

STUDY AND EVALUATION SCHEME FOR ALL ENGINEERING AND TECHNOLOGY BRANCHES (Listed in Annexure -1)

FIRST SEMESTER

FIRST SEMESTER																	
Sr. No.	SUBJECTS	CATEGORY OF COURSE	STUDY SCHEME Periods/Week			Credits	MARKS IN EVALUATION SCHEME										Total Marks of Internal & External
							INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT							
			L	T	P			Th	Pr	Tot	Th	Hrs	Pr	Hrs	Tot		
1.1	Mathematics-I	Basic Science	2	1	-	3	40	-	40	60	3	-	-	60	100		
1.2	Applied Physics-I	Basic Science	3	-	2	4	40	60	100	60	3	40	3	100	200		
1.3	Applied Chemistry OR Introduction To IT and AI	Basic Science	3	-	2	4	40	60	100	60	3	40	3	100	200		
	Engineering Science	2	-	4													
1.4	Communication Skills in English OR Fundamentals of Electrical & Electronics Engineering	Humanities & Social Science Engineering Science	3	-	2	4	40	60	100	60	3	40	3	100	200		
1.5	Engineering Graphics OR Engineering Workshop Practice	Engineering Science Engineering Science	-	-	4	2	-	40	40	60	3	-	-	60	100		
	-	60					60	-	-	40	3	40					
1.6	Sports & Yoga	Humanities & Social Science	-	-	2	1	-	50	50	-	-	-	-	-	50		
# Student Centered Activities (SCA)			-	-	10	-	-	50	50	-	-	-	-	-	50		
TOTAL						18									900		

Note :-The Institutional authority may select alternative subjects, as indicated at Sr. No. 1.3, 1.4 and 1.5 based on the need of the respective branches offered at their institute.

The alternative subjects once selected in first semester will not be selected in second semester.

Students centered activities will comprise of co-curricular activities like extension lecture, games, hobby, clubs, e.g., photography etc., seminars, declamation contents, education field visit, library, NCC,NSS, Cultural Activities and self-study etc. The Lecture allotted to SCA can also be utilized for the course completion of other subjects.

1-Each Period will be 60 minutes duration.

2-Each Session will be 16 weeks.

3- Effective teaching will be at least 14 weeks.

6-STUDY AND EVALUATION SCHEME FOR CHEMICAL ENGINEERING (PETRO CHEMICAL)

NOTE: I & II Sem. is common to all Engineering & Technology branches and implemented from the session 2024-2025

THIRD SEMESTER

SR. NO.	SUBJECTS	COURSE TYPE AND CATEGORY	STUDY SCHEME PERIODS/WEEK			CREDITS	MARKS IN EVALUATION SCHEME									TOTAL MARKS OF INTERNAL & EXTERNAL
							INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT						
			L	T	P		TH	PR	TOT	TH	HRS	PR	HRS	TOT		
3.1	Fluid Flow Operations	Program Core (Theory)	2	-	-	2+0=2	40		40	60	3	-	-	60	100	
3.2	Fluid Flow Operations (Lab)	Program Core (Practical)	-	-	4	0+2=2	-	60	60	-	-	40	3	40	100	
3.3	Chemical Process Calculations	Program Core (Theory)	3	-	-	3+0=3	40	-	40	60	3	-	-	60	100	
3.4	Chemical Engineering Thermodynamics	Program Core (Theory)	3	-	-	3+0=3	40	-	40	60	3	-	-	60	100	
3.5	Chemical Technology	Program Core (Practicum)	2	-	4	2+2=4	40	-	40	60	3	-	-	60	100	
3.6	Mechanical Operations & Solid Handling	Program Core (Theory)	2	-	-	2+0=2	40	-	40	60	3	-	-	60	100	
3.7	Mechanical Operations & Solid Handling (Lab)	Program Core (Practical)		-	4	0+2=2	-	60	60	-	-	40	3	40	100	
3.8	Summer Internship **(4 Weeks)		-	-	-	0+2=2	-	50	50	-	-	-	-	-	50	
#Student Centered Activities			-	-	12	-	-	50	50	-	-	-	-	-	50	
TOTAL			12	-	24	20	200	220	420	300		80		380	800	

** Students will present a seminar on their summer internship along with certificate, project and report.

Student Centered Activities will comprise of co-curricular activities like extension lectures, games, hobby clubs e.g. Photography etc., Seminars, Declamation Contests, voluntary contribution in physical activities, Educational Field Visits, NCC, NSS, Cultural Activities and Self-Study etc.

