
MIT

Academy of
Engineering

(An Autonomous Institute Affiliated to Savitribai Phule Pune University)

MIT ACADEMY OF ENGINEERING, ALANDI

**Curriculum for
Under Graduate Program
Bachelor of Technology in
E&TC Engineering**

(Choice Based Credit System)

NEP REVISION 2023 (2.0)

(Four Year Curriculum W.E.F, AY: 2023-2024)

**BoS Chairman
E&TC Engineering**

**Member Secretary
Academic Council
Dean Academics**

**Chairman
Academic Council
Director MITAOE**

MIT**Academy of
Engineering**

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INSTITUTE VISION

To be a new age learning center for holistic development of students into professional engineers, to cater to the changing needs of techno-society.

INSTITUTE MISSION

- To provide new-age infrastructural facilities blended with skill-based curriculum and activity-based pedagogical approaches to develop competitive engineering professionals to solve real-world problems.
- To prepare students for lifelong learning by transforming educational practices.
- To promote ethical and moral values by involving students in community services.
- To promote entrepreneurship and managerial skills by strengthening industry-institute interaction.

SCHOOL OF E&TC ENGINEERING

VISION

To develop the students towards an exemplary career in Telecommunication and its cognate disciplines, possessing a sound social awareness, sense of responsibility, and moral ethos.

MISSION

- To develop the Department into a well-established education hub in the domain of Electronics & Telecommunication engineering.
- To provide students with a multi-faceted learning environment complemented by adequate engineering practice and research, preparing them to solve real-life engineering problems.
- To facilitate inclusive growth of all its student community and enabling them to be leaders of tomorrow.

PROGRAM EDUCATIONAL OBJECTIVES (PEO's)

PEO	PROGRAM EDUCATIONAL OBJECTIVES(PEO's)
PEO 1	To achieve a high level of technical competence in the electronics and telecommunication domain or any other associated areas, be it an Engineering Practice or Research.
PEO 2	To address real-world complex engineering problems by formulating solutions and designs that are technically sound, economically viable, practically feasible, and environmentally sustainable.
PEO 3	To aim towards career enhancement by pursuing lifelong learning and evolve as a leader in professional and personal life.

PROGRAM OUTCOMES (POs)

PO	PROGRAM OUTCOMES (POs)
PO1	Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	Problem Analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	Design/Development of Solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for public health and safety, and cultural, societal, and environmental considerations.

PO4	Conduct Investigations of Complex Problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	Modern Tool Usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
PO6	The Engineer and Society: Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal, and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	Environment and sustainability: Understand the impact of professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	Individual and Team Work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	Project Management and Finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO12	Life-Long Learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OBJECTIVES(PSO's)

PSO	PROGRAM SPECIFIC OUTCOMES (PSO's)
PSO 1	Analyze and simulate diverse problems in the field of communication.
PSO 2	Design and analyze a system with applications in signal and image processing.
PSO 3	Build, test and evaluate an embedded system with real time constraints.

MIT Academy of Engineering, Alandi, Pune
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COMMON CURRICULUM FRAMEWORK (NEP Revision 2023 (2.0))

The Bachelor of Technology Program shall be based on the following type of courses.

