GOVERNMENT OF TAMIL NADU
DEPARTMENT OF TECHNICAL EDUCATION

Diploma in Engineering and Technology Regular Curriculum

Regular Curriculum

Regular Curriculum

Diploma in Civil Engineering

Program Outcomes (PO's)

POs are statements that describe what students are expected to know and be able to do upon graduating from the program. These relate to the skills, knowledge, analytical ability, attitude, and behavior that students acquire through the program.

The POs essentially indicate what the students can do from subject-wise knowledge acquired by them during the program. As such, POs define the professional profile of an engineering diploma graduate.

NBA has defined the following seven POs for an Engineering diploma graduate:

PO1: Basic and Discipline-specific knowledge: Apply knowledge of basic mathematics, science and engineering fundamentals and an engineering specialization to solve the engineering problems.

PO2: Problem analysis: Identify and analyse well-defined engineering problems using codified standard methods.

PO3: Design/ development of solutions: Design solutions for well-defined technical problems and assist with the design of systems components or processes to meet specified needs.

PO4: Engineering Tools, Experimentation, and Testing: Apply modern engineering tools and appropriate technique to conduct standard tests and measurements.

PO5: Engineering practices for society, sustainability and environment: Apply appropriate technology in the context of society, sustainability, environment and ethical practices.

PO6: Project Management: Use engineering management principles individually, as a team member or as a leader to manage projects and effectively communicate about well-defined engineering activities.

PO7: Life-long learning: Ability to analyse individual needs and engage in updating in the context of technological changes.

Credit Distribution

Semester	No of Courses	Periods	Credits
Semester I	9	640	20
Semester II	9	625	20
Semester III	8	640	21
Semester IV	7	610	20
Semester V	9	605	21
Semester VI	3	700	18
		Total	**120**

Semester I

#	Course Category	Course Type	Code	Course Title	L-T-P	Period	Credit	End Exam
1	Humanities & Social Science	Theory	TA231110	Tamil Marabu	2-0-0	30	2	Theory
2	Basic Science	Theory	MA231120	Basic Mathematics	3-1-0	60	4	Theory
3	Basic Science	Practicum	PH231330	Basic Physics	2-0-2	60	3	Theory
4	Basic Science	Practicum	CH231340	Basic Chemistry	2-0-2	60	3	Theory
5	Humanities & Social Science	Practicum	EN231350	Communicative English I	1-0-2	45	2	Practical
6	Engineering Science	Practicum	WP231360	Basic Workshop Practices	1-0-2	45	2	Practical
7	Engineering Science	Practical	DS231270	Digital Workplace Skills	0-0-4	60	2	Practical
8	Open Elective	Advanced Skill Certification	BE231280	Basic English for Employability	0-0-4	60	2	Practical
9	Humanities & Social Science	Integrated Learning Experience	-	Growth Lab	-	15	0	-
10	Audit Course	Integrated Learning Experience	-	Induction Program - I	-	40	0	-
11	Audit Course	Integrated Learning Experience	-	I&E/ Club Activity/ Community Initiatives	-	30	0	-
12	Audit Course	Integrated Learning Experience	-	Shop floor Immersion	-	8	0	-
13	Audit Course	Integrated Learning Experience	-	Health & Wellness	-	30	0	-
14	Audit Course	Integrated Learning Experience	-	Student-Led Initiative	-	22	0	-
				Total		565	20	

Note: *Test & Revisions - 60 Periods | Library Hours - 15 Periods*

Semester II

#	Course Category	Course Type	Course Title	L-T-P	Periods	Credit	End Exam
1	Humanities & Social Science	Theory	Tamizhar Thozhilnutpam	2-0-0	30	2	Theory
2	Program Core	Theory	Basics of Civil Engineering	3-0-0	45	3	Theory
3	Basic Science	Practicum	Applied Mathematics - 1	1-0-4	75	3	Practical
4	Basic Science	Practicum	Applied Sciences - 1	2-0-4	90	4	Practical
5	Basic Science	Practicum	Basic Engineering Practices	1-0-2	45	2	Practical
6	Engineering Science	Lab	Drafting Practices - 1	0-0-4	60	2	Practical
7	Humanities & Social Science	Practicum	Communicative English II	1-0-2	45	2	Practical
8	Open Elective	Advanced Skill Certification	Advanced Skills Certification - 2	1-0-2	45	2	NA
9	Humanities & Social Science	Integrated Learning Experience	Growth Lab	-	30	0	-
10	Audit Course	Integrated Learning Experience	I&E/ Club Activity / Community Initiatives	-	30	0	-
11	Audit Course	Integrated Learning Experience	Emerging Technology Seminars	-	8	0	-
12	Audit Course	Integrated Learning Experience	Shop Floor Immersion	-	8	0	-
13	Audit Course	Integrated Learning Experience	Health & Wellness	-	30	0	-
14	Audit Course	Integrated Learning Experience	Student Led Initiative	-	24	0	-
			Total		565	20	

Note: *Test & Revisions - 60 Periods*

Semester III

#	Course Category	Course Type	Course Title	L-T-P	Periods	Credit	End Exam
1	Program Core	Theory	Mechanics of Materials	3-0-0	45	3	Theory
2	Program Core	Theory	Construction Materials & Practice	3-0-0	45	3	Theory
3	Program Core	Practicum	Surveying Practice	1-0-4	75	3	Practical
4	Program Core	Practicum	Building Planning and Drawing	1-0-4	75	3	Practical
5	Program Core	Practicum	Hydraulics	1-0-4	75	3	Practical
6	Program Core	Practicum	Material Testing Lab	1-0-4	75	3	Practical
7	Open Elective	Advanced Skill Certification	Advanced Skills Certification - 3	1-0-2	45	2	NA
8	Humanities & Social Science	Integrated Learning Experience	Growth Lab	0-0-2	30	1	NA
9	Audit Course	Integrated Learning Experience	Induction Program - II	-	16	0	-
10	Audit Course	Integrated Learning Experience	I&E/ Club Activity/ Community Initiatives	-	16	0	-
11	Audit Course	Integrated Learning Experience	Emerging Technology Seminars	-	8	0	-
12	Audit Course	Integrated Learning Experience	Shop floor Immersion	-	6	0	-
13	Audit Course	Integrated Learning Experience	Health & Wellness	-	30	0	-
14	Audit Course	Integrated Learning Experience	Student-Led Initiative	-	24	0	-
			Total		**565**	**21**	

