	818CHP04	Project Work & Viva Voce	EEC	0	0	18	9	9
			TOTAL	**09**	**0**	**18**	**18**	**18**

TOTAL NO. OF CREDITS: 163

B.TECH. CHEMICAL ENGINEERING

ELECTIVE (GROUP1)

S. NO	COURSE CODE	COURSE TITLE	CATEGORY	PERIODS PER WEEK			
				L	T	P	C
1	118ESE01	Basic Civil and Mechanical Engineering	ES	3	0	0	3
2	118ESE02	Basic Civil Electrical and Electronics Engineering	ES	3	0	0	3
3	118ESE03	Basic Mechanical Electrical and Electronics Engineering	ES	3	0	0	3
4	118ESE04	Elements of Mechanical Engineering	ES	3	0	0	3

ELECTIVE (GROUP2)

S. NO	COURSE CODE	COURSE TITLE	CATEGORY	PERIODS PER WEEK			
				L	T	P	C
1	218BSE01	Material Science	BS	2	0	0	2
2	218BSE02	Quantum Mechanics for Engineers	BS	2	0	0	2
3	218BSE03	Chemistry for Technologists	BS	2	0	0	2
4	218BSE04	Energy Storage Devices and Fuel Cells	BS	2	0	0	2

B.TECH. CHEMICAL ENGINEERING

PROFESSIONAL ELECTIVES [PE]

S. NO	COURSE CODE	COURSE TITLE	PERIODS PER WEEK			Credit
			Lecture	Tutorial	Practical	
1	318CHE01	Analytical Chemistry	3	0	0	3
2	318CHE02	Process Organic Synthesis	3	0	0	3
3	318CHE03	Green Chemistry and Engineering	3	0	0	3
4	318CHE04	Materials Technology	3	0	0	3
5	318CHE05	Solid Mechanics for Technologists	3	0	0	3
6	318CHE06	Composite Materials	3	0	0	3
7	418CHE01	Polymer Science and Technology	3	0	0	3
8	418CHE02	Sugar Technology	3	0	0	3
9	418CHE03	Renewable Energy Technologies	3	0	0	3
10	418CHE04	Plastics Engineering	3	0	0	3
11	418CHE05	Heat Power Engineering	3	0	0	3
12	418CHE06	Fuel and Combustion Technologies	3	0	0	3
13	518CHE01	Process Instrumentation	3	0	0	3
14	518CHE02	Fuel cell Technology	3	0	0	3
15	518CHE03	Introduction to Colloidal Science and Interfacial Engineering	3	0	0	3
16	518CHE04	Oil and Natural Gas Engineering	3	0	0	3
17	518CHE05	Fluidization Engineering	3	0	0	3
18	618CHE01	Energy Conservation and Management in Process Industries	3	0	0	3
19	618CHE02	Industrial Management	3	0	0	3
20	618CHE03	Pulp and Paper Technology	3	0	0	3
21	618CHE04	Electrochemical Engineering	3	0	0	3
22	618CHE05	Disaster mitigation and Management	3	0	0	3
23	618CHE06	Food Science and Technology	3	0	0	3
24	718CHE01	Mathematical Methods for Chemical Engineers	3	0	0	3
25	718CHE02	Biochemical Engineering	3	0	0	3
26	718CHE03	Modern Separation Techniques	3	0	0	3
27	718CHE04	Process Automation	3	0	0	3
28	718CHE05	Solid waste Management	3	0	0	3

29	718CHE06	Programming Using MATLAB	3	0	0	3
30	718CHE07	Optimization of Chemical processes	3	0	0	3
31	718CHE08	Industrial waste water Treatment	3	0	0	3
32	718CHE09	Catalyst Science and Technology	3	0	0	3
33	718CHE10	Fundamentals of Nanotechnology	3	0	0	3
34	718CHE11	Computational Fluid Dynamics	3	0	0	3
35	718CHE12	Piping Engineering	3	0	0	3
36	818CHE01	Fermentation Technology	3	0	0	3
37	818CHE02	Petroleum Refinery Engineering	3	0	0	3
38	818CHE03	Chemical Process flow sheeting	3	0	0	3
39	818CHE04	Entrepreneurship Development	3	0	0	3
40	818CHE05	Air Pollution Control and Design of Equipment	3	0	0	3
41	818CHE06	Drugs and Pharmaceutical Technology	3	0	0	3
42	818CHE07	Heterogeneous Catalysis	3	0	0	3
43	818CHE08	Bioreactor Design	3	0	0	3
44	818CHE09	Supply Chain Management	3	0	0	3
45	818CHE10	Corrosion Engineering	3	0	0	3
46	818CHE11	Mixing Technology	3	0	0	3
47	818CHE12	Professional Ethics and Human Values	3	0	0	3

HUMANITIES AND SOCIAL SCIENCES [HS]

S. NO	COURSE CODE	COURSE TITLE	PERIODS PER WEEK			Credit
			Lecture	Tutorial	Practical	
1	118ENT01	Technical English	2	0	0	2
2	218ENT01	Communicative English	2	0	2	3
3	218GET03	Environmental Science and Engineering	2	0	0	2
4	818CHT01	Total Quality Management	3	0	0	3
TOTAL CREDITS						**10**

BASIC SCIENCES [BS]