COURSE AND CREDIT DISTRIBUTION: SEMESTER WISE												
S.N.	TYPE OF COURSE	NO. OF COURSES/SEMESTER (CREDITS)								Total Courses	Total Credits	%
		1	2	3	4	5	6	7	8			
1.	Basic Science Courses (BSC)	2(7)	2(8)							4	15	9
2.	Engineering Science (ESC)	3(8)	2(6)							5	14	8
3.	Program Core Course (PCC)		1(2)	3(10)	3(10)	2(8)	2(8)	1(4)	1(4)	13	46	27
4.	Program Elective Course (PEC)					1(4)	1(4)	1(4)	1(3)	5	15	9
5	Vocational and Skill Enhancement Course (VSEC)	1(2)	1(2)	1(2)	1(2)	1(2)	1(2)	1(2)		6	12	7
6	Multi-Disciplinary Minor(MDM)				1(3)	1(3)	1(3)	1(2)	1(3)	5	14	8
7	Open Elective (OE)			1(2)	1(4)				1(2)	3	8	5
8	Ability Enhancement Courses (HSSM AEC)	1(2)					1(2)			2	4	2
9	Management/Entrepreneurship/Economics Courses (HSSM MEC)			1(2)				1(2)		2	4	2
10	Indian Knowledge System (HSSM IKS) & Co-curricular (CC)	2(3)	1(2)							3	5	3
11	Value Education Course (HSSM VEC)			1(3)	1(2)					2	5	3
12	Experiential Learning/ Project/ Field Work/Community (ELC PRJ)			1(1)	1(1)	1(2)	1(2)	0/2(4)	0/2(4)	6	10	6
13	Experiential Learning Summer/ Semester Long Internship (ELC SI)			1(2)		1(2)		1(4)	1(8)	4	16	6
Audit Courses					1					2	0	0
TOTAL		8(21)	8(21)	9(22)	9(22)	7(21)	7(21)	7(20)	5(20)	62	168	100

CREDITS (CONTACT HOURS)							
1 Lecture Hour = 1 Credit, 2 Lab Hours = 1 Credit, 1 Tutorial Hour = 1 Credit							
SL. NO.	YEAR	SEMESTER CREDIT			SEMESTER CONTACT HOURS		
		1	2	TOTAL	1	2	TOTAL
1.	First Year	21	21	42	29(29)	31(29)	60(58)
2.	Second Year	22	22	44	31(29)	29(30)	61(59)
3.	Third Year	21	21	44	30(30)	30(26)	60(56)
4.	Final Year	20	20	40	28(18)	18	44
TOTAL				170			225 (217)

COURSE CATEGORIES ABBREVIATION	
BSC	Basic Science Course
ESC	Engineering Science Course
PCC	Programme Core Course
PEC	Programme Elective Course
MDM	Multi-Disciplinary Minor
OE	Open Elective
VSEC	Vocational and Skill Enhancement Course
HSSM AEC	Humanities Social Science Management Ability Enhancement Courses
HSSM MEC	Humanities Social Science Management/Entrepreneurship/ Economics Course
HSSM IKS	Humanities Social Science Management Indian Knowledge System
HSSM VEC	Humanities Social Science and Management Value Education Course
ELC PRJ	Experiential Learning Course Project/ Field Work/ Community Engagement Project
ELC SI	Experiential Learning Course Student's Internship (Summer/ Semester Long/ Year Long)
CC	Co-Curricular Courses

ABBREVIATIONS			
TH	Theory Lecture	ESE	End Semester Exam
P	Practical Lab	CA	Continuous Assessment
TU	Tutorial	T/P	Term Work / Practical
IA	Internal Assessment	DM	Demonstration
MSE	Mid Semester Exam	Lab	Laboratory

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MIT ACADEMY OF ENGINEERING, ALANDI

**Curriculum for
First Year**

**Bachelor of Technology
E&TC Engineering**


NEP REVISION 2023 (2.0)

(With Effect from Academic Year: 2023-2024)

SCHOOL OF E&TC ENGINEERING	W.E.F	:	2023-2024
	RELEASE DATE	:	01/08/2023
FIRST YEAR BACHELOR OF TECHNOLOGY E&TC ENGINEERING	REVISION NO.	:	2.0 (NEP)

SEMESTER: I
Universal Human Values (Induction Program)