Note: *Test & Revisions - 60 Periods | Library Hours - 15 Periods*

Semester IV

#	Course Category	Course Type	Course Title	L-T-P	Period	Credit	End Exam
1	Program Core	Theory	Mechanics of Structures	3-0-0	45	3	Theory
2	Program Core	Theory	Transportation Engineering	3-0-0	45	3	Theory
3	Program Core	Practicum	Soil Mechanics & Foundation Engineering	2-0-2	60	3	Theory
4	Program Core	Practicum	Concrete Technology	1-0-4	75	3	Practical
5	Engineering Science	Practicum	Construction Practices	1-0-4	75	3	Practical
6	Program Core	Practicum	Estimation & Costing	1-0-4	75	3	Practical
7	Open Elective	Advanced Skill Certification	Advanced Skill Certification - 4	1-0-2	45	2	NA
8	Audit Course	Integrated Learning Experience	I&E /Club Activity/Community Initiatives	-	30	0	-
9	Audit Course	Integrated Learning Experience	Special Interest groups *(Placement training)*	-	30	0	-
10	Audit Course	Integrated Learning Experience	Emerging technology seminars	-	8	0	-
11	Audit Course	Integrated Learning Experience	Shop Floor Immersion	-	8	0	-
12	Audit Course	Integrated Learning Experience	Health & Wellness	-	30	0	-
13	Audit Course	Integrated Learning Experience	Student Led Initiative	-	24	0	-
			Total		550	20	

Note: Test & Revisions - 60 Periods

Semester V

#	Course Category	Course Type	Course Title	L-T-P	Period	Credit	End Exam
1	Program Core	Theory	Design of RCC Structures	3-0-0	45	3	Theory
2	Program Elective	Theory	Elective-1	3-0-0	45	3	Theory
3	Program Core	Practicum	Construction Management & Safety Practice	1-0-4	75	3	Practical
4	Program Core	Practicum	Environmental Engineering	1-0-2	45	2	Practical
5	Program Core	Lab	Computer Applications in Civil Engineering.	0-0-4	60	2	Practical
6	Program Core	Practicum	Planning, Analysis & Design	1-0-2	45	2	Project
7	Humanities & Social Science	Practicum	Innovation & Startup	1-0-2	45	2	Project
8	Project/Internship	Internship	Industrial Training* [Summer Vacation - 90 Hours]	-	-	2	Project
9	Open Elective	Advanced Skill Certification	Advanced Skills Certification - 5	1-0-2	45	2	NA
10	Audit Course	Integrated Learning Experience	Induction program III	-	40	0	-
11	Audit Course	Integrated Learning Experience	Special Interest Groups (Placement Training)	-	40	0	-
12	Audit Course	Integrated Learning Experience	Health & Wellness	-	30	0	-
13	Audit Course	Integrated Learning Experience	Student-Led Initiative	-	30	0	-
			Total		**545**	**21**	

Note: Test & Revisions - 60 Periods

* Internship shall be offered in the summer break between 4th and 5th semester followed by a review and award of credits in the 5th semester

Semester VI

#	Course Category	Course Type	Course Title	L-T-P	Period	Credit	End Semester Exam
1	Open Elective	Theory	Electives-2 (Pathway)	3-0-0	45	3	Theory
2	Open Elective	Practicum	Elective-3 (Specialisation)	1-0-4	75	3	Practical
3	Project/Internship	Project/Internship	In-house Project/Internship/Fellowship	-	540	12	Project
			Total		660	18	

Note:

1. Suggested Tests and Reviews - 40 Periods

2.   For all semesters, the type of End Semester examination for practicum subjects is based on the higher credits towards the theory or practical component of the respective course.

3.   Some of the audit courses are non-credited but compulsory courses that are a part of the program initiative and the implementation process has to be recorded.

4. 1 Credit for Projects is equivalent to 45 periods for projects/internships/fellowship

5.   Electives 3&4 are considered as Open Elective provisioning the option for students to take courses from other departments also if suitable with approval from the Head of the Institution.

Elective 1

#	Course Category	Course Type	Course Title
1	Program Elective	Theory	Mechanical, Electrical, & Plumbing Services
2	Program Elective	Theory	Irrigation & water resource engineering
3	Program Elective	Theory	Defects in Building & Remedies
4	Program Elective	Theory	Urban Planning & Development
5	Program Elective	Theory	Building Bye Laws & Statutory drawings

Elective 2

#	Course Category	Course Type	Course Title
1	Elective | Higher Education	Theory	Advanced Engineering Mathematics
2	Elective | Entrepreneurship	Theory	Entrepreneurship
3	Elective | Technocrats	Theory	Project Management
4	Elective | Technologists	Theory	Advanced Environmental Engineering
5	Elective | Technologists	Theory	Advanced Concrete Technology
6	Elective | Technologists	Theory	Advanced Transportation Engineering

Elective 3 (Specialisation)

#	Course Category	Course Type	Course Title
1	Elective	Practicum	Building Information Modelling (BIM)
2	Elective	Practicum	Structural Detailing for RCC elements
3	Elective	Practicum	Quality Management Process in Construction

Diploma in Computer Engineering

Program Outcomes (PO's)

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PO4: Engineering Tools, Experimentation, and Testing: Apply modern engineering tools and appropriate technique to conduct standard tests and measurements.

PO5: Engineering practices for society, sustainability and environment: Apply appropriate technology in the context of society, sustainability, environment and ethical practices.

PO6: Project Management: Use engineering management principles individually, as a team member or as a leader to manage projects and effectively communicate about well-defined engineering activities.

PO7: Life-long learning: Ability to analyse individual needs and engage in updating in the context of technological changes.

Credit Distribution

Semester	No of Courses	Periods	Credits
Semester I	9	640	20
Semester II	9	625	20
Semester III	8	625	20
Semester IV	7	640	22
Semester V	8	590	20
Semester VI	3	685	18
		Total	120

Semester I

#	Course Category	Course Type	Code	Course Title	L-T-P	Period	Credit	End Exam
1	Humanities & Social Science	Theory	TA231110	Tamil Marabu	2-0-0	30	2	Theory
2	Basic Science	Theory	MA231120	Basic Mathematics	3-1-0	60	4	Theory
3	Basic Science	Practicum	PH231330	Basic Physics	2-0-2	60	3	Theory
4	Basic Science	Practicum	CH231340	Basic Chemistry	2-0-2	60	3	Theory
5	Humanities & Social Science	Practicum	EN231350	Communicative English I	1-0-2	45	2	Practical
6	Engineering Science	Practicum	WP231360	Basic Workshop Practices	1-0-2	45	2	Practical
7	Engineering Science	Practicum	DS231270	Digital Workplace Skills	0-0-4	60	2	Practical
8	Open Elective	Advanced Skill Certification	BE231280	Basic English for Employability	0-0-4	60	2	Practical
9	Humanities & Social Science	Integrated Learning Experience	-	Growth Lab	-	15	0	-
10	Audit Course	Integrated Learning Experience	-	Induction Program - I	-	40	0	-
11	Audit Course	Integrated Learning Experience	-	I&E/ Club Activity/ Community Initiatives	-	30	0	-
12	Audit Course	Integrated Learning Experience	-	Shop floor Immersion	-	6	0	-
13	Audit Course	Integrated Learning Experience	-	Health & Wellness	-	30	0	-
14	Audit Course	Integrated Learning Experience	-	Student-Led Initiative	-	24	0	-
				Total		**565**	**20**	

