Program Articulation Matrix

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
1	HAS	23FL3054 - FLG	CO1	Acquire a working knowledge of the basic elements of the French language viz. letters, vowels, accents, articles, useful expressions, etc.					2			2						
2	HAS	23FL3054 - FLG	CO2	Classify questions and respond in the affirmative or negative with ?tre and avoir and form plurals						2				3				
3	HAS	23FL3054 - FLG	CO3	Utilize and apply the adjectives and essential verbs.								2		2				
4	HAS	23FL3054 - FLG	CO4	Construct and use in speech, vocabulary, reading, questions and answers								2				3		
5	HAS	23FL3055 - GLG	CO1	classify their understanding of greeting wishes, alphabets and numbers learning. to understand the greetings in formal and informal way					2			2						
6	HAS	23FL3055 - GLG	CO2	Apply their knowledge of essential daily expressions, present, past and future tense. Conjugating the verbs in the Singular and Plural groups, Past participle tense and the futertense and relations with the verbs										3				
7	HAS	23FL3055 - GLG	CO3	Utilize their understanding with suitable prepositions, questions, and possessive pronouns, and the importance of four German cases. Prepositions in Akkusativ and Dativ										2				
8	HAS	23FL3055 - GLG	CO4	Develop their knowledge about how to move in public places, such as shopping centres, restaurants, tourist places, etc, and preparation of them for German A1 level examination.								2				3		

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9	HAS	23FL3058 - JLG	CO1	Classify Hiragana, Katakana, and basic Kanji characters used in greetings and simple scripts					2			2						
10	HAS	23FL3058 - JLG	CO2	Apply their knowledge of essential daily expressions, numbers, months, dates, time, body parts, colors, and common vocabulary to effectively communicate in basic everyday situations										3				
11	HAS	23FL3058 - JLG	CO3	Utilize their understanding of present, past, and future tenses, along with the ability to construct interrogative sentences, to express themselves in various timeframes and ask questions effectively in different conversational contexts. pen_spark								2		2				
12	HAS	23FL3058 - JLG	CO4	Develop their knowledge of verbs, including negative conjugations, and prepositions to discuss hobbies, deliver self-introductions, and navigate basic interview scenarios in Japanese								2				3		
13	HAS	23MB4067 - IMPP	CO1	Understand the basic management concepts along with an insight into production and control											2			2
14	HAS	23MB4067 - IMPP	CO2	Select best forecasting models to predict future demand	2													2
15	HAS	23MB4067 - IMPP	CO3	Solve various production scheduling problems to optimize productivity				2									2	
16	HAS	23MB4067 - IMPP	CO4	Understand concept of Inventory control, Method study and time study											2			2
17	HAS	23UC0026 - HGP	CO1	Understanding the basic concepts of value education								2	1					
18	HAS	23UC0026 - HGP	CO2	Gain basic understanding of the principles in harmony among the human beings								2	1					

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19	HAS	23UC0026 - HGP	CO3	Gain knowledge in the concept of Harmony in the family and society								3	3					
20	HAS	23UC0026 - HGP	CO4	Acquire knowledge in the concepts of harmony in the nature								3	3					
21	HAS	23UC0027 - LAMS	CO1	Understand basic leadership, skills and perspectives and leadership styles									2					
22	HAS	23UC0027 - LAMS	CO2	Understand different managerial skills and apply them to develop high performance teams											3			
23	HAS	23UC0027 - LAMS	CO3	Analyse effective communicative strategies and apply them in team tasks										3				
24	HAS	23UC0027 - LAMS	CO4	Apply strategic planning fundamentals and decision-making techniques, through exercises and case studies											3			
25	HAS	23UC1101 - IPE	CO1	Language Mechanics and Basic Grammar										2				
26	HAS	23UC1101 - IPE	CO2	Integrated Reading and Techniques of Writing										2				
27	HAS	23UC1202 - EP	CO1	Express the ability in interactive skills of listening, speaking, reading, and writing that are better suited for the corporate environment.									3	3				
28	HAS	23UC1202 - EP	CO2	Apply various strategies for LSRW skills and apply them in interpreting the text									3	3				
29	HAS	23UC1203 - DTI	CO1	Understand the importance of Design thinking mindset for identifying contextualized problems		1												
30	HAS	23UC1203 - DTI	CO2	Analyze the problem statement by empathizing with user							2							
31	HAS	23UC1203 - DTI	CO3	Develop ideation and test the prototypes made			2											