COURSE			TEACHING SCHEME			EXAMINATION SCHEME AND MARKS					C R E D I T	
TYPE	CODE	NAME	HOURS/WEEK			THEORY			PRACT/TUT			T O T A L
			TH	P	TU	IA	MSE	ESE	CA	D/P		
BSC	2301101T	Calculus and Differential Equations	3	-	-	30	20	50	-	-	100	3
	2301101U	Calculus and Differential Equations Lab	-	-	1				20	30	50	1
BSC	2301104T	Science of Nature	3	-	-	30	20	50	-	-	100	3
	2301104L	Science of Nature Lab	-	2	-	-	-	-	20	30	50	1
ESC	2304101T	Foundations of Computing	2	-	-	15	20	40	-	-	75	2
	2304101L	Foundations of Computing Lab	-	2	-	-	-	-	20	30	50	1
ESC	2303101T	Applied Mechanics	2	-	-	15	20	40	-	-	75	2
	2303101L	Applied Mechanics Lab	-	2	-	-	-	-	20	30	50	1
ESC	2309101T	Design Thinking	1	-	-	15	-	20	-	-	35	1
	2309101L	Design Thinking Lab	-	2	-	-	-	-	20	20	40	1
VSEC	2306161T	Electronics Workshop	1	-	-	15	-	20	-	-	35	1
	2306161L	Electronics Workshop Lab	-	2	-	-	-	-	20	20	40	1
	2307161T	Electronics Workshop	1	-	-	15	-	20	-	-	35	1
	2307161L	Electronics Workshop Lab	-	2	-	-	-	-	20	20	40	1
CC	2301182L	Liberal Learning	-	2	-	-	-	-	20	30	50	1
HSSM IKS	2306181T	Indian Knowledge System (Vedic Mathematics)	2	-	-	25	-	50	-	-	75	2
	2307181T	Indian Knowledge System (Vedic Mathematics)			-	25	-	50	-	-		
TOTAL			14	12	1						825	21

 Academy of Engineering <small>(An Autonomous Institute Affiliated to Savitribai Phule Pune University)</small>	COURSE STRUCTURE (NEP REVISION 2023)			
	SCHOOL OF E&TC ENGINEERING	W.E.F	:	2023-2024
FIRST YEAR BACHELOR OF TECHNOLOGY E&TC ENGINEERING	RELEASE DATE	:	01/08/2023	
	REVISION NO.	:	2.0 (NEP)	

SEMESTER: II													
COURSE			TEACHING SCHEME			EXAMINATION SCHEME AND MARKS						C R E D I T	
TYPE	CODE	NAME	HOUR / WEEK			THEORY			PRACT		T O T A L		
			TH	P	TU	IA	MSE	ESE	CA	D/P			
BSC	2301103T	Statistics and Integral Calculus	3	-	-	30	20	50	-	-	-	3	
	2301103U	Statistics and Integral Calculus Lab	-	-	1	-	-	-	20	30	50	1	
BSC	2301102T	Engineering Physics	2	-	-	15	20	40	-	-	75	2	
	2301102L	Engineering Physics Lab	-	2	-	-	-	-	20	30	50	1	
ESC	2307101T	Electrical and Electronics Engineering	2	-	-	15	20	40	-	-	75	2	
	2307101L	Electrical and Electronics Engineering Lab	-	2	-	-	-	-	20	30	50	1	
ESC	2304102T	Essentials of Data Science	2	-	-	15	20	40	-	-	75	2	
	2304102L	Essentials of Data Science Lab	-	2	-	-	-	-	20	30	50	1	
VSEC	2306162T	Integrating Sensors and Actuators	1	-	-	15	-	20	-	-	35	1	
	2306162L	Integrating Sensors and Actuators Lab	-	2	-	-	-	-	20	20	40	1	
	2307162T	Integrating Sensors and Actuators	1	-	-	15	-	20	-	-	35	1	
	2307162L	Integrating Sensors and Actuators Lab	-	2	-	-	-	-	20	20	40	1	
PCC	2306111T	Logic Sensing and Actuation	2	-	-	15	20	40	-	-	75	2	
	2307111T	Logic Sensing and Actuation	2	-	-	15	20	40	-	-			
HSSM AEC	2301111L	Communication Skills (English)	-	4	-	-	-	-	35	40	75	2	
	2301112/3 /4 L	Communication Skills (German/ Japanese/ French)	2	-	-	35	-	40	-	-	75	2	
CC	2307183L	Creative Technologies	-	4	-	-	-	-	35	40	75	2	
TOTAL			14	16	1						825	21	

*Two Credit Internships need to be completed after Completion of the First Year.