Note: Test & Revisions - 60 Periods | Library Hours - 15 Periods

Semester II

#	Course Category	Course Type	Course Title	L-T-P	Period	Credit	End Exam
1	Humanities & Social Science	Theory	Tamizhar Thozhilnutpam	2-0-0	30	2	Theory
2	Program Core	Theory	Basics of Computer Engineering	3-0-0	45	3	Theory
3	Basic Science	Practicum	Applied Mathematics - 3	1-0-4	75	3	Practical
4	Basic Science	Practicum	Applied Sciences - 3	2-0-4	90	4	Practical
5	Basic Science	Practicum	Basic Engineering Practices	1-0-2	45	2	Practical
6	Basic Science	Practicum	Drafting Practices - 3	0-0-4	60	2	Practical
7	Humanities & Social Science	Practicum	Communicative English II	1-0-2	45	2	Practical
8	Open Elective	Advanced Skill Certification	Advanced Skills Certification - 2	1-0-2	45	2	NA
9	Humanities & Social Science	Integrated Learning Experience	Growth Lab	-	30	0	-
10	Audit Course	Integrated Learning Experience	I&E / Club Activity / Community Initiatives	-	30	0	-
11	Audit Course	Integrated Learning Experience	Shop Floor Immersion	-	8	0	-
12	Audit Course	Integrated Learning Experience	Emerging technology seminars	-	8	0	-
13	Audit Course	Integrated Learning Experience	Health & Wellness	-	30	0	-
14	Audit Course	Integrated Learning Experience	Student Led Initiative	-	24	0	-
			Total		565	20	

Note: *Test & Revisions - 60 Periods*

Semester III

#	Course Category	Course Type	Course Title	L-T-P	Period	Credit	End Exam
1	Program Core	Theory	Digital Logic Design	3-0-0	45	3	Theory
2	Program Core	Practicum	RDBMS	3-0-2	75	4	Theory
3	Program Core	Practicum	C Programming	1-0-4	75	3	Practical
4	Program Core	Practicum	Web Designing	1-0-4	75	3	Practical
5	Program Core	Practicum	Operating Systems	1-0-2	45	2	Practical
6	Program Core	Lab	Digital Logic Design	0-0-4	60	2	Practical
7	Open Elective	Advanced Skill Certification	Advanced Skills Certification - 3	1-0-2	45	2	NA
8	Humanities & Social Science	Integrated Learning Experience	Growth Lab	0-0-2	30	1	NA
9	Audit Course	Integrated Learning Experience	Induction Program - II	-	16	0	-
10	Audit Course	Integrated Learning Experience	I&E/ Club Activity/ Community Initiatives	-	16	0	-
11	Audit Course	Integrated Learning Experience	Emerging Technology Seminars	-	8	0	-
12	Audit Course	Integrated Learning Experience	Shop floor Immersion	-	6	0	-
13	Audit Course	Integrated Learning Experience	Health & Wellness	-	30	0	-
14	Audit Course	Integrated Learning Experience	Student-Led Initiative	-	24	0	-
			Total		550	20	

Note: Note: Test & Revisions - 60 Periods | Library Hours - 15 Periods

Semester IV

#	Course Category	Course Type	Course Title	L-T-P	Period	Credit	End Semester Exam
1	Program Core	Theory	Computer Networks and Security	3-0-0	45	3	Theory
2	Program Core	Practicum	Data Structures Using Python	3-0-2	75	4	Theory
3	Program Core	Practicum	Java Programming	2-0-4	90	4	Practical
4	Program Core	Practicum	Python Programming	1-0-4	75	3	Practical
5	Program Core	Practicum	E-Publishing Tools	1-0-4	75	3	Practical
6	Program Core	Project/Internship	Scripting Languages	0-0-6	90	3	Practical
7	Open Elective	Advanced Skill Certification	Advanced Skills Certification - 4	1-0-2	45	2	NA
8	Audit Course	Integrated Learning Experience	I&E/ Club Activity/ Community Initiatives	-	30	0	-
9	Audit Course	Integrated Learning Experience	Special Interest Groups *(Placement Training)*	-	30	0	-
10	Audit Course	Integrated Learning Experience	Emerging Technology Seminars	-	8	0	-
11	Audit Course	Integrated Learning Experience	Shop floor Immersion	-	8	0	-
12	Audit Course	Integrated Learning Experience	Health & Wellness	-	30	0	-
13	Audit Course	Integrated Learning Experience	Student-Led Initiative	-	24	0	-
			Total		**580**	**22**	

Note: *Test & Revisions - 60 Periods*

Semester V

#	Course Category	Course Type	Course Title	L-T-P	Period	Credit	End Exam
1	Program Core	Practicum	Cloud Computing	3-0-0	45	3	Theory
2	Program Elective	Theory	Elective-1	3-0-0	45	3	Theory
3	Program Core	Practicum	Computer Hardware and Networking	1-0-4	75	3	Practical
4	Program Elective	Practicum	Elective-2	1-0-4	75	3	Practical
5	Program Core	Lab	Internet of Things & Digital Twins	0-0-4	60	2	Practical
6	Humanities & Social Science	Practicum	Innovation & Startup	1-0-2	45	2	Project
7	Project / Internship	Internship	Industrial Training * [Summer Vacation - 90 Hours]	-	-	2	Project
8	Open Elective	Advanced Skill Certification	Advanced Skills Certification - 5	1-0-2	45	2	NA
9	Audit Course	Integrated Learning Experience	Induction program III	-	40	0	-
10	Audit Course	Integrated Learning Experience	Special Interest Groups (Placement Training)	-	40	0	-
11	Audit Course	Integrated Learning Experience	Health & Wellness	-	30	0	-
12	Audit Course	Integrated Learning Experience	Student-Led Initiative	-	30	0	-
			Total		**530**	**20**	

Note: Test & Revisions - 60 Period

* Internship shall be offered in the summer break between 4th and 5th semester followed by a review and award of credits in the 5th semester

Semester VI

#	Course Category	Course Type	Course Title	L-T-P	Period	Credit	End Exam
1	Open Elective	Theory	Electives-3 (Pathway)	3-0-0	45	3	Theory
2	Open Elective	Practicum	Elective-4 (Specialisation)	2-0-2	60	3	Theory
3	Project / Internship	Project / Internship	In-house Project / Internship / Fellowship	-	540	12	Project
			Total		645	18	

Note:

1. Test & Revisions - 40 Periods

2.   For all semesters, the type of End Semester examination for practicum subjects is based on the higher credits towards the theory or practical component of the respective course.

3.   Some of the audit courses are non-credited but compulsory courses that are a part of the program initiative and the implementation process has to be recorded.

4. 1 Credit for Projects is equivalent to 45 periods for projects/internships/fellowship

5.   Electives 3&4 are considered as Open Elective provisioning the option for students to take courses from other departments also if suitable with approval from the Head of the Institution.

