STUDY SCHEME FOR THIRD SEMESTER LATERAL AND ITI PASSED STUDENTS

THIRD SEMESTER (ELECTRICAL & ELECTRONICS ENGINEERING)

Sr. No.	SUBJECTS	COURSE TYPE & CATEGORY	STUDYSCHEME 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	Digital Electronics	Program Core (Theory)	03	-	-	3	40	-	40	60	3	-	-	60	100
3.2	Electric Machine- 1	Program Core (Theory)	04	-	-	4	40	-	40	60	3	-	-	60	100
3.3	Electrical Circuit	Program Core (Practicum)	01	-	04	3	-	60	60		-	40	3	40	100
3.4	Electronics Workshop	Program Core (Practicum)	01	-	04	3	-	60	60	-	-	40	3	40	100
3.5	Digital Electronics (Lab)	Program Core (Practical)	-	-	04	2	-	60	60	-	-	40	3	40	100
3.6	Electric Machine- 1 (Lab)	Program Core (Practical)	-	-	04	2	-	60	60	-	-	40	3	40	100
3.7	(Q) Open Elective -1 **OR**	Open Elective (Theory)	02	-	-	2	50*	-	-	-	-	-	-	-	-
	Advance Skill Development	OPEN Elective (Certification Course)	-	-	-		-	-	-	-	-	-	-	-	-
3.8	*Minor Project	-	-	-	-	2	-	50	50	-	-	-	-	-	50
#Student Centered Activities		-	-	-	09	-	-	50	50	-	-	-	-	-	50
Total			**11**		**25**	**21**	**80**	**340**	**420**	**120**		**160**		**280**	**700**

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 **3.7** 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).

*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.

A. COMPULSORY SUBJECT OF I-SEMESTER ELECTRICAL & ELECTRONICS ENGINEERINGTO BE TAUGHT IN III SEMESTER TO ITI PASSED STUDENTS OF TRADES ARE AS FOLLOWS :

Sr. No.	SUBJECTS	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	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 2.1 To 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 (ELECTRICAL & ELECTRONICS ENGINEERING)

Sr. No.	SUBJECTS	COURSE TYPE & CATEGORY	STUDYSCHEME Periods/Week			Credits	MARKSINEVALUATIONSCHEME								Total Marks of Internal & External
							INTERNALASSESSMENT			EXTERNALASSESSMENT					
			L	T	P		Th	Pr	Tot	Th	Hrs	Pr	Hrs	Tot	
4.1	Electric Power Generation, Transmission And Distribution	Program Core (Theory)	03	-	-	3	40	-	40	60	3	-	-	60	100
4.2	Electric Machine- II	Program Core (Theory)	03	-	-	3	40	-	40	60	3	-	-	60	100
4.3	Programming In C	Program Core (Practicum)	01	-	04	3	-	60	60	-	-	40	3	40	100
4.4	Program Elective -1	Program Core (Practicum)	02		02	3	40	-	40	60	3	-	-	60	100
4.5	Program Elective -2	Program Core (Theory)	03		-	3	40	-	40	60	3	-	-	60	100
4.6	Electric Machine- II (Lab)	Program Core (Practical)	-	-	04	2	-	60	60	-	-	40	3	40	100
4.7	(Q) Open Elective -2 **Or**	Open Elective (Theory)	02	-	-	2	50*	-	-	-	-	-	-	-	-
	Advance Skill Development	OPEN Elective (Certification Course)	-	-	-		-	-	-	-	-	-	-	-	-
4.8	(Q) Essence Of Indian Knowledge And Tradition	Audit Course	02	-	-	-	50*	-	-	-	-	-	-	-	-
#Student Centered Activities			-	-	10	-	-	50	50	-	-	-	-	-	50
Total			**16**		**20**	**19**	**160**	**170**	**330**	**240**	**-**	**80**	**-**	**320**	**650**

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

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

StudentCenteredActivitieswillcompriseofco-curricularactivitieslikeextensionlectures,games, hobby clubs e.g. photography etc., seminars, declamation contests, educational field visits, N.C.C. NSS, library, Cultural Activities and self-study etc.

B. **COMPULSORY SUBJECT OF II- SEMESTER ELECTRICAL & ELECTRONICS ENGINEERINGTO BE TAUGHT IN IV SEMESTER TO ITI PASSED STUDENTS OF TRADES ARE AS FOLLOWS :**

Sr. No.	SUBJECTS	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	
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 2.1 To 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

PROGRAME ELECTIVE-1

SR.NO.	SUBJECT NAME
(1)	ELECTRONIC INSTRUMENTATION AND MEASUREMENT
(2)	FUNDAMENTAL OF COMMUNICATION ENGINEERING

PROGRAME ELECTIVE-2

SR.NO.	SUBJECT NAME
1.	MICROPROCESSOR AND ITS APPLICATIONS
2.	RENEWABLE ENERGY POWER PLANTS

OPEN ELECTIVE-1

SR.NO.	SUBJECT NAME
1.	DISASTER MANAGEMENT or
2.	ENERGY EFFICIENCY AND AUDIT

OPEN ELECTIVE -2

SR.NO.	SUBJECT NAME
1.	ELECTRIC VEHICLE (TATA) or
2.	INDUSTRIAL ROBOTICS (TATA) or
3.	PROJECT MANAGEMENT or
4.	ECONOMICPOLICIESININDIA

OR.