- Note-
- 1) Each period will be 60 minutes duration.
 - 2) Each session will be of 16 weeks.
 - 3) Effective teaching will be at least 14 weeks.

STUDY AND EVALUATION SCHEME FOR CHEMICAL ENGINEERING (PETRO-CHEMICAL) (353)
FIFTH SEMESTER

SR. NO.	SUBJECTS	COURSE TYPE & CATEGORY	STUDY SCHEME PERIODS/WEEK			CREDITS	MARKS IN EVALUATION SCHEME										TOTAL MARKS OF INTERNAL & EXTERNAL
							INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT							
			L	T	P		TH	PR	TOT	TH	HRS	PR	HRS	TOT			
5.1	Mass Transfer Operations-II	Program Core (Theory)	3	-	-	3	40	-	40	60	3	-	-	60	100		
5.2	Mass Transfer Operations-II (Lab)	Program Core (Practical)	-	-	4	2	-	60	60	-	-	40	3	40	100		
5.3	Petroleum Refining And Petrochemical Technology	Program Core (Theory)	2	1	-	3	40	-	40	60	3	-	-	60	100		
5.4	Petroleum Refining And Petrochemical Technology (Lab)	Program Core (Practical)	-	-	2	1		60	60	-	-	40	3	40	100		
5.5	Program Elective-3	Program Core (Theory)	2	1	-	3	40	-	40	60	3	-	3	60	100		
5.6	Program Elective-4	Program Core (Practicum)	2	-	4	4	40	-	40	60	3	-	-	60	100		
5.7	Open Elective (Qualifying)	Open Elective -2	2	-	-	2	-	-	50*	-	-	-	-	-	-		
	Advance Skill Certification	Certificate Course	-	-	-		-	-	-	-	-	-	-	-	NA		
5.8	(Q) Indian Constitution	Audit Course	2	-	-	-	-	50*	50*	-	-	-	-	-	-		
5.9	Summer Internship-II** (6 Weeks)	Summer Training	-	-	-	2	-	60	60	-	-	40	3	40	100		
# Student Centered Activities			-	-	11	-	-	50	50	-	-	-	-	-	50		
Total			13	2	21	20	160	230	390	240	-	120	-	360	750		

(Q) It is compulsory to appear and to pass the examination, but marks will not be included for percentage and division of obtained marks.

** Students will present a seminar on their summer internship along with certificate, project and report.

Student Centered Activities will comprise of co-curricular activities like extension lectures, games, hobby clubs e.g. Photography etc., Seminars, Declamation Contests, voluntary contribution in physical activities, Educational Field Visits, NCC, NSS, Cultural Activities and Self-Study. The lecture allotted to SCA can also be utilized for the course completion of other subjects.

6- STUDY AND EVALUATION SCHEME FOR DIPLOMA PROGRAMME IN CIVIL ENGINEERING

NOTE: I & II Sem. is common to all engineering & technology branches and implemented from the session 2024-2025