Elective 1

#	Course Category	Course Type	Course Title
1	Program Elective	Theory	Machine Learning
2	Program Elective	Theory	Data Warehousing/Data Lake
3	Program Elective	Theory	Ethical Hacking
4	Program Elective	Theory	Agile Product Development
5	Program Elective	Theory	Technical Writing/KPO

Elective 2

#	Course Category	Course Type	Course Title
1	Program Elective	Practicum	Data Analytics
2	Program Elective	Practicum	Mobile Computing
3	Program Elective	Practicum	Component Based Technologies
4	Program Elective	Practicum	Multimedia Systems

Elective 3 (Pathway)

#	Course Category	Course Type	Course Title
1	Elective | Higher Education	Theory	Advanced Engineering Mathematics
2	Elective | Entrepreneurship	Theory	Entrepreneurship
3	Elective | Technocrats	Theory	Project Management
4	Elective | Technocrats	Theory	Finance Fundamentals
7	Elective | Technologists	Theory	RPA
8	Elective | Technologists	Theory	5G
9	Elective | Technologists	Theory	DevOps
10	Elective | Technologists	Theory	ITSM

Elective 4 (Specialisation)

#	Course Category	Course Type	Course Title
1	Elective	Practicum	Data Science
2	Elective	Practicum	Cloud Platform (AWS/AZURE/Etc)
3	Elective	Practicum	Full Stack Developer
4	Elective	Practicum	IT Networks & Security
5	Elective	Practicum	Data Visualisation
6	Elective	Practicum	Advance DBMS
7	Elective	Practicum	Game Development
8	Elective	Practicum	Mobile App Development
9	Elective	Practicum	UI & UX Design
10	Elective	Practicum	Applied AI
11	Elective	Practicum	Industrial Grid

Diploma in Electrical and Electronics Engineering

Program Outcomes (PO's)

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		Total	120

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3	Basic Science	Practicum	PH231330	Basic Physics	2-0-2	60	3	Theory
4	Basic Science	Practicum	CH231340	Basic Chemistry	2-0-2	60	3	Theory
5	Humanities & Social Science	Practicum	EN231350	Communicative English I	1-0-2	45	2	Practical
6	Engineering Science	Practicum	WP231360	Basic workshop Practices	1-0-2	45	2	Practical
7	Engineering Science	Practicum	DS231270	Digital Workplace Skills	0-0-4	60	2	Practical
8	Open Elective	Advanced Skill Certification	BE231280	Basic English for Employability	0-0-4	60	2	Practical
9	Humanities & Social Science	Integrated Learning Experience	-	Growth Lab	-	15	0	-
10	Audit Course	Integrated Learning Experience	-	Induction Program - I	-	40	0	-
11	Audit Course	Integrated Learning Experience	-	I&E/ Club Activity/ Community Initiatives	-	30	0	-
12	Audit Course	Integrated Learning Experience	-	Shop floor Immersion	-	6	0	-
13	Audit Course	Integrated Learning Experience	-	Health & Wellness	-	30	0	-
14	Audit Course	Integrated Learning Experience	-	Student-Led Initiative	-	24	0	-
					Total	**565**	**20**	

Note: *Test & Revisions - 60 Periods | Library Hours - 15 Periods*

Semester II

#	Course Category	Course Type	Course Title	L-T-P	Period	Credit	End Exam
1	Humanities & Social Science	Theory	Tamizhar Thozhilnutpam	2-0-0	30	2	Theory
2	Program Core	Theory	Basic of Electrical & Electronics Engineering	3-0-0	45	3	Theory
3	Basic Science	Practicum	Applied Mathematics -3	1-0-4	75	3	Practical
4	Basic Science	Practicum	Applied Sciences - 2	2-0-4	90	4	Practical
5	Basic Science	Practicum	Basic Engineering Practices	1-0-2	45	2	Practical
6	Engineering Science	Practicum	Drafting Practices - 2	0-0-4	60	2	Practical
7	Humanities & Social Science	Practicum	Communicative English II	1-0-2	45	2	Practical
8	Open Elective	Advanced Skill Certification	Advanced Skills Certification - 2	1-0-2	45	2	NA
9	Humanities & Social Science	Integrated Learning Experience	Growth Lab	-	30	0	-
10	Audit Course	Integrated Learning Experience	Emerging Technology Seminars	-	30	0	-
11	Audit Course	Integrated Learning Experience	I&E/ Club Activity/ Community Initiatives	-	8	0	-
12	Audit Course	Integrated Learning Experience	Shop floor Immersion	-	8	0	-
13	Audit Course	Integrated Learning Experience	Health & Wellness	-	30	0	-
14	Audit Course	Integrated Learning Experience	Student-Led Initiative	-	24	0	-
			Total		565	19	

Note: *Test & Revisions - 60 Periods*

Semester III

#	Course Category	Course Type	Course Title	L-T-P	Period	Credit	End Exam
1	Program Core	Theory	Electrical Machines – 1	3-0-0	45	3	Theory
2	Program Core	Theory	Electrical Circuit Theory	3-0-0	45	3	Theory
3	Program Core	Practicum	Sensors & Measurement	2-0-4	90	4	Practical
4	Program Core	Practicum	Analog & Digital Electronics	2-0-4	90	4	Practical
5	Engineering Science	Practicum	Programming in C	1-0-2	45	2	Practical
6	Program Core	Practical/Lab	Electrical Machines – 1	0-0-4	60	2	Practical
7	Open Elective	Advanced Skill Certification	Advanced Skills Certification - 3	1-0-2	45	2	NA
8	Humanities & Social Science	Integrated Learning Experience	Growth Lab	0-0-2	30	1	NA
9	Audit Course	Integrated Learning Experience	Induction Program - II	-	16	0	-
10	Audit Course	Integrated Learning Experience	I&E/ Club Activity/ Community Initiatives	-	16	0	-
11	Audit Course	Integrated Learning Experience	Emerging Technology Seminars	-	8	0	-
12	Audit Course	Integrated Learning Experience	Shop floor Immersion	-	6	0	-
13	Audit Course	Integrated Learning Experience	Health & Wellness	-	30	-	-
14	Audit Course	Integrated Learning Experience	Student-Led Initiative	-	24	-	-
			Total		550	21	