OPEN ELECTIVE

SR.NO.	*CERTIFICATE 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

334 (ELECTRICAL & ELECTRONICSENGINEERING)

FIFTH SEMESTER

Sr. No.	SUBJECTS	COURSE TYPE & CATEGORY	STUDYSCHEME Periods/Week			Credits	MARKSINEVALUATIONSCHEME								TotalMarksofInternal & External
							INTERNALASSESSMENT			EXTERNALASSESSMENT					
			L	T	P		Th	Pr	Tot	Th	Hrs	Pr	Hrs	Tot	
5.1	Switch Gear And Protection	Program Core (Theory)	03	01	-	4	40		40	60	3	-	-	60	100
5.2	Program Elective-3	Program Core (Theory)	03	-	-	3	40		40	60	3	-	-	60	100
5.3	Energy Conservation And Audit	Program Core (Practicum)	02	-	04	4		60	60			40	3	40	100
5.4	Program Elective-4	Program Core (Practicum)	01	-	04	3	-	60	60	-	-	40	3	40	100
5.5	(Q) Indian Constitution	Audit Course	02				50*	-	50*	-	-	-	-	-	-
5.6	Electrical Estimation And Contracting	Program Core (Practicum)	02	-	04	4	-	60	60	-	-	40	3	40	100
5.7	*Summer Internship-II (6 Weeks)		-	-	-	2	-	60	60	-	-	40	3	40	100
	#STUDENTCENTEREDACTIVITIES	-	-	-	10			50	50	-	-	-	-	-	50
Total			**13**	**1**	**22**	**20**	**80**	**290**	**370**	**120**	**-**	**160**	**-**	**280**	**650**

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

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.

(Q) INDIAN CONSTITUTION will be an Audit Course and no credit will be awarded. It is compulsory to pass the examination, but the marks will not be included in division and percentage of obtained mark

334 (ELECTRICAL & ELECTRONICSENGINEERING)

SIXTH SEMESTER **NORMAL PATHWAY**

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	
6.1	Building Electrification	Program Core (Practicum)	02	-	04	4	-	60	60	-	-	40	3	40	100
6.2	Entrepreneurship And Start-UPs	Humanities & Social Science	02	-	-	2	40	-	40	60	3	-	-	60	100
6.3	In House Project	Project	04	-	16	12	-	240	240	-	-	160	-	160	400
6.4	(Q) Open Elective 3 Or	Open Elective 3 (Theory) Or	02	-	-	2	50*	-	-	-	-	-	-	-	N/A
	Advance Skill Development	(Certification Course)					-	-	-	-	-	-	-	-	N/A
#STUDENT CENTERED ACTIVITIES (SCA)			-	-	04	-	-	50	50	-	-	-	-	-	50
TOTAL						**20**									**650**

NOTE: -

1. (Q) It is compulsory to appear and to pass the examination, but marks will not be included for percentage and division of obtained marks.
2. 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).
3. The above scheme can be customized as per the specific requirements of the respective courses.
4. # 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. 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 Periods/Week			Credits(C) (L+T)+P=C	MARKS IN EVALUATION SCHEME								Total Marks of Internal & External	Assessment
							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 On Practice	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.

PROGRAME ELECTIVE-3

SR.NO	SUBJECT NAME
1.	MICROWAVE & RADAR
2.	DIGITAL COMMUNICATION
3.	SOLAR POWER TECHNOLOGIES
4.	ELECTRIC TRACTION

PROGRAME ELECTIVE-4

SR.NO	SUBJECT NAME
1.	ELECTRICAL TESTING & COMMISSIONING
2.	INDUSTRIAL AUTOMATION & CONTROL

OPEN ELECTIVE-3

SR. NO.	SUBJECT NAME
1.	FUNDAMENTALS OF INNOVATION AND DESIGN THINKING
2.	INTERNET OF THINGS

3.	Any Course Of Minimum 02 Credit From (Advance Skill Development) • NPTEL • MOOCS THROUGH SWAYAM • AICTE-ELIS AND CENTRALLY FUNDED TECHNICAL INSTITUTES • C-DAC • CERTIFICATES CONDUCTED BY THE INSTITUTE OF NATIONAL IMPORTANCE (IIT, NIT, IIT ETC.) • ISRO E-LEARNING • COURSES OFFERED BY TATA TECHNOLOGY (Annexure-1) OR OTHER REPUTED ORGNISATION.

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.

LIST OF COURSES CONDUCTED BY TATA TECHNOLOGIES (OPEN ELECTIVES)

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