

STUDY SCHEME FOR THIRD SEMESTER LATERAL AND ITI PASSED STUDENTS

THIRD SEMESTER (COMPUTER SCIENCE AND ENGINEERING)

Sr. No.	SUBJECTS	Category & Course Type	STUDY SCHEME Periods/Week			Credits(C) (L+T)+P = C	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	Operating Systems	Prog Core (Theory)	3	-	-	3+0=3	40	-	40	60	03	-	-	60	100		
3.2	Data base Management System	Prog Core (Theory)	3	-	-	3+0=3	40	-	40	60	03	-	-	60	100		
3.3	Computer Network	Prog Core (Practicum)	2	-	4	3+1=4	40	-	40	60	03	-	-	60	100		
3.4	Web Technologies	Prog Core (Practicum)	1	-	4	1+2=3	-	60	60	-	-	40	03	40	100		
3.5	Operating Systems (Lab)	Prog Core (Practical)	-	-	2	0+1=1	-	60	60	-	-	40	03	40	100		
3.6	Data base Management System (Lab)	Prog Core (Practical)	-	-	4	0+2=2	-	60	60	-	-	40	03	40	100		
3.7	Computer Programming Using C	Prog Core (Practicum)	1	-	4	1+2=3	-	60	60	-	-	40	03	40	100		
3.8	*Minor Project	-	-	-	-	2	-	50	50	-	-	-	-	-	50		
# Student Centred Activities (SCA)			-	-	8	-	-	50	50	-	-	-	-	-	50		
TOTAL			10	-	26	21	120	340	460	180		160		340	800		

*Lateral entry students shall undertake a minor project and deliver a presentation on the same. This project will serve as an equivalent to Summer Internship-I for the purpose of earning the associated credits and marks..

StudentCenteredActivitieswillcompriseofco-curricularactivitieslikeextensionlectures,games,hobbyclubse.g.photographyetc., seminars,declamationcontests,educationalfieldvisits,N.C.C.,NSS, library, CulturalActivitiesandself-studyetc.

- 1) Eachperiodwillbe60minutesduration.
- 2) Eachsessionwillbeof16weeks.
- 3) Effectiveteachingwillbeatleast14weeks per session.

A. COMPULSORY SUBJECT OF I-SEMESTER COMPUTER SCIENCE AND ENGINEERING TO BE TAUGHT IN III SEMESTER TO ITI PASSED STUDENTS OF TRADES ARE AS FOLLOWS :-

Sr. No.	SUBJECTS	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		
1.1	*Mathematics-I	2	1	-	3+0=3	40	-	40	60	3	-	-	60	100	
1.2	*AppliedPhysics-I	3	-	2	3+1=4	40	60	100	60	3	40	3	100	200	
1.3	*AppliedChemistry	3	-	2	3+1=4	40	60	100	60	3	40	3	100	200	
1.4	*CommunicationSkillsin English	3	-	2	3+1=4	40	60	100	60	3	40	3	100	200	
TOTAL		11	1	6	15	160	180	340	240		120		360	700	

(*) It is compulsory to appear & to pass in examination From III Semester To VI Semester, But credit/marks will not be included for division and percentage of obtained marks.

(*) Four Semester (Two Years) of Extra Time will be given after diploma curriculum period (If Required) to pass the above paper (1.1 To 1.4 and 2.1To 2.2) examination (As Per G. O. No. 2221/16-Pra. Shi.-3-2009 Dated 28-08-2009) & Revised G.O. No. 2704/16-Pra.Shi.-3-2013-46(8)/2002 Dated 09-01-2013 and B.T.E Order No. Pra.Shi.Pa/C.D.C./2022/872021 Dated 21.02.22

FOURTH SEMESTER (COMPUTER SCIENCE AND ENGINEERING)