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**Curriculum for
Second Year
Bachelor of Technology
E&TC Engineering**

NEP REVISION 2023 (2.0)

(With Effect from Academic Year: 2024-2025)

SCHOOL OF E&TC ENGINEERING
W. E. F
:
2024-2025
**SECOND YEAR BACHELOR OF
TECHNOLOGY E&TC ENGINEERING**
RELEASE DATE
:
01/07/2024
REVISION NO.
:
2.0
SEMESTER: III

COURSE		TEACHING SCHEME	EXAMINATION SCHEME AND MARKS					C R E D I T				
TYPE	CODE	NAME	HOURS/WEEK			THEORY			PRACT		T O T A L	
			TH	P	TU	IA	MSE		ESE	CA		D/P
PCC	2307217T	Electronics Circuits and Applications	3	-	-	30	20	50	-	-	100	3
	2307217L	Electronics Circuits and Applications Lab	-	2	-	-	-	-	20	30	50	1
PCC	2307218T	Digital Systems Design	2	-	-	15	20	40	-	-	75	2
	2307218L	Digital Systems Design Lab	-	2	-	-	-	-	20	30	50	1
PCC	2307219T	Engineering Electromagnetics	2	-	-	15	20	40	-	-	75	2
	2307219U	Engineering Electromagnetics Lab	-	-	1	-	-	-	-	25	25	1
VSEC	2304261	Problem Solving Using OOP (C++)	-	4	-	-	-	-	35	40	75	2
	2307261/2L	Discipline Skill Dev. Course	-	-	-	-	-	-	-	-	-	-
HSSM VEC	2301287	Universal Human Values-II	1	4	-	-	-	25	-	75	100	3
OE	2311251	Prototyping	-	4	-	-	-	-	35	40	75	2
OE	2307255T	Applied Mathematics	3	-	-	30	20	50	-	-	100	3
	2307255L	Applied Mathematics Lab	-	2	-	-	-	-	20	30	50	1
ELC PRJ	2307291	Minor Project Design	-	2	-	-	-	-	20	30	50	1
TOTAL			11	20							825	22

SCHOOL OF E&TC ENGINEERING
W. E. F
:
2024-2025
**SECOND YEAR BACHELOR OF
TECHNOLOGY E&TC ENGINEERING**
RELEASE DATE
:
01/07/2024
REVISION NO.
:
2.0
SEMESTER: IV

COURSE		TEACHING SCHEME	EXAMINATION SCHEME AND MARKS								C R E D I T	
TYPE	CODE	NAME	HOURS/WEEK			THEORY			PRACT			T O T A L
			TH	P	TU	IA	MSE	ESE	CA	D/P		
PCC	2307220T	ARM based Embedded System Design	3	-	-	30	20	50	-	-	100	3
	2307220L	ARM based Embedded System Design Lab	-	2	-	-	-	-	20	30	50	1
PCC	2307221T	Principles of Communication Systems	2	-	-	15	20	40	-	-	75	2
	2307221L	Principles of Communication Systems lab	-	2	-	-	-	-	20	30	50	1
PCC	2307222T	Circuit Theory	2	-	-	15	20	40	-	-	75	2
	2307222U	Circuit Theory Lab	-	-	1	-	-	-	-	25	25	1
VSEC	2307263L	Data Structures Lab	-	4	-	-	-	-	35	40	75	2
MDM	*MDM Annexure List	Multi-Disciplinary Minor Course-I	2	-	-	15	20	40	-	-	75	2
	*MDM Annexure List	Multi-Disciplinary Minor Course-I Lab	-	2	-	-	-	-	20	30	50	1
HSSM MEC	2301276	Entrepreneurship Skills	1	2	-	-	-	25	20	30	75	2
HSSM VEC	2301286	Environmental Science	2	-	-	35	-	40	-	-	75	2
ELC PRJ	2307292	Minor Project Implementation	-	2	-	-	-	-	20	30	50	1
ELC SI	2307296	Internship (Life And Soft Skills)	-	-	-	-	-	-	-	75	75	2
AUDIT	2301281	Indian Constitution	1	-	-	-	-	-	-	-	Audit	
TOTAL			13	14	-						850	22