3rd SEMESTER {CIVIL ENGINEERING }

Sr. No.	SUBJECTS	COURSE TYPE & CATEGORY	STUDY SCHEME			Credits	MARKS IN EVALUATION SCHEME									Total Marks of Internal & External
			Periods/Week				INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT						
			L	T	P		Th	Pr	Tot	Th	Hrs	Pr	Hrs	Tot		
3.1	CONSTRUCTION MATERIALS	PROGRAM CORE (PRACTICUM/THEORY)	02	-	02	2+1=3		40	40	60	3	-	-	60	100	
3.2	BASIC SURVEYING	PROGRAM CORE (THEORY)	01	-	-	1+0=1	40	-	40	60	3	-	-	60	100	
3.3	BASIC SURVEYING LAB	PROGRAM CORE (PRACTICAL)	-	-	04	0+2=2	-	60	60	-	-	40	3	40	100	
3.4	MECHANICS OF MATERIAL	PROGRAM CORE (THEORY)	02	-	-	2+0=2	40	-	40	60	3	-	-	60	100	
3.5	MECHANICS OF MATERIAL LAB	PROGRAM CORE (PRACTICAL)	-	-	02	0+1=1	-	60	60	-	-	40	3	40	100	
3.6	BUILDING CONSTRUCTION	PROGRAM CORE (PRACTICUM/THEORY)	02	-	02	2+1=3	40	-	40	60	3	-	-	60	100	
3.7	BUILDING PLANNING AND DRAWING	PROGRAM CORE (PRACTICUM/PRACTICAL)	01	-	04	1+2=3	-	60	60	-	-	40	3	40	100	
3.8	CONCRETE TECHNOLOGY	PROGRAM CORE (THEORY)	02	-	-	2+0=2	-	60	60	-	-	40	3	40	100	
3.9	CONCRETE TECHNOLOGY LAB	PROGRAM CORE (PRACTICAL)	-	-	04	0+2=2	-	60	60	-	-	40	3	40	100	
3.10	SUMMER INTERNSHIP-I (4 weeks after IInd sem.)	PRACTICAL	-	-	-	1	-	50*	50*	-	-	-	-	-	50*	
#STUDENT CENTERED ACTIVITIES			-	-	08	-	-	50	50	-	-	-	-	-	50	
Total			10	-	26	20	120	440	560	240	-	200	-	440	1000	

1) Each period will be 60 minutes duration.

2) Each session will be of 16 weeks.

3) Effective teaching will be at least 14 weeks.

* Students will present a seminar on their summer internship along with certificate and project report.

Student Centered Activities will comprise of co-curricular activities like extension lectures, games, hobby clubs e.g. photography etc., seminars, declamation contests, educational field visits, N.C.C., NSS, library, Cultural Activities and self-study etc.

6- STUDY AND EVALUATION SCHEME FOR DIPLOMA PROGRAMME IN CIVIL ENGINEERING

5th SEMESTER

CIVIL ENGINEERING

Sr. No.	SUBJECTS	COURSE TYPE & CATEGORY	STUDY SCHEME			Credits	MARKS IN EVALUATION SCHEME									Total Marks of Internal & External
			Periods/Week				INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT						
			L	T	P		Th	Pr	Tot	Th	Hrs	Pr	Hrs	Tot		
5.1	TRANSPORATION ENGG.	PROGRAM CORE (THEORY)	02	-	-	2+0=2	40	-	40	60	3	-	-	60	100	
5.2	ESTIMATING COSTING AND VALUATION	PROGRAM CORE (PRACTICUM/THEORY)	01	-	04	1+2=3	20	20	40	60	3			60	100	
5.3	GEOTECHNICAL ENGG.	PROGRAM CORE (THEORY)	02	-	-	2+0=2	40	-	40	60	3	-		60	100	
5.4	DESIGN OF STEEL STRUCTURE AND DRAWING	PROGRAM CORE (PRACTICUM/THEORY)	01	-	04	1+2=3	20	20	40	60	3	-	-	60	100	
5.5	PROGRAM ELECTIVE -1 a) GREEN BUILDING AND ENERGY CONSERVATION b) REPAIR AND MAINTENANCE OF BUILDING	PROGRAM CORE (THEORY)	02	-	-	2+0=2	40	-	40	60	3	-	-	60	100	
5.6	OPEN ELECTIVE- 01 a) DISASTER MANAGEMENT b) PROJECT MANAGEMENT	OPEN ELECTIVE (THEORY)	02	-	-	2+0=2	50	-	50	-	-	-	-	-	NA	
	OR *ADVANCE SKILL DEVELOPMENT: ADVANCED PLUMBING (TATA TECH.)	OPEN ELECTIVE (Certification Course)	-	-	-	-	-	-	-	-	-	-	-	-	NA	
5.7	TRANSPORATION ENGG. LAB	PROGRAM CORE (PRACTICAL)	-	-	04	0+2=2	-	60	60	-	-	40	3	40	100	
5.8	GEOTECHNICAL ENGG. LAB	PROGRAM CORE (PRACTICAL)	-	-	04	0+2=2	-	60	60	-	-	40	3	40	100	
5.9	INDIAN CONSTITUTION (Q)	AUDIT COURSE	02	-	-	-	50	-	50	-	-	-	-	-	-	
5.10	SUMMER INTERNSHIP** (4 -6 WEEKS)		-	-	-	2	-	60*	60*	-	-	40*	3	40*	100*	
	#STUDENT CENTERED ACTIVITIES	-	-	-	08			50	50	-	-	-	-		50	
Total			12	0	24	20	210	220	430	300		120		420	850	