Note: *Test & Revisions - 60 Periods | Library Hours - 15 Periods*

Semester IV

#	Course Category	Course Type	Course Title	L-T-P	Period	Credit	End Exam
1	Program Core	Theory	Electrical Machines – 2	3-0-0	45	3	Theory
2	Program Core	Theory	Generation & Transmission	3-0-0	45	3	Theory
3	Program Core	Theory	Microcontroller & Embedded Systems	2-0-0	30	2	Theory
4	Program Core	Practicum	Electrical CAD Design	1-0-4	75	3	Practical
5	Program Core	Practicum	Servicing of Electrical Appliances	1-0-2	45	2	Practical
6	Program Core	Lab	Electrical Machines – 2	0-0-4	60	2	Practical
7	Program Core	Lab	Microcontroller & Embedded System	0-0-4	60	2	Practical
8	Open Elective	Advanced Skill Certification	Advanced Skills Certification - 4	1-0-2	45	2	NA
9	Audit Course	Integrated Learning Experience	I&E/ Club Activity/ Community Initiatives	-	30	0	-
10	Audit Course	Integrated Learning Experience	Special Interest Groups *(Placement Training)*	-	30	0	-
11	Audit Course	Integrated Learning Experience	Emerging Technology Seminars	-	8	0	-
12	Audit Course	Integrated Learning Experience	Shop floor Immersion	-	8	0	-
13	Audit Course	Integrated Learning Experience	Health & Wellness	-	30	0	-
14	Audit Course	Integrated Learning Experience	Student-Led Initiative	-	24	0	-
			Total		**535**	**19**	

Note: *Test & Revisions - 60 Periods*

Semester V

#	Course Category	Course Type	Course Title	L-T-P	Period	Credit	End Exam
1	Program Core	Theory	Power System Protection, Distribution & Utilisation	3-0-0	45	3	Theory
2	Program Core	Theory	E- Vehicle	3-0-0	45	3	Theory
3	Program Core	Practicum	Power Electronics	1-0-4	75	3	Practical
4	Program Core	Practicum	PLC & Automation	2-0-4	90	4	Practical
5	Program Elective	Practicum	Elective -1	1-0-4	75	3	Practical
6	Humanities & Social Science	Practicum	Innovation & Startup	1-0-2	45	2	Project
7	Project/Internship	Project/Internship	Industrial Training* [Summer Vacation - 90 Hours]	-	-	2	Project
8	Open Elective	Advanced Skill Certification	Advanced Skills Certification - 5	1-0-2	45	2	NA
9	Audit Course	Integrated Learning Experience	Induction program III	-	40	0	-
10	Audit Course	Integrated Learning Experience	Special Interest Groups (Placement Training)	-	40	0	-
11	Audit Course	Integrated Learning Experience	Health & Wellness	-	30	0	-
12	Audit Course	Integrated Learning Experience	Student-Led Initiative	-	30	0	-
			Total		560	22	

Note: Test & Revisions - 60 Periods

* Internship shall be offered in the summer break between 4th and 5th semester followed by a review and award of credits in the 5th semester

Semester VI

#	Course Category	Course Type	Course Title	L-T-P	Period	Credit	End Exam
1	Program Elective	Theory	Electives-2 (Pathway)	3-0-0	45	3	Theory
2	Program Elective	Practicum	Elective-3 (Specialisation)	2-0-2	60	3	Theory
3	Industrial Training / Project	Project / Internship	In-house Project / Internship / Fellowship	-	540	12	Project
			Total		645	18	

Note:

1. Test & Revisions - 40 Periods

2.   For all semesters, the type of End Semester examination for practicum subjects is based on the higher credits towards the theory or practical component of the respective course.

3.   Some of the audit courses are non-credited but compulsory courses that are a part of the program initiative and the implementation process has to be recorded.

4. 1 Credit for Projects is equivalent to 45 periods for projects/internships/fellowship

5.   Electives 3 & 4 are considered as Open Elective, providing the option for students to take courses from other departments also if suitable with approval from the Head of the Institution.

Elective 1

#	Course Category	Course Type	Course Title
1	Program Elective	Practicum	IoT & Application
2	Program Elective	Practicum	Computer Hardware & Networking
3	Program Elective	Practicum	Control of Electrical Machines
4	Program Elective	Practicum	Auto mechatronics
5	Program Elective	Practicum	Mechanical Engineering

Elective 2

#	Course Category	Course Type	Course Title
1	Elective | Higher Education	Theory	Advanced Engineering Mathematics
2	Elective | Entrepreneurship	Theory	Entrepreneurship
3	Elective | Technocrats	Theory	Project Management
4	Elective | Technocrats	Theory	Finance Fundamentals
5	Elective | Technocrats	Theory	Industrial Management & Safety
6	Elective | Technologists	Theory	Battery Management System
7	Elective | Technologists	Theory	Industrial Automation

Electives 3 (Specialisation)

#	Course Category	Course Type	Course Title
1	Elective	Practicum	HVAC (R & AC)
2	Elective	Practicum	PCB Design
3	Elective	Practicum	Electronics Product Design
4	Elective	Practicum	Environment and Green Energy
5	Elective	Practicum	Energy Conservation & Auditing
6	Elective	Practicum	Drives & Motor Control

Diploma in Electronics and Communication Engineering

Program Outcomes (PO's)

POs are statements that describe what students are expected to know and be able to do upon graduating from the program. These relate to the skills, knowledge, analytical ability, attitude, and behavior that students acquire through the program.

The POs essentially indicate what the students can do from subject-wise knowledge acquired by them during the program. As such, POs define the professional profile of an engineering diploma graduate.

NBA has defined the following seven POs for an Engineering diploma graduate:

PO1: Basic and Discipline-specific knowledge: Apply knowledge of basic mathematics, science and engineering fundamentals and an engineering specialization to solve the engineering problems.

PO2: Problem analysis: Identify and analyse well-defined engineering problems using codified standard methods.

PO3: Design/ development of solutions: Design solutions for well-defined technical problems and assist with the design of systems components or processes to meet specified needs.

PO4: Engineering Tools, Experimentation, and Testing: Apply modern engineering tools and appropriate technique to conduct standard tests and measurements.

PO5: Engineering practices for society, sustainability and environment: Apply appropriate technology in the context of society, sustainability, environment and ethical practices.

PO6: Project Management: Use engineering management principles individually, as a team member or as a leader to manage projects and effectively communicate about well-defined engineering activities.

PO7: Life-long learning: Ability to analyse individual needs and engage in updating in the context of technological changes.

Credit Distribution

Semester	No of Courses	Periods	Credits
Semester I	9	640	20
Semester II	9	625	20
Semester III	8	610	20
Semester IV	7	625	20
Semester V	8	610	22
Semester VI	3	685	18
		Total	120

Semester I

#	Course Category	Course Type	Code	Course Title	L-T-P	Period	Credit	End Exam
1	Humanities & Social Science	Theory	TA231110	Tamil Marabu	2-0-0	30	2	Theory
2	Basic Science	Theory	MA231120	Basic Mathematics	3-1-0	60	4	Theory
3	Basic Science	Practicum	PH231330	Basic Physics	2-0-2	60	3	Theory
4	Basic Science	Practicum	CH231340	Basic Chemistry	2-0-2	60	3	Theory
5	Humanities & Social Science	Practicum	EN231350	Communicative English I	1-0-2	45	2	Practical
6	Engineering Science	Practicum	WP231360	Basic Workshop Practices	1-0-2	45	2	Practical
7	Engineering Science	Practicum	DS231270	Digital Workplace Skills	0-0-4	60	2	Practical
8	Open Elective	Advanced Skill Certification	BE231280	Basic English for Employability	0-0-4	60	2	Practical
9	Humanities & Social Science	Integrated Learning Experience	-	Growth Lab	-	15	0	-
10	Audit Course	Integrated Learning Experience	-	Induction Program - I	-	40	0	-
11	Audit Course	Integrated Learning Experience	-	I&E/ Club Activity/ Community Initiatives	-	30	0	-
12	Audit Course	Integrated Learning Experience	-	Shop floor Immersion	-	6	0	-
13	Audit Course	Integrated Learning Experience	-	Health & Wellness	-	30	0	-
14	Audit Course	Integrated Learning Experience	-	Student-Led Initiative	-	24	0	-
				Total		**565**	**20**	