*Two Credit Internship needs to be completed after Completion of the Second Year

MIT Academy of Engineering <small>(An Autonomous Institute Affiliated to Savitribai Phule Pune University)</small>	COURSE STRUCTURE (NEP REVISION 2023)			
	SCHOOL OF E&TC ENGINEERING	W.E.F	:	2023-2024
EXIT CRITERIA BACHELOR OF TECHNOLOGY	RELEASE DATE	:	01/08/2023	
	REVISION NO.	:	2.0 (NEP)	

Name of the Program	After Year	Courses	Credits	Total
Applicable for all Programs	FIRST YEAR	Internship	4	8
		Vocational and/or Skill Enhancement Course	4	
	SECOND YEAR	Internship	4	8
		Vocational and/or Skill Enhancement Course	4	
	THIRD YEAR	Internship	4	8
		Vocational and/or Skill Enhancement Course	4	

Basic Science Courses (BSC): 4 Courses and 15 Credits			
Sl. No.	Course Code	Course Name	Course Credits
1.	2301101T	Calculus and Differential Equations	4
2.	2301102T	Engineering Physics	2
	2301102L	Engineering Physics Lab	1
3.	2301103T	Statistics and Integral Calculus	3
	2301103T	Statistics and Integral Calculus Lab	1
4.	2301104T	Science of Nature	3
	2301104L	Science of Nature Lab	1

Engineering Science (ESC):5 Courses and 14 Credits			
Sl. No.	Course Code	Course Name	Course Credits
1.	2307101T	Electrical and Electronics Engineering	2
	2307101L	Electrical and Electronics Engineering Lab	1
2.	2304101T	Foundations of Computing	2
	2304101L	Foundations of Computing Lab	1
3.	2304102T	Essentials of Data Science	2
	2304102L	Essentials of Data Science Lab	1
4.	2303101T	Applied Mechanics	2
	2303101L	Applied Mechanics Lab	1
5.	2309101T	Design Thinking	1
	2309101L	Design Thinking Lab	1

Program Core Course (PCC): 13 Courses and 46 Credits			
Sl. No.	Course Code	Course Name	Course Credits
1.	23XX111T	Program Core Course	2
2.	23XX21xT	Program Core Course	3
	23XX21xL	Program Core Course Lab	1
3.	23XX21xT	Program Core Course	3
	23XX21xL	Program Core Course Lab	1
4.	23XX21xT	Program Core Course	2
5.	23XX21xT	Program Core Course	3
	23XX21xL	Program Core Course Lab	1
6.	23XX21xT	Program Core Course	3
	23XX21xL	Program Core Course Lab	1
7.	23XX21xT	Program Core Course	2
8.	23XX31xT	Program Core Course	3
	23XX31xL	Program Core Course Lab	1
9.	23XX31xT	Program Core Course	3
	23XX31xL	Program Core Course Lab	1
10.	23XX31XT	Program Core Course	3
	23XX31xL	Program Core Course Lab	1
11.	23XX31XT	Program Core Course	3
	23XX31xL	Program Core Course Lab	1
12.	23XX41XT	Program Core Course	3
	23XX41XL	Program Core Course Lab	1
13.	23XX41XT	Program Core Course	3
	23XX41XL	Program Core Course	1

Program Elective Course (PEC): 4 Courses and 15 Credits			
Sl. No.	Course Code	Course Name	Course Credits
1.	23XX32XT	Program Elective Course	3
	23XX32XT	Program Elective Course Lab	1
2.	23XX32XT	Program Elective Course	3
	23XX32XL	Program Elective Course Lab	1
3.	23XX42XT	Program Elective Course	3
	23XX42XT	Program Elective Course Lab	1
4.	23XX42XT	SWAYAM Course	3