Sr.No.	SUBJECTS	Category & Course Type	STUDY SCHEME				Credits(C) (L+T)+P = C	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	
4.1	Data Structures using C	Program Core (Theory)	3	-	-	3+0=3	40	-	40	60	03	-	-	60	100	
4.2	Software Engineering	Program Core (Practicum)	2	-	4	3+1=4	40	-	40	60	03	-	-	60	100	
4.3	Introduction to E-Governance	Program Core (Theory)	2	-	-	2+0=2	40	-	40	60	03	-	-	60	100	
4.4	Program Elective -1	Program Elective (Theory)	3	-	-	3+0=3	40	-	40	60	03	-	-	60	100	
4.5	(Q) Open Elective -1 OR	Open Elective (Theory)	2	-	-	2	50*	-	-	-	-	-	-	-	-	
	*Advance Skill Development	Open Elective Certification Course	-	-	-		-	-	-	-	-	-	-	-	-	
4.6	Data Structures using C	Program Core (Practical)	-	-	4	0+2=2	-	60	60	-	-	40	03	40	100	
4.7	Scripting Languages (Python)	Program Core (Practicum)	1	-	4	1+2=3	-	60	60	-	-	40	03	40	100	
4.8	(Q) Essence of Indian Knowledge and Tradition	Audit Courses (Qualifying)	4	-	-	-	50*	-	-	-	-	-	-	-	-	
Student Centred Activities (SCA)			-	-	7	-	-	50	50	-	-	-	-	-	50	
TOTAL			17	-	19	19	160	170	330	240	-	80	-	320	650	

Note -(Q) - It is compulsory to appear & to pass in examination, But marks will not be included for division and percentage of obtained marks.

Advance Skill Development:-

To fulfill the requirements for Advanced Skill Development, a minimum of 20 hours of skill certification is necessary. This certification must be obtained from a recognized national or international agency or institute. The assessment and certification process will be conducted by the respective agency or institute. Students must present their certificate to earn 02 credits for this subject.

** SUMMER INTERNSHIP (4-6 WEEKS) duration to be organized after fourth semester exam. Evaluation will be in fifth semester.

StudentCenteredActivitieswillcompriseofco-curricularactivitieslikeextensionlectures,games,hobbyclubse.g.photographyetc., seminars, declamationcontests,educationalfieldvisits,N.C.C.,NSS, library, CulturalActivitiesandself-studyetc. .

B. COMPULSORY SUBJECT OF II- SEMESTER COMPUTER SCIENCE AND ENGINEERING TO BE TAUGHT IN IV SEMESTER TO ITI PASSED STUDENTS OF TRADES ARE AS FOLLOWS :-

Sr. No.	SUBJECTS	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	
2.1	*Mathematics-II	3	1	-	4+0=4	40	-	40	60	3	-	-	60	100	
2.2	*AppliedPhysics-II	3	-	2	3+1=4	40	60	100	60	3	40	3	100	200	
TOTAL		6	1	2	8	80	60	140	120	-	40	-	160	300	

(*) It is compulsory to appear & to pass in examination From III Semester To VI Semester, But credit/marks will not be included for division and percentage of obtained marks.

(*) Four Semester (Two Years) of Extra Time will be given after diploma curriculum period (If Required) to pass the above paper (1.1 To 1.4 and 2.1To 2.2) examination (As Per G. O. No. 2221/16-Pra. Shi.-3-2009 Dated 28-08-2009) & Revised G.O. No. 2704/16-Pra.Shi.-3- 2013-46(8)/2002 Dated 09-01-2013 and B.T.E Order No. Pra.Shi.Pa/C.D.C./2022/872021 Dated 21.02.22

LIST OF PROGRAM ELECTIVE COURSES (PE-1)

Sr No	Course Title	L	T	P	C
1	Computer System Organization	3	-	-	3
2	FOSS (Free and Open Source Software)	3	-	-	3

LIST OF OPEN ELECTIVE COURSES(OE-1)

Sr No	Course Title	L	T	P	C
1	Project Management	2	-	-	2
2	Industrial Robotics	2	-	-	2

OR

OPEN ELECTIVE-1

SR.NO.	ADVANCE SKILL DEVELOPMENT COURSES
1.	COURSES CONDUCTED BY CENTRE OF EXCELLENCE (ESTABLISHED BY THIRD 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