S. NO	COURSE CODE	COURSE TITLE	PERIODS PER WEEK			Credit
			Lecture	Tutorial	Practical	
1	118MAT02	Engineering Mathematics-I	3	0	0	3
2	118PHT03	Engineering Physics	2	0	0	2
3	118CYT04	Engineering Chemistry	3	0	0	3
4	118CYP07	Engineering Chemistry Laboratory	0	0	2	1
5	218MAT02	Engineering Mathematics-II	3	1	0	4
6	218BSE0X	ELECTIVE (GROUP2)	2	0	0	2
7	218PHP07	Engineering Physics Laboratory	2	0	0	1
8	318MAT01	Engineering Mathematics – III	3	4	0	4
9	318CHT02	Organic Chemistry	3	3	0	3
10	318CHP07	Organic Chemistry Laboratory	0	1	2	1
11	418NMT01	Numerical Methods	3	0	0	3
12	418CHT02	Physical Chemistry	3	0	0	3
13	518PST01	Probability and Statistics	3	0	0	3
					TOTAL CREDITS	**33**

ENGINEERING SCIENCES [ES]

S. NO	COURSE CODE	COURSE TITLE	PERIODS PER WEEK			Credit
			Lecture	Tutorial	Practical	
1	118EGT05	Engineering Graphics	2	0	4	4
2	118ESE0X	ELECTIVE (GROUP1)	3	0	0	3
3	118EPP08	Engineering Practice Laboratory	0	0	2	1
4	218EMT04	Engineering Mechanics	3	0	0	3
5	218PPT05	Problem Solving and Python Programming	3	0	0	3
6	218PPP08	Problem Solving and Python Programming Laboratory	0	0	2	1
7	318EET05	Principles of Electrical and Electronics Engineering	3	0	0	3
8	318CHP09	Electrical Engineering Laboratory	0	1	2	1
					TOTAL CREDITS	**19**

PROFESSIONAL CORE COURSE [PC]

S. NO	COURSE CODE	COURSE TITLE	PERIODS PER WEEK			Credit
			Lecture	Tutorial	Practical	
1	318CHT03	Chemical Process Calculations	3	3	0	3
2	318CHT04	Instrumentation Methods And Analysis	3	3	0	3
3	318CHP08	Technical Analysis Laboratory	0	1	2	1
4	418CHT03	Chemical Process Industries	3	0	0	3
5	418CHT04	Chemical Engineering Fluid Mechanics	3	2	0	4
6	418CHT05	Mechanical Operations	3	0	0	3
7	418CHP07	Fluid Mechanics Laboratory	0	0	2	1
8	418CHP08	Physical Chemistry Laboratory	0	0	2	1
9	418CHP09	Mechanical Operations Laboratory	0	0	2	1
10	518CHT02	Chemical Engineering Thermodynamics	3	0	0	3
11	518CHT03	Heat Transfer	3	0	0	3
12	518CHT04	Mass Transfer-I	3	0	0	3

13	518CHP07	Heat Transfer Laboratory	0	0	4	1
14	518CHP08	Chemical Engineering Computation Laboratory	0	0	4	1
15	618CHT01	Mass Transfer – II	3	0	0	3
16	618CHT02	Chemical Reaction Engineering-I	3	0	0	3
17	618CHT03	Process Dynamics and Control	3	0	0	3
18	618CHT04	Chemical Process Plant Safety	3	0	0	3
19	618CHP07	Process Control Lab	0	0	4	1
20	618CHP08	Mass Transfer Laboratory	0	0	4	1
21	618CHP09	Chemical Process Equipment Design and Drawing Laboratory - I	0	0	4	1
22	718CHT01	Chemical Reaction Engineering – II	3	0	0	3
23	718CHT02	Chemical Engineering Plant Design and Economics	3	0	0	3
24	718CHT03	Transport Phenomena	3	0	0	3
25	718CHT04	Chemical Engineering Modelling and Simulation	3	0	0	3
26	718CHP07	Chemical Reaction Engineering Laboratory	0	0	2	1
27	718CHP08	Chemical Process Equipment Design & Drawing Laboratory -II	0	0	2	1
28	718CHP09	Chemical Engineering Simulation Laboratory	0	0	2	1
					TOTAL CREDITS	**61**

EMPLOYABILITY ENHANCEMENT COURSES [EEC]

S. NO	**COURSE CODE**	**COURSE TITLE**	**PERIODS PER WEEK**			Credit
			Lecture	Tutorial	Practical	
1	518CHP09	Employability skills Laboratory	0	0	4	1
2	818CHP04	Project Work & Viva Voce	0	0	18	9
					TOTAL CREDITS	**10**

OPEN ELECTIVES [OE]

S. NO	COURSE CODE	COURSE TITLE	PERIODS PER WEEK			Credit
			Lecture	Tutorial	Practical	
1		Open Elective -I	3	0	0	3
2		Open Elective -II	3	0	0	3
					TOTAL CREDITS	**6**

MANDATORY COURSE [MC]

S. NO	COURSE CODE	COURSE TITLE	PERIODS PER WEEK			Credit
			Lecture	Tutorial	Practical	
1	418MC01	Indian Constitution	1	0	0	0
2	X18ECT01	Gender, Culture , Development	3	0	0	0

SUMMARY

	SEMESTER								Credits Total
	I	II	III	IV	V	VI	VII	VIII	
Humanities and Social Sciences **[HS]**	**2**	**5**						**3**	**10**
Basic Sciences **[BS]**	**9**	**7**	**8**	**6**	**3**				**33**
Engineering Sciences **[ES]**	**8**	**7**	**4**						**19**
Professional Core **[PC]**			**7**	**13**	**11**	**15**	**15**		**61**
Professional Electives **[PE]**			**3**	**3**	**3**	**3**	**6**	**6**	**24**
Open Electives **[OE]**					**3**	**3**			**6**
Employability Enhancement Courses **[EEC]**					**1**			**9**	**10**
Total	**19**	**19**	**22**	**22**	**21**	**21**	**21**	**18**	**163**