Vocational and Skill Enhancement Course (VSEC): 6 Courses and 12 Credits			
Sl. No.	Course Code	Course Name	Course Credits
1.	23XX161L	Vocational and Skill Enhancement Course	2
2.	23XX162L	Vocational and Skill Enhancement Course	2
3.	2304261L	Problem Solving Using OOP (C++)	2
	2304262L	Problem Solving Using OOP (Java)	
	23XX26XL	Discipline Skill Dev. Course	
4.	2304266L	Data Structures	2
	23XX26XL	Discipline Skill Develop. Course	
5.	23XX36XL	Vocational and Skill Enhancement Course	2
	23XX36XL	Professional Certification Course	
	23XX36XL	Vocational and Skill Enhancement Course	
	23XX36XL	Professional Certification Course	
6.	23XX36XL	Vocational and Skill Enhancement Course	2
	23XX36XL	Vocational and Skill Enhancement Course	

Open Elective (OE): 3 Courses and 8 Credits				
Sl. No.	Offering School	Course Code	Course Name	Course Credits
1.	SHES (Mathematics)	2301251T	Applied Mathematics	3
		230121L	Applied Mathematics Lab	1
2.	SHES (Physics)	2301252T	Foundation of Quantum Computing	3
		2301252L	Foundation of Quantum Computing Lab	1
3.	B. Design	2311251T	Prototyping	2
4.	Civil Engineering	2303251T	Corporate Valuation	3
		2303251L	Corporate Valuation Lab	1
		2303252T	Banking and Financial Services	2
		2303451T	Siemens(Product Life Cycle Management)	2
5.	Computer Engineering	2304251T	Business Management and information System	3
		2304251L	Business Management and Information System Lab	1
		2304252T	Economics	2
		2304451T	Professional Certification	2
6.	Computer Engineering (Software Engineering)	2310251T	Business Management and information System	3
		2310251L	Business Management and information System Lab	1
		2310252T	Economics	2
		2310451T	Professional Certification	2
7.	Chemical Engineering	2305251T		3
		2305251L		1
		2305252T		2
		2305451T		2
8.	Electronics Engineering	2306251T	Engineering Informatics (For B.Des)	3
		2306251L	Engineering Informatics (For B.Des) Lab	1
		2306252T	Introduction to IoT (BDes)	2
		2306451T	CISCO Networking	2
9.	Electronics & Telecommunication Engineering	2307251T	Engineering Informatics (For B.Des)	3
		2307251L	Engineering Informatics (For B.Des) Lab	1
		2307252T	Introduction to IoT (BDes)	2
		2307451T	CISCO Networking	2
10.	Mechanical Engineering	230925T	Corporate Valuation	3
		2309251L	Corporate Valuation Lab	1
		2309252T	Banking and Financial Services	2
		2309451T	Siemens(Product Life Cycle Management)	2

Humanities Social Science and Management Ability Enhancement Courses (HSS AEC): 2 Courses and 4 Credits			
Sl. No.	Course Code	Course Name	Course Credits
1.	2301171/2/3/4	Communication Skills (English/ German/Japanese/French)	2
2.	23XX371	Employability and Career Development	2

Humanities Social Science and Management Management/Entrepreneurship/Economics Course (HSS MEC): 2 Courses and 4 Credits			
Sl. No.	Course Code	Course Name	Course Credits
1.	2301276	Entrepreneurship Skills	2
2.	23XX476	Project Management / -----	2

Humanities Social Science and Management Value Education Course (HSSM VEC):2 Courses and 5 Credits			
Sl. No.	Course Code	Course Name	Course Credits
1.	2301286	Environmental Science	2
2.	2301287	Universal Human Values-II	3

