

STUDY AND EVALUATION SCHEME FOR LATERAL AND ITI PASSED STUDENTS

3rd SEMESTER ELECTRONICS ENGINEERING (Microelectronics)

Sr. No.	SUBJECTS	COURSE TYPE & CATEGORY	STUDY SCHEME Periods/Week			Credits	MARKS IN EVALUATION SCHEME									Total Marks of Internal & External
			L	T	P		INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT						
							Th	Pr	Tot	Th	Hrs	Pr	Hrs	Tot		
3.1	ELECTRONIC DEVICES AND CIRCUITS	PROGRAM CORE (THEORY)	03	-	-	3	40	-	40	60	3	-	-	60	100	
3.2	DIGITAL ELECTRONICS	PROGRAM CORE (THEORY)	03	-	-	3	40	-	40	60	3	-	-	60	100	
3.3	LINEAR INTEGRATED CIRCUIT	PROGRAM CORE (PRACTICUM)	02	-	02	3	40	-	40	60	3	-	-	60	100	
3.4	ELECTRIC CIRCUIT AND NETWORK	PROGRAM CORE (PRACTICUM)	02	-	02	3	-	60	60	-	-	40	3	40	100	
3.5	ELECTRONIC DEVICES AND CIRCUITS (LAB)	PROGRAM CORE (PRACTICAL)	-	-	04	2	-	60	60	-	-	40	3	40	100	
3.6	DIGITAL ELECTRONICS (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	-	50	-	-	-	-	-	N/A	
	*ADVANCE SKILL DEVELOPMENT	OPEN ELECTIVE (Certification Course)					-	-	-	-	-	-	-	N/A		
3.8	**MINOR PROJECT	-	-	-	-	2	-	50	50	-	-	-	-	-	50	
#Student Centered Activities		-	-	-	12	-	-	50	50	-	-	-	-	-	50	
TOTAL		-	12	-	24	20	120	280	400	180	-	120	-	300	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.

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

A. COMPULSORY SUBJECT OF I-SEMESTER ELECTRONICS ENGINEERING (Microelectronics) TO BE TAUGHT IN III SEMESTER TO ITI PASSED STUDENTS OF TRADES ARE AS FOLLOWS:

1. MECHANIC (RADIO & T.V.) 2. MECHANIC (CONSUMER ELECTRONICS) 3. INSTRUMENT MECHANIC 4. ELECTRONICS MECHANIC 5. INFORMATION TECHNOLOGY & ELECTRONIC ENGINEERING 6. ELECTRONICS SECTOR 7. MECHANICS TECHNOLOGY & ELECTRONIC SYSTEM MAINTENANCE

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 2.1 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

4th 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			
4.1	MICROPROCESSOR AND ITS APPLICATIONS	PROGRAM CORE (THEORY)	03	-	-	3	40	-	40	60	3	-	-	60	100		
4.2	PRINCIPLES OF ELECTRONIC COMMUNICATION	PROGRAM CORE (THEORY)	03	-	-	3	40	-	40	60	3	-	-	60	100		
4.3	BASICS OF VLSI DESIGN	PROGRAM CORE (PRACTICUM)	02	-	02	3	40	-	40	60	3	-	-	60	100		
4.4	PROGRAMMING IN C	PROGRAM CORE (PRACTICUM)	01	-	04	3	-	60	60	-	-	40	3	40	100		
4.5	MICROPROCESSOR AND ITS APPLICATIONS	PROGRAM CORE (PRACTICAL)	-	-	06	3	-	60	60	-	-	40	3	40	100		
4.6	PRINCIPLES OF ELECTRONIC COMMUNICATION	PROGRAM CORE (PRACTICAL)	-	-	06	3	-	60	60	-	-	40	3	40	100		
4.7	(Q) OPEN ELECTIVE-2 OR	OPEN ELECTIVE (THEORY)	02	-	-	2	50	-	50	-	-	-	-	-	N/A		
	*ADVANCE SKILL DEVELOPMENT	OPEN ELECTIVE (Certification Course)					-	-	-	-	-	-	-	N/A			
4.8	(Q) ESSENCE OF INDIAN KNOWLEDGE AND TRADITION	AUDIT COURSE	02	-	-	-	50	-	50	-	-	-	-	-	N/A		
#Student Centered Activities		-	-	-	05	-	-	50	50	-	-	-	-	-	50		
TOTAL		-	13	-	23	20	120	230	350	180	-	120	-	300	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 4.7 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).

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

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

A. COMPULSORY SUBJECT OF II- SEMESTER ELECTRONICS ENGINEERING (Microelectronics) TO BE TAUGHT IN IV SEMESTER TO ITI PASSED STUDENTS OF TRADES ARE AS FOLLOWS:

1.MECHANIC (RADIO & T.V.) 2. MECHANIC (CONDUMER ELECTRONICS) 3. INSTUMENT MECHANIC 4. ELECTRONICS MECHANIC 5. INFORMATION TECHNOLOGY & ELECTRONIC ENGINEERING 6. ELECTRONICS SECTOR 7. MECHANICS TECHNOLOGY & ELECTRONIC SYSTEM MAINTENANCE

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		
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