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32	HAS	23UC1203 - DTI	CO4	Explore the fundamentals of entrepreneurship skills for transforming the challenge into an opportunity											1			
33	BSC	23CY1001 - ECY	CO1	Apply the operation of electrochemical systems to produce electric energy and storagedevices.	3	2												
34	BSC	23CY1001 - ECY	CO2	Use the fundamental aspects of electrochemistry and materials science relevant tocorrosion phenomena.	3	2												
35	BSC	23CY1001 - ECY	CO3	Examine water quality and apply appropriate purification technique for intendedproblem.	3	2												
36	BSC	23CY1001 - ECY	CO4	Employ the fundamental principles and general properties of materials in variousengineering applications.	3	2												
37	BSC	23CY1001 - ECY	CO5	Analyze the data, develop skills in chemical analysis and their application inengineering.	3						3							
38	BSC	23ME1005 - MSM	CO1	Understand crystallography and various material testing methods to solve the relevant problems.	2	2											3	
39	BSC	23ME1005 - MSM	CO2	Distinguish and analyze various types of materials based on their engineering applications.	2	3											3	
40	BSC	23ME1005 - MSM	CO3	Apply the concepts of cooling curves and phase diagrams.	2	3											3	
41	BSC	23ME1005 - MSM	CO4	Analyze various heat treatment processes and their strengthening mechanisms.	2	3											3	
42	BSC	23ME1005 - MSM	CO5	Gain hands on experience to conduct various experiments of metallograpy and heat treatment process practically.	2	3											3	

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43	BSC	23MT1001 - LACE	CO1	Apply matrix algebra to the real-world applications in engineering, physical and biological sciences, computer science, finance, economics and solving the system of equations.	3													
44	BSC	23MT1001 - LACE	CO2	Apply multivariate differential calculus to find maxima & minima of functions and understand the concepts of second order differential equations and its applications.	3													
45	BSC	23MT1001 - LACE	CO3	Apply beta and gamma functions to evaluate improper integrals. Evaluate double and triple integrals techniques over a region in two dimensional and three-dimensional geometry.	3													
46	BSC	23MT1001 - LACE	CO4	interpret the physical meaning of different operators such as gradient, curl and compute the line integrals of vector functions and learn their applications.	3													
47	BSC	23MT2003 - MMNM	CO1	Modeling and solution of algrebraic and transcendental equations.	3	3											3	
48	BSC	23MT2003 - MMNM	CO2	Applying numerical methods to solve ordinary differential equations.	3	3											3	
49	BSC	23MT2003 - MMNM	CO3	Solving of Linear and non-linear Partial Differential Equations.	3	3											3	
50	BSC	23MT2003 - MMNM	CO4	Applications of Partial Differential Equations.	3	3											3	
51	BSC	23MT2010 - CAMS	CO1	Apply various approximate methods to solve problems in structural mechanics and to provide simplicity involved in Finite Element Method.		3												3
52	BSC	23MT2010 - CAMS	CO2	Apply Galerkin method for solving problems on heat transfer, torsion, and fluid flow		3												3