Humanities Social Science and Management Indian Knowledge System / Co-Curricular Courses (HSSM IKS / CC): 3 Courses and 5 Credits			
Sl. No.	Course Code	Course Name	Course Credits
1.	23XX181	Indian Knowledge System (Ancient Indian Architecture and Town Planning)	2
	2305181	Indian Knowledge System - (Indian Heritage Textiles)	
	2304181	Indian Knowledge System - (Vedic Mathematics)	
	2310181	Indian Knowledge System - (Vedic Mathematics)	
2.	2301182	Liberal Learning - (HSSM CC)	1
3.	2307183	Creative Technologies - (HSSM CC)	2
4.	2301281	Indian Constitution	Audit

Experiential Learning Course Project/Field Work/Community Engagement Project (ELC PRJ): 6 Courses and 10 Credits			
Sl. No.	Course Code	Course Name	Course Credits
1.	23XX291	Minor Project Design	1
2.	23XX292	Minor Project Implementation	1
3.	23XX391	Project - I	2
4.	23XX392	Project - II	2
5.	23XX491	Project - III	2
6.	23XX492	Research Methodologies	2

Experiential Learning Course Student's Internship (Summer/Semester Long/Year Long) (ELC SI): 4 Courses and 16 Credits						
Sl. No.	Course Code		Course Name	Course Credits		
1.	23XX296		Internship (Life And Soft Skills)	2		
2.	23XX396		Summer Internship (Technical)	2		
3.	23XX496		Summer Internship (Technical)	4		
4.	23XX497		Summer Long Internship	8		

List of Vocational Skill Enhancement Course (VSEC): 6 Courses and 12 Credit						
Programme Name	VSEC Course 1	VSEC Course 2	VSEC Course 3	VSEC Course 4	VSEC Course 5	VSEC Course 6
Chemical	Computer-Aided Engineering Drawing	Computer Aided Chemical Engineering	Computer Application for Chemical Engineers (L)	Data Analytics in Chemical Engineering (L)	Practicum for Chemical Engineers I / Professional Certification Courses (L)	Practicum for Chemical Engineers-II / Professional Certification Course (L)
Civil	Computer-Aided Engineering Drawing	Surveying and Geomatics	Building Information Modeling-I (L)	Data Analysis (L)	Analysis & Design of Building Systems/ Building Information Modeling-II (L)	Drone Surveying/ Hydraulic Modeling (L)
Computer Engineering	Linux Fundamentals and Programming	Data Visualization	Problem Solving Using OOP (C++) / (Java)	Core Java/ Advance Java	Linux Administration -I / Web Technology/ Mobile App Development / UI/UX Design	Linux Administration-II / Cloud Services /Web and Desktop Application Development
Computer Engineering (Software Engg.)	Linux Fundamentals and Programming	Data Visualization	Problem Solving Using OOP (C++) / (Java)	Core Java/ Advance Java	Linux Administration -I / Web Technology/ Mobile App Development / UI/UX Design	Linux Administration-II / Cloud Services /Web and Desktop Application Development
Electronics Engineering	Electronics Workshop	Integrating Sensors and Actuators	Problem Solving Using OOP (C++/Java)	Data Structures /	DBMS/DS - Data Base Management System / Embedded Linux	RTOS/ Advance Data Science
Electronics & Telecommunication Engineering	Electronics Workshop	Integrating Sensors and Actuators	Problem Solving Using OOP (C++/Java)	Data Structures	DBMS/DS - Data Base Management System / Embedded Linux	RTOS/ Advance Data Science

Mechanical	Computer Aided Engineering Drawing	Fab Lab	Problem Solving Using OOP (C++/Java) / Generative Design	Data Structures / Digital Twin	Computer Aided Product Design Professional Certification Courses	Mechanical Simulations
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Multi-Disciplinary Minor (MDM) Annexure List: 04 Courses and 15 Credits