FIFTH SEMESTER (COMPUTER SCIENCE AND ENGINEERING)

Sr. No.	SUBJECTS	Category & Course Type	STUDY SCHEME Periods/Week			Credits(C) (L+T)+P = C	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	Object oriented programming using Java	Prog Core (Practicum)	1	-	4	1+2=3	-	60	60	-	-	40	03	40	100	
5.2	Fundamentals of Internet of Things	Prog Core (Practicum)	1	-	4	1+2=3	-	60	60	-	-	40	03	40	100	
5.3	Program Elective -2	Prog Elective (Practicum)	3	-	4	3+2=5	40	-	40	60	03	-	03	60	100	
5.4	Program Elective -3	Prog Elective (Practicum)	3	-	4	3+2=5	40	-	40	60	03	-	03	60	100	
5.5	(Q) Open Elective-2 OR	Open Elective (Theory)	2	-	-	2	50*	-	50*	-	-	-	-	-	-	
	*Advance Skill Development	Certification Course	-	-	-		-	-	-	-	-	-	-	-	-	
5.6	Summer Internship -II (6 Weeks)		-	-	-	2	-	60	60	-	-	40	03	40	100	
5.7	(Q) Indian Constitutions	Audit Courses	2	-	-	-	50*	-	50*	-	-	-	-	-	-	
Student Centered Activities (SCA)			-	-	8	-	-	50	50	-	-	-	-	-	50	
Total			12		24	20	80	230	310	120		120		240	550	

(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.

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. The periods allotted to SCA can also be utilized to complete the syllabus for other subjects.

(COMPUTER SCIENCE AND ENGINEERING)

SIXTH SEMESTER NORMAL PATHWAY

Sr. No.	SUBJECTS	Category & Course Type	STUD Y SCHEME Periods/ Week			Credits(C) (L+T)+P = C	MARKS IN EVALUATION SCHEME										Total Marks of Internal & Externa l
							INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT							
			L	T	P	Th	Pr	Tot	Th	Hrs	Pr	Hrs	Tot				
6.1	Program Elective-4	Program Elective-4	4	-	-	4+0=4	40	-	40	60	03	-	-	60	100		
6.2	Entrepreneurship and Start-ups	Humanities (Theory)	2	-	-	2+0=2	40	-	40	60	03	-	-	60	100		
6.3	In House Project	Project	4	-	16	12	-	240	240	-	-	160	-	160	400		
6.4	(Q) Open Elective-3 OR	Open Elective (Theory)*	2	-	-	2	50	-	50	-	-	-	-	-	-		
	Advance Skill Development	Open Elective (certification Course)					-	-	-	-	-	-	-	-	-		
Student Centered Activities (SCA)			-	-	8	-	-	50	50	-	-	-	-	-	50		
Total			12	-	24	20	80	290	370	120	-	160	-	280	650		

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 6.4 in the table provides the scope of selecting the course as per choice from the elective list provided in the syllabus conducted by various agencies of repute of duration not less than 20 Hrs. (Offline/Online).

The above scheme can be customized as per the specific requirements of the respective courses.

StudentCenteredActivitieswillcompriseofco-curricularactivitieslikeextensionlectures,games,hobbyclubse.g.photographyetc.,

seminars,declamationcontests,educationalfieldvisits,N.C.C.,NSS, library, CulturalActivitiesandself-studyetc. The periods allotted to SCA can also be utilized to complete the syllabus for other subjects.