Note: Test & Revisions - 60 Periods | Library Hours - 15 Periods

Semester II

#	Course Category	Course Type	Course Title	L-T-P	Period	Credit	End Exam
1	Program Core	Theory	Basics of Electrical & Electronics Engineering	3-0-0	45	3	Theory
2	Humanities & Social Science	Theory	Tamizhar Thozhilnutpam	2-0-0	30	2	Theory
3	Basic Science	Practicum	Applied Mathematics - 3	1-0-4	75	3	Practical
4	Basic Science	Practicum	Applied Sciences - 4	2-0-4	90	4	Practical
5	Basic Science	Practicum	Basic Engineering Practices	1-0-2	45	2	Practical
6	Engineering Science	Practicum	Drafting Practices - 4	0-0-4	60	2	Practical
7	Humanities & Social Science	Practicum	Communicative English II	1-0-2	45	2	Practical
8	Open Elective	Advanced Skill Certification	Advanced Skills Certification - 2	1-0-2	45	2	NA
9	Humanities & Social Science	Integrated Learning Experience	Growth Lab	-	30	0	-
10	Audit Course	Integrated Learning Experience	I&E/ Club Activity / Community Initiatives	-	30	0	-
11	Audit Course	Integrated Learning Experience	Emerging Technology Seminars	-	8	0	-
12	Audit Course	Integrated Learning Experience	Shop Floor Immersion	-	8	0	-
13	Audit Course	Integrated Learning Experience	Health & Wellness	-	30	0	-
14	Audit Course	Integrated Learning Experience	Student Led Initiative	-	24	0	-
			Total		**565**	**20**	

Note: *Test & Revisions - 60 Periods*

Semester III

#	Course Category	Course Type	Course Title	L-T-P	Period	Credit	End Exam
1	Program Core	Theory	Electronic Circuits	4-0-0	60	4	Theory
2	Program Core	Theory	Digital Electronics	4-0-0	60	4	Theory
3	Program Core	Practicum	Basics of Communication Engineering	1-0-4	75	3	Practical
4	Engineering Science	Practicum	Electrical Circuits & Machines	1-0-2	45	2	Practical
5	Program Core	Lab	Digital Electronics	0-0-4	60	2	Practical
6	Program Core	Lab	Electronic Circuits	0-0-4	60	2	Practical
7	Open Elective	Advanced Skill Certification	Advanced Skills Certification - 3	1-0-2	45	2	NA
8	Humanities & Social Science	Integrated Learning Experience	Growth Lab	0-0-2	30	1	NA
9	Audit Course	Integrated Learning Experience	Induction Program - II	-	16	0	-
10	Audit Course	Integrated Learning Experience	I&E/ Club Activity/ Community Initiatives	-	16	0	-
11	Audit Course	Integrated Learning Experience	Emerging Technology Seminars	-	8	0	-
12	Audit Course	Integrated Learning Experience	Shop floor Immersion	-	6	0	-
13	Audit Course	Integrated Learning Experience	Health & Wellness	-	30	0	-
14	Audit Course	Integrated Learning Experience	Student-Led Initiative	-	24	0	-
			Total		**535**	**20**	

Note: Test & Revisions - 60 Periods | Library Hours - 15 Periods

Semester IV

#	Course Category	Course Type	Course Title	L-T-P	Period	Credit	End Exam
1	Program Core	Theory	Microcontroller	4-0-0	60	4	Theory
2	Program Core	Theory	Digital Communication	3-0-0	45	3	Theory
3	Program Core	Practicum	Linear Integrated Circuits	1-0-4	75	3	Practical
4	Program Core	Practicum	Measuring Instruments and sensors	1-0-4	75	3	Practical
5	Engineering Science	Practicum	Programming in C	1-0-4	75	3	Practical
6	Program Core	Project	Microcontroller	0-0-4	60	2	Project
7	Open Elective	Advanced Skill Certification	Advanced Skills Certification - 3	1-0-2	45	2	NA
9	Audit Course	Integrated Learning Experience	I&E / Club Activity / Community Initiatives	-	30	0	-
10	Audit Course	Integrated Learning Experience	Special Interest groups *(Placement training)*	-	30	0	-
11	Audit Course	Integrated Learning Experience	Emerging technology seminars	-	8	0	-
12	Audit Course	Integrated Learning Experience	Shop Floor Immersion	-	8	0	-
13	Audit Course	Integrated Learning Experience	Health & Wellness	-	30	0	-
14	Audit Course	Integrated Learning Experience	Student Led Initiative	-	24	0	-
			Total		**565**	**20**	

Note: *Test & Revisions - 60 Periods*

Semester V

#	Course Category	Course Type	Course Title	L-T-P	Period	Credit	End Exam
1	Program Core	Practicum	Advanced Communication Systems	2-0-2	60	3	Theory
2	Program Core	Practicum	Mobile Communication	2-0-2	60	3	Theory
3	Program Elective	Practicum	Elective - 1	1-0-4	75	3	Practical
4	Program Elective	Theory	Elective - 2	3-0-0	45	3	Theory
5	Program Core	Practicum	Embedded Systems	2-0-4	90	4	Practical
6	Humanities & Social Science	Practicum	Innovation & Startup	1-0-2	45	2	Project
7	Project/Internship	Internship	Industrial Training [Summer Vacation - 90 Hours]	-	-	2	Project
8	Open Elective	Advanced Skill Certification	Advanced Skills Certification - 5	1-0-2	45	2	NA
9	Audit Course	Integrated Learning Experience	Induction program III	-	40	0	-
10	Audit Course	Integrated Learning Experience	Special Interest Groups (Placement Training)	-	30	0	-
11	Audit Course	Integrated Learning Experience	Health & Wellness	-	30	0	-
12	Audit Course	Integrated Learning Experience	Student-Led Initiative	-	30	0	-
			Total		550	22	

Note: Test & Revisions - 60 Periods

* Internship shall be offered in the summer break between 4th and 5th semester followed by a review and award of credits in the 5th semester

Semester VI

#	Course Category	Course Type	Course Title	L-T-P	Period	Credit	End Semester Exam
1	Open Elective	Theory	Electives-3 (Pathway)	3-0-0	45	3	Theory
2	Open Elective	Practicum	Elective-4 (Specialisation)	2-0-2	60	3	Theory
3	Project / Internship	Project / Internship	In-house Project / Internship / Fellowship	-	540	12	Project
			Total		645	18	