(Q) It is compulsory to appear and to pass the examination, but marks will not be included for percentage and division of obtained marks.

* Students will submit the certificate.

** Students will present a seminar/viva on their summer internship/ ADVANCE SKILL CERTIFICATION along with certificate, project and report.

6-STUDY AND EVALUATION SCHEME FOR PAINT TECHNOLOGY

NOTE: I & II Sem. is common to all Engineering & Technology branches and implemented from the session 2024-2025

THIRD SEMESTER

SR. NO.	SUBJECTS	COURSE TYPE AND CATEGORY	STUDY SCHEME PERIODS/WEEK			CREDITS	MARKS IN EVALUATION SCHEME									TOTAL MARKS OF INTERNAL & EXTERNAL
							INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT						
			L	T	P		TH	PR	TOT	TH	HRS	PR	HRS	TOT		
3.1	Introduction to Paint and Polymer Technology	Program Core (Practicum)	2	-	2	2+1=3	40	-	40	60	3	-	-	60	100	
3.2	Pigment and Extender	Program Core (Practicum)	2	-	2	2+1=3	40	-	40	60	3	-	-	60	100	
3.3	Resin and Paint Media	Program Core (Theory)	2	-	-	2+0=2	40	-	40	60	3	-	-	60	100	
3.4	Resin and Paint Media	Program Core (Practical)	-	-	4	0+2=2	-	60	60	-	-	40	3	40	100	
3.5	Drying Oils , Driers , Solvents & Paint Additives	Program Core (Practicum)	2	-	2	2+1=3	40	-	40	60	3	-	-	60	100	
3.6	Chemical process Calculation	Program Core (Theory)	2	-	-	2+0=2	40	-	40	60	3	-	-	60	100	
3.7	Fluid Mechanics and solid Handling	Program Core (Practicum)	2	-	2	2+1=3	40	-	40	60	3	-	-	60	100	
3.8	Summer Internship **(4 Weeks)		-	-	-	0+2=2	-	50	50	-	-	-	-	-	50	
#Student Centered Activities			-	-	12	-	-	50	50	-	-	-	-	-	50	
TOTAL			12	-	16	20	240	160	400	360		40		400	800	

** Students will present a seminar on their summer internship along with certificate, project and report.

Student Centered Activities will comprise of co-curricular activities like extension lectures, games, hobby clubs e.g. Photography etc., Seminars, Declamation Contests, voluntary contribution in physical activities, Educational Field Visits, NCC, NSS, Cultural Activities and Self-Study etc.

- Note-
- 1) Each period will be 60 minutes duration.
 - 2) Each session will be of 16 weeks.
 - 3) Effective teaching will be at least 14 weeks.