Programme Name	Open Track Name	Semester IV (MDM-I)		Semester V (MDM-II)		Semester VI (MDM-III)		Semester VII (MDM-IV)		Semester VIII (MDM-V)	
		Course Code	Course Name	Course Code	Course Name	Course Code	Course Name	Course Code	Course Name	Course Code	Course Name
Chemical Engineering	Process Engineering	2305231 (T+L)	Material Engineering	2305331 (T+L)	Process Engineering (T+L)	2305333 (T+L)	Process Modeling and Simulation (T+L)	2305335	Process Intensification and Integration	2305437 (T+L)	CHSWAYAM 01
	Energy Engineering			2305332 (T+L)	Energy Engineering (T+L)	2305334 (T+L)	Energy Modeling and Simulation (T+L)	2305336	Energy Management and Audit	2305438 (T+L)	CHSWAYAM 02
Civil Engineering	Environmental Engineering	2303231 (T+L)	Material Engineering	2303331 (T+L)	Smart Cities (T+L)	2303332 (T+L)	Sustainable Engineering (T+L)	2303431 (T+L)	Environmental Planning & Impact Assessment	2303432 (T+L)	CVSWAYAM 01
School of Computer Engineering	Artificial Intelligence and Data science	2307231	Engineering Informatics	2304331 (T+L)	Data Analytics (T+L)	2304333 (T+L)	Artificial Intelligence & Machine Learning (T+L)	2304335L	Deep Learning (L)	2304437 (T+L)	SWAYAM Course
Computer Engineering (Software Engineering)	Cloud Computing	2307231	Engineering Informatics	2304332 (T+L)	Cloud Computing Foundations (T+L)	2304334 (T+L)	Cloud Native Application Development (T+L)	2304336L	Cloud Native DevOps (L)	2304438 (T+L)	SWAYAM Course
CSE (AIML)											
CSE (DS)											

Multi-Disciplinary Minor (MDM): 04 Courses and 15 Credits											
Programme Name	Open Track Name	Semester IV (MDM-I)		Semester V (MDM-II)		Semester VI (MDM-III)		Semester VII (MDM-IV)		Semester VIII (MDM-V)	
		Course Code	Course Name	Course Code	Course Name	Course Code	Course Name	Course Code	Course Name	Course Code	Course Name
Electronics Engineering		2307231 (T+L)	Engineering Informatics (T+L)	2307331 (T+L)	Electronics System Design (T+L)	2307332 (T+L)	VLSI Design (T+L)	2307431 (T+L)	ASIC Design	2307432 (T+L)	System on Chip (T+L)
Electronics & Tele-communication		2306231 (T+L)	Engineering Informatics (T+L)	2307331 (T+L)	Electronics System Design (T+L)	2307332 (T+L)	VLSI Design (T+L)	2307431 (T+L)	ASIC Design	2307432 (T+L)	System on Chip (T+L)
Mechanical Engineering	Computer Aided Engineering	2307231 (T+L)	Engineering Informatics (T+L)	2309331 (T+L)	Computer Aided Product Design (T+L)	2309333 (T+L)	Mechanical Simulations (T+L)	2309431 (T+L)	Industrial Automation & Control Systems	2309433 (T+L)	Project
	Robotics and Automation	2307231 (T+L)	Engineering Informatics (T+L)	2309332 (T+L)	Robot Fundamental & Kinematics (T+L)	2309334 (T+L)	Robot Dynamics and Control (T+L)	2309432 (T+L)	AI in Robotics	2309434 (T+L)	SWAYAM Course
Business Administration		23XX231 (T+L)	Principle and Practices of Management	23XX331	Organizational Behavior	23XX332	Production and Operation Management	23XX431	Cross Cultural Communication	23XX432	Micro and Macro Economics
Management		23XX231 (T+L)	Logistics and Warehouse Management	23XX331	Big Data Analytics for SCM	23XX332	Project Management	23XX431	Lean Management and Theory of Constraints	23XX432	SWAYAM Course
Entrepreneurship Cell	Innovation and Entrepreneurship	2307231 (T+L)	Engineering Informatics (T+L)	23XX331	Foundational Course in Entrepreneurship	23XX336	Advanced Course in Entrepreneurship	23XX431	Startup and Incubation	23XX432	SWAYAM Course
B. Design		2311231 (T+L)	Intro to UI UX	2311331 (T+L)	Photography					2311432	SWAYAM Course