5th 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	MICROELECTRONICS FABRICATION TECHNOLOGY	PROGRAM CORE (THEORY)	04	-	-	4	40		40	60	3			60	100	
5.2	PROGRAM ELECTIVE-1	PROGRAM CORE (THEORY)	03	-	-	3	40		40	60	3			60	100	
5.3	ELECTRONIC SYSTEM DESIGN AND EMBEDDED SYSTEM	PROGRAM CORE (PRACTICUM)	02	-	02	3	40		40	60	3			60	100	
5.4	PROGRAM ELECTIVE-2	PROGRAM CORE (PRACTICUM)	01	-	04	3	-	60	60	-	-	40	3	40	100	
5.5	MICROELECTRONICS FABRICATION TECHNOLOGY (LAB)	PROGRAM CORE (PRACTICAL)	-	-	06	3	-	60	60	-	-	40	3	40	100	
5.6	(Q) OPEN ELECTIVE-3 OR	OPEN ELECTIVE-3* (PRACTICUM)	01	-	03	2	-	50	50	-	-	-	-	-	N/A	
	*ADVANCE SKILL DEVELOPMENT	OPEN ELECTIVE-3											N/A			
5.8	INDIAN CONSTITUTION	AUDIT COURSE	02	-	-	-	50	-	50	-	-	-	-	-	N/A	
5.7	SUMMER INTERNSHIP (4 Weeks after 4 th semester)		-	-	-	2	-	60*	60*	-	-	40*	3	40*	100*	
	#Student Centered Activities	-	-	-	08			50	50	-	-	-	-		50	
Total			13		23	20	120	230	350	180	-	120	-	300	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 5.6 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).

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

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

6th SEMESTER (NORMAL PATHWAY)

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		
6.1	ENTREPRENEURSHIP AND START-UP	HUMANITIES AND SOCIAL SCIENCE	02	-	-	2	40	-	40	60	3	-	-	60	100	
6.2	ELECTIVE (PATHWAY)	PROGRAM CORE (THEORY)	03	-	-	3	40	-	40	60	3	-	-	60	100	
6.3	ELECTIVE (SPECIALISATION)	PROGRAM CORE (PRACTICUM)	02	-	03	3	-	60	60	-	-	40		40	100	
6.4	PROJECT	PROJECT	4	-	16	12	-	240	240	-	-	160	-	160	400	
#Student Centred Activities			-	-	06	-	-	50	50	-	-	-	-	-	50	
Total			11		25	20	80	350	430	120	-	200	-	320	750	

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

OR

(INDUSTRIAL PATHWAY)

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		
6.1	ENTREPRENEURSHIP AND START-UP (Online Mode)	HUMANITIES AND SOCIAL SCIENCE	-	-	-	2	-	-	-	100	3	-	-	100	100	
6.2	INDUSTRIAL HANDS-ON PRACTICE	INDUSTRIAL	-	-	-	12	150*			200**					350	
6.3	INDUSTRIAL PROJECT	INDUSTRIAL	-	-	-	4	50*			50**					100	
6.4	SEMINAR	IN-HOUSE	-	-	-	2	-	-	100	-	-	-	-	-	100	
Total			-	-	-	20	-	-	300	-	-	-	-	350	650	

NOTE: - 1) The industrial training tenure should not be less than 4 months

2) “ENTREPRENEURSHIP AND START-UP” course is mandatory in industrial training option. It will be taught in contact mode by his/her polytechnic institute. After completion the online course, student must appear for a separate exam conducted by Board of Technical Education, Lucknow.

3) In industrial training option student must attend a seminar at his/her polytechnic institute after training to earn 2 credit.

4) Monthly progress report attested by industrial authority must be submitted during industrial training.

5) The industrial unit must evaluate student using the format provided by polytechnic, in both credits and marks.

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:

OPEN ELECTIVE-1

SR.NO.	(Q) THEORY COURSES NAME
1.	PRODUCT DESIGN AND DEVELOPMENT OR
2.	FUNDAMENTALS OF INNOVATION AND DESIGN THINKING

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 OR NEILIT

OPEN ELECTIVE -2

SR.NO.	(Q) THEORY COURSES NAME
1.	ELECTRIC VEHICLE OR
2.	INDUSTRIAL ROBOTICS

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 OR NEILIT
----	--------------------------------------

OPEN ELECTIVE -3

SR.NO.	(Q) THEORY COURSES NAME
1.	AI & ML OR
2.	IOT OR
3.	INDUSTRIAL AUTOMATION & MES

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 OR NEILIT

PROGRAMME ELECTIVE-1

SR.NO	SUBJECT NAME
1)	CONTROL SYSTEM & PLC OR
2)	MICROWAVE AND RADAR OR
3)	DIGITAL COMMUNICATION SYSTEMS

PROGRAMME ELECTIVE-2

SR.NO.	SUBJECT NAME
1)	MECHATRONICS OR
2)	SIGNAL AND IMAGE PROCESSING

ELECTIVE (PATHWAY)

SR.NO.	SUBJECT NAME
1)	MANAGERIAL ECONOMICS OR
2)	FINANCE FUNDAMENTALS OR
3)	CYBER SECURITY OR
4)	DATA SCIENCE

ELECTIVE (SPECIALISATION)

SR.NO.	SUBJECT NAME
1)	MOBILE AND WIRELESS COMMUNICATION OR
2)	VLSI USING VHDL OR
3)	POWER ELECTRONIC DEVICES