STUDY AND EVALUATION SCHEME FOR DIPLOMA PROGRAMME IN PAINT TECHNOLOGY

FIFTH SEMESTER

SR. NO.	SUBJECTS	COURSE TYPE & CATEGORY	STUDY SCHEME PERIODS/WEEK			CREDIT	MARKS IN EVALUATION SCHEME									TOTAL MARKS OF INTERNAL & EXTERNAL
			L	T	P		INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT						
							TH	PR	TOT	TH	HRS	PR	HRS	TOT		
5.1	PROCESS CONTROL AND INSTRUMENTATION	PROGRAM CORE (THEORY)	2	-	-	2	40	-	40	60	3	-	-	60	100	
5.2	PROCESS CONTROL AND INSTRUMENTATION (Lab)	PROGRAM CORE (Practical))	-	-	4	2	-	60	60	-	-	40	3	40	100	
5.3	Coating Properties, Evaluation, Quality Control	Program Core (Theory)	3	-	-	3+0=3	40	-	40	60	3	-	-	60	100	
5.4	Coating Properties, Evaluation, Quality Control	Program Core (Practical)	-	-	4	0+2=2	-	60	60	-	-	40	3	40	100	
5.5	Program Elective-3	Program Core (Theory)	3	-	-	3+0=3	40	-	40	60	3	-	-	60	100	
5.6	Program Elective-4	Program Core (Practicum)	2	-	4	2+2=3	40	-	40	60	3	-	-	60	100	
5.7	(Q) Open Elective-2 OR	Open Elective	2	-	-	02	-	-	50*	-	-	-	-	-	NA	
	*Advance Skill Development	Certification Course					-	-	-	-	-	-	-	NA		
5.8	**Summer Internship-II (4-6 Weeks)	Summer Training	-	-	-	02	-	60	60	-	-	40	3	40	100	
5.9	(Q) Indian Constitution	Audit Course	2	-	-	-	50*	-	50*	-	-	-	-	-	NA	
# Student Centered Activities			-	-	10	-	-	50	50	-	-	-	-	-	50	
Total			14	-	22	20	160	230	390	240	-	120	-	360	750	

NOTE:-(Q) It is compulsory to appear and to pass the examination, but marks will not be included for percentage and division of obtained marks.

* Advance skill development mention at 5.7 in the table provide the scope of selecting the course as per choice from the elective list provided in the syllabus conducted by various agency of repute of duration not less than 20 Hrs (Offline/Online).

** Students will present a seminar on their summer internship along with certificate, project and report.

Student Centered Activities will comprise of co-curricular activities like extension lectures, games, hobby clubs e.g. Photography etc., Seminars, Declamation Contests, voluntary contribution in physical activities, Educational Field Visits, NCC, NSS, Cultural Activities and Self-Study. The periods allotted to SCA can also be utilized to complete the syllabus for other subjects.

FIFTH SEMESTER

5.1	Transportation Engineering	19-22
5.2	Estimation costing and valuation	23-25
5.3	Geotechnical Engineering	26-28
5.4	Design of steel structure and drawing	29-31
5.5(a)	Green building and energy conservation	32-34
5.5(b)	Repair and maintenance of building	35-37
5.6 a)	Disaster management	38-40
5.6 b)	Project management	41-42
5.7	Transportation Engineering lab	43-44
5.8	Geotechnical Engineering lab	45-46
5.9	Indian constitution	47-49
5.10	Summer internship	50

SIXTH SEMESTER

6.1 a)	Construction management	52-55
6.1 b)	Advance construction technology	56-58
6.2	Entrepreneurship and startup	59-61
6.3 a)	Renewable energy and technology	62-63
6.3 b)	Energy conservation and audit	64-66
6.4	project	67-68

UDY AND EVALUATION SCHEME FOR CHEMICAL ENGINEERING (Petro Chemical)

PROGRAM ELECTIVE-1

SR. NO.	SUBJECT NAME
1	PETROLEUM ENGINEERING
2	ENERGY ENGINEERING

PROGRAM ELECTIVE-2

SR. NO.	SUBJECT NAME
1.	PLANT UTILITIES
2.	WASTE MANAGEMENT

PROGRAM ELECTIVE-3

SR. NO.	SUBJECT NAME
1.	EQUIPMENT DESIGN
2.	FERTILIZER ENGINEERING

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UPDATED AND APPROVED BY BOARD OF TECHNICAL EDUCATION U.P. LUCKNOW IN C.D.C MEETING HELD ON 16.07.2026