Note:

1. Test & Revisions - 40 Periods

*2.	For all semesters, the type of End Semester examination for practicum subjects is based on the higher credits towards the theory or practical component of the respective course.*

*3.	Some of the audit courses are non-credited but compulsory courses that are a part of the program initiative and the implementation process has to be recorded.*

4. 1 Credit for Projects is equivalent to 45 periods for projects/internships/fellowship

*5.	Electives 3 & 4 are considered as Open Elective, providing the option for students to take courses from other departments also if suitable with approval from the Head of the Institution.*

Elective 1

#	Course Category	Course Type	Course Title
1	Program Elective	Practicum	Industrial automation
2	Program Elective	Practicum	Robotics
3	Program Elective	Practicum	VLSI Using Verilog
4	Program Elective	Practicum	PCB Design & Assembly
5	Program Elective	Practicum	Industrial IoT
6	Program Elective	Practicum	Multimedia Systems

Electives 2

#	Course Category	Course Type	Course Title
1	Program Elective	Theory	Powers Electronics and Drives
2	Program Elective	Theory	Medical Instrumentation
3	Program Elective	Theory	Communication Networks & Security
4	Program Elective	Theory	Digital Manufacturing Technology
5	Program Elective	Theory	Signal & Image Processing
6	Program Elective	Theory	Electronic System Design

Elective 3 (Pathway)

#	Course Category	Course Type	Course Title
1	Elective | Higher Education	Theory	Advanced Engineering Mathematics
2	Elective | Entrepreneurship	Theory	Entrepreneurship
3	Elective | Technocrats	Theory	Project Management
4	Elective | Technocrats	Theory	Finance Fundamentals
5	Elective | Technologists	Theory	Consumer Electronics
6	Elective | Technologists	Theory	ASIC Design

Electives 4 (Specialisation)

#	Course Category	Course Type	Course Title
1	Elective	Practicum	EV Technologies
2	Elective	Practicum	Computer Hardware Servicing & Networking
3	Elective	Practicum	Virtual Instrumentation [Labview]
4	Elective	Practicum	Surface Mounted Devices
5	Elective	Practicum	Wireless Communication
6	Elective	Practicum	AR/VR

Diploma in Mechanical Engineering

Program Outcomes (PO's)

POs are statements that describe what students are expected to know and be able to do upon graduating from the program. These relate to the skills, knowledge, analytical ability, attitude, and behavior that students acquire through the program.

The POs essentially indicate what the students can do from subject-wise knowledge acquired by them during the program. As such, POs define the professional profile of an engineering diploma graduate.

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PO3: Design/ development of solutions: Design solutions for well-defined technical problems and assist with the design of systems components or processes to meet specified needs.

PO4: Engineering Tools, Experimentation, and Testing: Apply modern engineering tools and appropriate technique to conduct standard tests and measurements.

PO5: Engineering practices for society, sustainability and environment: Apply appropriate technology in the context of society, sustainability, environment and ethical practices.

PO6: Project Management: Use engineering management principles individually, as a team member or as a leader to manage projects and effectively communicate about well-defined engineering activities.

PO7: Life-long learning: Ability to analyse individual needs and engage in updating in the context of technological changes.

Credit Distribution

Semester	No of Courses	Periods	Credits
Semester I	9	640	20
Semester II	9	625	20
Semester III	8	640	21
Semester IV	7	625	19
Semester V	8	620	22
Semester VI	3	685	18
		Total	**120**

Semester I

#	Course Category	Course Type	Code	Course Title	L-T-P	Period	Credit	End Exam
1	Humanities & Social Science	Theory	TA231110	Tamil Marabu	2-0-0	30	2	Theory
2	Basic Science	Theory	MA231120	Basic Mathematics	3-1-0	60	4	Theory
3	Basic Science	Practicum	PH231330	Basic Physics	2-0-2	60	3	Theory
4	Basic Science	Practicum	CH231340	Basic Chemistry	2-0-2	60	3	Theory
5	Humanities & Social Science	Practicum	EN231350	Communicative English I	1-0-2	45	2	Practical
6	Engineering Science	Practicum	WP231360	Basic Workshop Practices	1-0-2	45	2	Practical
7	Engineering Science	Practicum	DS231270	Digital Workplace Skills	0-0-4	60	2	Practical
8	Open Elective	Advanced Skill Certification	BE231280	Basic English for Employability	0-0-4	60	2	Practical
9	Humanities & Social Science	Integrated Learning Experience	-	Growth Lab	-	15	0	-
10	Audit Course	Integrated Learning Experience	-	Induction Program - I	-	40	0	-
11	Audit Course	Integrated Learning Experience	-	I&E/ Club Activity/ Community Initiatives	-	30	0	-
12	Audit Course	Integrated Learning Experience	-	Shop floor Immersion	-	6	0	-
13	Audit Course	Integrated Learning Experience	-	Health & Wellness	-	30	0	-
14	Audit Course	Integrated Learning Experience	-	Student-Led Initiative	-	24	0	-
				Total		565	20	

Note: Test & Revisions - 60 Periods | Library Hours - 15 Periods

Semester II

#	Course Category	Course Type	Course Title	L-T-P	Period	Credit	End Exam
1	Program Core	Theory	Basics of Mechanical Engineering	3-0-0	45	3	Theory
2	Humanities & Social Science	Theory	Tamizhar Thozhilnutpam	2-0-0	30	2	Theory
3	Basic Science	Practicum	Applied Mathematics -2	1-0-4	75	3	Practical
4	Basic Science	Practicum	Applied Sciences - 5	2-0-4	90	4	Practical
5	Basic Science	Practicum	Basic Engineering Practices	1-0-2	45	2	Practical
6	Engineering Science	Practicum	Drafting Practices - 5	0-0-4	60	2	Practical
7	Humanities & Social Science	Practicum	Communicative English II	1-0-2	45	2	Practical
8	Open Elective	Advanced Skill Certification	Advanced Skills Certification - 2	1-0-2	45	2	NA
9	Humanities & Social Science	Integrated Learning Experience	Growth Lab	-	30	0	-
10	Audit Course	Integrated Learning Experience	Emerging Technology Seminars	-	30	0	-
11	Audit Course	Integrated Learning Experience	I&E/ Club Activity/ Community Initiatives	-	8	0	-
12	Audit Course	Integrated Learning Experience	Shop floor Immersion	-	8	0	-
13	Audit Course	Integrated Learning Experience	Health & Wellness	-	30	0	-
14	Audit Course	Integrated Learning Experience	Student-Led Initiative	-	24	0	-
			Total		565	20	