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53	BSC	23MT2010 - CAMS	CO3	Analyze dynamic problems for longitudinal and transverse vibration of beam, and critical load estimation of columns to Engineering Devices.		3												3
54	BSC	23MT2010 - CAMS	CO4	Analyze the experimental data using simple and useful methods of Statistics		3												3
55	BSC	23MT2011 - OTQ	CO1	Identify Optimum solutions for various single objective problems using Linear Programming models	2				2									2
56	BSC	23MT2011 - OTQ	CO2	Identify Optimum Solutions through Transportation and Assignment models	2		2											2
57	BSC	23MT2011 - OTQ	CO3	Identify Optimum Solutions through Queuing theory and Dynamic Programming models	2		2											2
58	BSC	23MT2011 - OTQ	CO4	Solve project management problems using CPM and PERT	2		2											2
59	ESC	23AD2001O - AIML	CO1	Apply a variety of artificial intelligence algorithms and techniques to effectively solve complex problems in diverse real-world environments		3	3	3									3	
60	ESC	23AD2001O - AIML	CO2	Solve constraint satisfaction problems, employ knowledge engineering principles to perform inferencing, reasoning and probability theory.		3	3	3									3	
61	ESC	23AD2001O - AIML	CO3	Apply various machine learning techniques to analyze and solve real-world problems		3	3	3									3	
62	ESC	23AD2001O - AIML	CO4	solve complex real-world problems using advanced supervised and unsupervised learning techniques.		3	3	3									3	
63	ESC	23AD2001O - AIML	CO5	Evaluate solutions for various AI & ML related problems.			3	3	3								3	

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64	ESC	23EC1203 - BEEC	CO1	Understand the basic concepts of circuits and its fundamentals	2												3	
65	ESC	23EC1203 - BEEC	CO2	Grasp the principles of AC circuits, including sinusoidal waveforms, impedance, and power factor.	2												3	
66	ESC	23EC1203 - BEEC	CO3	Comprehend the behavior of basic electronic components, such as diodes, and transistors.	2												3	
67	ESC	23EC1203 - BEEC	CO4	Understand the basic functional Principles of analog and digital ICs.	2												3	
68	ESC	23ES1201 - OOP	CO1	Apply the concepts of Basic Data types, Operators, Decision andLooping Control Statements, Strings			3		3									
69	ESC	23ES1201 - OOP	CO2	Apply the concepts of Lists, Tuples, Dictionaries. Functions,Modules,Class, Object, OOPS principles.			3		3									
70	ESC	23ES1201 - OOP	CO3	Apply Concepts of OOP principles, classes and objects, Call byvalue vs. Call by reference, recursion, and Nested classes			3		3									
71	ESC	23ES1201 - OOP	CO4	Apply Concepts of Files, Interfaces, Packages, Threads			3		3									
72	ESC	23ES1201 - OOP	CO5	Design, implement, and evaluate Python programs using basicdata types, variables, expressions, conditional statements, loops,functions, built-in data structures, object-oriented programmingconcepts, Python libraries and modules, debugging techniques,and file I/O to solve programming problems.							3		3			3	3	

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73	ESC	23ME1001 - EM	CO1	Apply the concept of forces, governing static equations, and analyze the planar system of forces.		3											3	
74	ESC	23ME1001 - EM	CO2	Use analytical techniques for analyzing forces in statically determinate structures.			3										3	
75	ESC	23ME1001 - EM	CO3	Apply the concepts of planar and non-planar system of parallel forces and estimate the moment of inertia for lamina and material bodies.				3									3	
76	ESC	23ME1001 - EM	CO4	Apply fundamental concepts of kinematics and kinetics of particles to solve simple practical problems.				3									3	
77	ESC	23ME1002 - EG	CO1	Enumerating engineering curves, Listing various geometries and descriptions on multiple scales.	2				2								3	
78	ESC	23ME1002 - EG	CO2	Apply the concept of first-angle and third-angle projection,	2				3								3	
79	ESC	23ME1002 - EG	CO3	Demonstrate sectional view and sketching in modern tools.	2				3								3	
80	ESC	23ME1002 - EG	CO4	Apply the engineering design process to real world problems					3								3	
81	ESC	23ME1004 - WPE	CO1	Prepare carpentry joints, fitting trade fits, tin-smithy components, and house wiring.	3		3										3	
82	ESC	23ME1004 - WPE	CO2	Prepare mould cavities, perform lathe, drill, grinding operations, create welding joints, and CNC programs.	3		3										3	
83	ESC	23ME1103 - DTW	CO1	Demonstrate proficiency in typing sentence , paragraph , report , presentations along spread sheets using office tools, LaTeX tools and PowerBI					2									2