PROGRAM ELECTIVE-4

SR. NO.	SUBJECT NAME
1.	POLLUTION CONTROL AND INDUSTRIAL SAFETY
2.	SAFETY IN CHEMICAL PROCESS INDUSTRY

OPEN ELECTIVE-2

SR. NO.	CERTIFICATE COURSES
1.	ENERGY EFFICIENCY AND AUDIT
2.	ARTIFICIAL INTELLIGENCE
SR.NO.	ANY COURSE OF MINIMUM 02 CREDIT FROM
1.	COURSES OFFERED BY TATA TECHNOLOGY (Annexure-1) OR OTHER REPUTED ORGNISATION.
2.	NPTEL
3.	MOOCS THROUGH SWAYAM
4.	AICTE-ELIS AND CENTRALLY FUNDED TECHNICAL INSTITUTES
5.	C-DAC
6.	CERTIFICATES CONDUCTED BY THE INSTITUTE OF NATIONAL IMPORTANCE (IIT, NIT, IIT ETC.)
7.	ISRO E-LEARNING
8.	OTHER RELEVANT GOVERNMENT, INTERNATIONAL/NATIONAL PLATFORMS OF REPUTE, NEILIT

OPEN ELECTIVE-3

SR. NO.	CERTIFICATE COURSES
1	ECONOMIC POLICIES IN INDIA
2	PROJECT MANAGEMENT
3	INDUSTRIAL AUTOMATION AND MES (Course offered by TATA Technology)
4	FUNDAMENTALS OF INNOVATION AND DESIGN THINKING (Course offered by TATA Technology)
SR.NO.	ANY COURSE OF MINIMUM 02 CREDIT FROM
1.	COURSES OFFERED BY TATA TECHNOLOGY (Annexure-1) OR OTHER REPUTED ORGNISATION.
2.	NPTEL
3.	MOOCS THROUGH SWAYAM
4.	AICTE-ELIS AND CENTRALLY FUNDED TECHNICAL INSTITUTES
5.	C-DAC
6.	CERTIFICATES CONDUCTED BY THE INSTITUTE OF NATIONAL IMPORTANCE (IIT, NIT, IIT ETC.)
7.	ISRO E-LEARNING
8.	OTHER RELEVANT GOVERNMENT, INTERNATIONAL/NATIONAL PLATFORMS OF REPUTE, NEILIT

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PROGRAM ELECTIVE-3

SR. NO.	SUBJECT NAME
POE 3.1	Printing Ink & Packaging Technology
POE 3.2	Modern Separation Technique

PROGRAM ELECTIVE-4

SR. NO.	SUBJECT NAME
POE 4.1	Pollution Control and Industrial Safety
POE 4.2	Safety In Chemical Process Industry

OPEN ELECTIVE-2

SR. NO.	Q THEORY COURSES NAME
OE 2.1	ENERGY CONSERVATION AND AUDITS
OE 2.2	INDUSTRIAL AUTOMATION AND MES
OE 2.3	CERTIFICATION COURSE
1	Courses conducted by center of excellence (established by 3 rd party as –TATA TECHNOLOGIES etc.)
2	Courses conducted by INFOSYS PRINGBOARD
3	Courses conducted by TCS ION
4	Courses conducted by other relevant Government ,International/national organization or platforms of repute
5	Courses conducted by AICTE-ELIS and Centrally funded technical institutes
6	Courses conducted by C-DAC
7	Courses conducted by NEILIT

LIST OF COURSES CONDUCTED BY TATA TECHNOLOGIES (OPEN ELECTIVE)

1. Fundamentals of Innovation and Design Thinking
2. Product Design and Development
3. Product Verification and Analysis
4. Advanced Automobile
5. Electric Vehicle
6. Internet of Things
7. Advanced Manufacturing
8. Advanced Welding & Painting using Simulator
9. Industrial Robotics
10. Inspection and Quality Control
11. Advanced Plumbing
12. AI and ML