OR
SIXTH SEMESTER INDUSTRIAL PATHWAY

Sr. No.	SUBJECTS	Category & Course Type	STUDY SCHEME			Credits(C) (L+T)+P=C	MARKS IN EVALUATION SCHEME										Total Marks of Internal & External	Assessm ent
			Periods/W eek				INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT								
			L	T	P		Th	Pr	Tot	Th	Hrs	Pr	Hrs	Tot				
6.1	Entrepreneurship and Start-ups (ONLINE Mode)	Humanities & Social Science (Theory)	-	-	-	2	-	-	-	100	03	-	-	100	100	Theory		
6.2	Industrial Hands OnPractice	Industrial Training	-	-	-	12	150*			200**					350			
6.3	Industrial Project	Industrial Training	-	-	-	4	50*			50**					100			
6.4	#Seminar	In House	-	-	-	2	-	100	100	-	-	-	-	-	100			
Total			-	-	-	20	-							-	650			

NOTE:

1. The Industrial training tenure should not be less than 14 Weeks.
2. Industry must be registered with MSME / Directorate of industries/Limited Organization/ State/Central Government establishments.
3. Monthly progress reports of Intern/ Trainee should be attested and forwarded by industrial supervisor (allotted to Intern/Trainee) during industrial Internship/Training.

4. The Industrial unit/organisation must evaluate students using the format provided by polytechnic in the form of marks.
5. The Industrial Hands on Practice, Industrial Project and seminar must be evaluated on the basis of the AICTE Internship Policy: Guidelines and procedures (Chapter -9 Procedures / format for organizing internship)
6. **“Entrepreneurship and Start-up”** course is also mandatory in Industrial internship/training mode. It will be conducted online mode by his/her polytechnic institute. After completing the online course, students must appear for exam conducted by the Board of Technical Education, Lucknow.
7. ***Evaluation by faculty mentor**
The institute will depute one faculty member for mentoring at least 20-30 students undertaking apprenticeship training. Such mentors will monitor, guide and provide counselling to the students as and when required. Faculty mentor of the institute(s) may make a surprise visit to the internship/apprenticeship site to check the student's presence physically. (The Proforma of the evaluation is attached as the Annexure -1)
8. **** Evaluation by industry** :The industry shall assess the candidates based on the following parameters attendance, discipline and punctuality, familiarity of tools and material, engineering skills, application of knowledge and problem-solving skills, comprehension and observation, professional ethics, safety and environmental consciousness, communication skills, supervisory skills and general conduct during the period (The Proforma of the evaluation is attached as the Annexure -2)
9. **# Evaluation through seminar presentation/Viva-Voce at the institute** : The student will give a seminar based on his training report, before an expert committee constituted by the concerned department as per norms of the institute. The evaluation will be based on the following criteria .

ANNEXURE -A

LIST OF COURSES CONDUCTED BY TATA TECHNOLOGIES (OPEN ELECTIVE)

Sr.No.	Name of Courses	Sr. No.	Name of Courses
1	Fundamentals of Innovation and Design Thinking	7	Advanced Manufacturing
2	Product Design and Development	8	Advanced Welding & Painting using Simulator
3	Product Verification and Analysis	9	Industrial Automation and MES
4	Advanced Automobile	11	Industrial Robotics
5	Electric Vehicle	11	Advanced Plumbing
6	Internet of Things	12	AI and ML

LIST OF PROGRAM ELECTIVE COURSES (PE-2)

Sr No	Course Title				
1	Mobile App Development				
2	Multimedia Technologies				

LIST OF PROGRAM ELECTIVE COURSES (PE-3)

Sr No	Course Title				
1	Information Security				
2	Advance Computer Networks				

LIST OF PROGRAM ELECTIVE COURSES (PE-4)

Sr No	Course Title				
1	Artificial Intelligence				
2	Data Science and Machine Learning				

LIST OF OPEN ELECTIVE COURSES (OE-2)

Sr No	Course Title				
1	Product Design				
2	Engineering Economics & Accountancy				
3	Artificial Intelligence and Machine Learning (TATA)				

LIST OF OPEN ELECTIVE COURSES (OE-3)

Sr No	Course Title				
1	Disaster Management				
2	Renewable Energy Technology				

OPEN ELECTIVE's

SR.NO.	ADVANCE SKILL DEVELOPMENT COURSES
1.	COURSES CONDUCTED BY CENTRE OF EXCELLENCE (ESTABLISHED BY THIRD PARTY AS: - TATA TECHNOLOGIES. etc Refer Annexure 1)
2.	COURSES CONDUCTED BY INFOSYS SPRINGBOARD
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