Note: Test & Revisions - 60 Periods

Semester III

#	Course Category	Course Type	Course Title	L-T-P	Period	Credit	End Exam
1	Program Core	Theory	Manufacturing Process	3-0-0	45	3	Theory
2	Program Core	Practicum	Strength of Materials	3-0-2	75	4	Theory
3	Program Core	Practicum	Sensors and Actuators	1-0-4	75	3	Practical
4	Program Core	Practicum	Machine Tool Technology	2-0-2	60	3	Theory
5	Program Core	Practicum	Production Drawing and Modelling	1-0-4	75	3	Practical
6	Program Core	Practical/Lab	Workshop Practices	0-0-4	60	2	Practical
7	Open Elective	Advanced Skill Certification	Advanced Skills Certification - 3	1-0-2	45	2	NA
8	Humanities & Social Science	Integrated Learning Experience	Growth Lab	0-0-2	30	1	NA
9	Audit Course	Integrated Learning Experience	Induction Program - II	-	16	0	-
10	Audit Course	Integrated Learning Experience	I&E/ Club Activity/ Community Initiatives	-	16	0	-
11	Audit Course	Integrated Learning Experience	Emerging Technology Seminars	-	8	0	-
12	Audit Course	Integrated Learning Experience	Shop floor Immersion	-	6	0	-
13	Audit Course	Integrated Learning Experience	Health & Wellness	-	30	0	-
14	Audit Course	Integrated Learning Experience	Student-Led Initiative	-	24	0	-
			Total		565	21	

Note: Test & Revisions - 60 Periods | Library Hours - 15 Periods

Semester IV

#	Course Category	Course Type	Course Title	L-T-P	Period	Credit	End Exam
1	Program Core	Theory	Advanced Manufacturing Technology	3-0-0	45	3	Theory
2	Program Core	Practicum	Fluid Mechanics	2-0-2	60	3	Theory
3	Program Core	Practicum	Metrology and Measurements	1-0-4	75	3	Practical
4	Program Core	Practicum	Industrial drives and control	1-0-4	75	3	Practical
5	Program Core	Practicum	Heat power engineering	1-0-4	75	3	Practical
6	Program Core	Project/Internship	Advanced Manufacturing Technology	0-0-4	60	2	Project
7	Open Elective	Advanced Skill Certification	Advanced Skills Certification - 4	1-0-2	45	2	NA
8	Audit Course	Integrated Learning Experience	I&E/ Club Activity/ Community Initiatives	-	30	0	-
9	Audit Course	Integrated Learning Experience	Special Interest Groups *(Placement Training)*	-	30	0	-
10	Audit Course	Integrated Learning Experience	Emerging Technology Seminars	-	8	0	-
11	Audit Course	Integrated Learning Experience	Shop floor Immersion	-	8	0	-
12	Audit Course	Integrated Learning Experience	Health & Wellness	-	30	0	-
13	Audit Course	Integrated Learning Experience	Student-Led Initiative	-	24	0	-
			Total		**565**	**19**	

Note: Test & Revisions - 60 Periods

Semester V

#	Course Category	Course Type	Course Title	L-T-P	Period	Credit	End Exam
1	Program Core	Theory	Elements of Machine Design	3-0-0	45	3	Theory
2	Program Elective	Theory	Elective-2	2-0-2	60	3	Theory
3	Program Core	Practicum	Industrial Engineering and Management	3-0-2	75	4	Theory
4	Program Core	Practicum	Maintenance, Repairs & Service	1-0-4	75	3	Practical
5	Program Elective	Practicum	Elective-1	1-0-4	75	3	Practical
6	Humanities & Social Science	Practicum	Innovation & Startup	1-0-2	45	2	Project
7	Project/Internship	Project/Internship	Industrial Training* [Summer Vacation - 90 Hours]	-	-	2	Project
8	Open Elective	Advanced Skill Certification	Advanced Skills Certification - 5	1-0-2	45	2	NA
9	Audit Course	Integrated Learning Experience	Induction program III	-	40	0	-
10	Audit Course	Integrated Learning Experience	Special Interest Groups (Placement Training)	-	40	0	-
11	Audit Course	Integrated Learning Experience	Health & Wellness	-	30	0	-
12	Audit Course	Integrated Learning Experience	Student-Led Initiative	-	30	0	-
			Total		560	22	

Note: Test & Revisions - 60 Periods

* Internship shall be offered in the summer break between 4th and 5th semester followed by a review and award of credits in the 5th semester

Semester VI

#	Course Category	Course Type	Course Title	L-T-P	Period	Credit	End Semester Exam
1	Open Elective	Theory	Electives-3 (Pathway)	3-0-0	45	3	Theory
2	Open Elective	Practicum	Elective-4 (Specialisation)	2-0-2	60	3	Theory
3	Industrial Training / Project	Project/Internship	In-house Project / Internship / Fellowship	-	540	12	Project
			Total		**645**	**18**	

Note:

1. Test & Revisions - 40 Periods

2.   For all semesters, the type of End Semester examination for practicum subjects is based on the higher credits towards the theory or practical component of the respective course.

3. Some of the audit courses are non-credited but compulsory courses that are a part of the program initiative and the implementation process has to be recorded.

4. 1 Credit for Projects is equivalent to 45 periods for projects/internships/fellowship.

5.   Electives 3&4 are considered as Open Elective provisioning the option for students to take courses from other departments also if suitable with approval from the Head of the Institution.

Elective 1

#	Course Category	Course Type	Course Title
1	Program Elective	Practicum	CNC Programming
2	Program Elective	Practicum	Process Automation
3	Program Elective	Practicum	Industrial IoT
4	Program Elective	Practicum	Advanced Welding Technologies
5	Program Elective	Practicum	Industrial Robotics
6	Program Elective	Practicum	HVAC Systems and Components

Elective 2

#	Course Category	Course Type	Course Title
1	Program Elective	Theory	Modern QC Tools
2	Program Elective	Theory	Composite Materials
3	Program Elective	Theory	Autonomous Vehicles
4	Program Elective	Theory	Industrial Refrigeration
5	Program Elective	Theory	Value Engineering
6	Program Elective	Theory	Green Manufacturing
7	Program Elective	Theory	Lean Manufacturing

Elective 3 (Pathway)

#	Course Category	Course Type	Course Title
1	Elective	Higher Education	Theory	Advanced Engineering Mathematics
2	Elective	Entrepreneurship	Theory	Entrepreneurship
3	Elective	Technocrats	Theory	Project Management
4	Elective	Technocrats	Theory	Finance Fundamentals
5	Elective	Technologists	Theory	Industry 4.0
6	Elective	Technologists	Theory	Additive Manufacturing
7	Elective	Technologists	Theory	Electric Mobility

Elective 4 (Specialization)

#	Course Category	Course Type	Course Title
1	Elective	Practicum	MEP Equipment Servicing
2	Elective	Practicum	Maintenance of Machine Tools
3	Elective	Practicum	Non-Destructive Testing
4	Elective	Practicum	SAP
5	Elective	Practicum	Product Design & Development
6	Elective	Practicum	Power Plant Engineering
7	Elective	Practicum	Reverse Engineering
8	Elective	Practicum	Green Energy & Engineering

The End