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84	ESC	23ME1103 - DTW	CO2	Build a static website and blog with using html along with Special features of HTML5, CSS and Javascript					3					3				
85	ESC	23ME1103 - DTW	CO3	Develop a virtual environment with cospace and construct a marker based Augumented Reality			3										3	
86	ESC	23ME1103 - DTW	CO4	Utilising the softwares of Autodesk Fusion 360 and the same can be printed in 3D printer as physical prototype			3										3	
87	ESC	23SC1101 - CTSD	CO1	Develop and apply logical building blocks to solve real world problems	3	3	3											
88	ESC	23SC1101 - CTSD	CO2	Apply computational thinking for designing solutions	3	3	3											
89	ESC	23SC1101 - CTSD	CO3	Develop and apply the CRUD operations on arrays	3													
90	ESC	23SC1101 - CTSD	CO4	Apply CRUD operations on Linear Data Structures	3		3											
91	ESC	23SC1101 - CTSD	CO5	Apply the structured programming paradigm with logic building skills onBasic and Linear Data Structures for solving real world problems	3				3									
92	ESC	23SC1101 - CTSD	CO6	Skill the students in such a way that students will be able to develop logicthat help them to create programs as well as applications in C					3									
93	ESC	23SC1202 - DS	CO1	Understand various sorting algorithms and analyse the efficiency of the algorithms.	3	3												
94	ESC	23SC1202 - DS	CO2	Implement and evaluate Linear Data Structures and Demonstrate their applications.	3	3	3											
95	ESC	23SC1202 - DS	CO3	Implement and evaluate tree data structures and understand hashing techniques	3	3	3						3					

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96	ESC	23SC1202 - DS	CO4	Understand graph data structures and apply graphs to solve problems	3	3							3					
97	ESC	23SC1202 - DS	CO5	"Design, Develop and evaluate common practical applications for linear and nonlinear data structures."			3						3					
98	ESC	23SC1202 - DS	CO6	"Skill the students in such a way that students will be able to develop logic that help them to create programs on both linear and non-linear datastructuresand its applications."			3						3					
99	PCC	23ME2106R - MOS	CO1	Analyze stresses in members with axial loading or torsion?	2	2											2	
100	PCC	23ME2106R - MOS	CO2	nalyze members with multi axial loading and lateral loading?	2	2											2	
101	PCC	23ME2106R - MOS	CO3	Analyze deflections and stresses in beams?	2	2											2	
102	PCC	23ME2106R - MOS	CO4	Analyse columns and pressure vessels?	2	2											2	
103	PCC	23ME2106R - MOS	CO5	Apply the theoretical concepts to conduct various experiments of strength of materials practically and analyze the data?					2								2	
104	PCC	23ME2107 - TD	CO1	Examine the basic terminology used in thermodynamics	3												2	
105	PCC	23ME2107 - TD	CO2	Apply first law of thermodynamics to various flow and non-flow processes.	3													3
106	PCC	23ME2107 - TD	CO3	Apply second law of thermodynamics and principle of entropy to Engineering Devices	3													3
107	PCC	23ME2107 - TD	CO4	Apply thermodynamic principles to estimate the performance of different air standard cycles and different psychrometric processes		3												3

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108	PCC	23ME2116R - FMHM	CO1	Apply the knowledge of fluid properties and the laws of fluidstatics to estimate the total pressure, Centre of pressure andforces on submerged and floating bodies	3	3												3
109	PCC	23ME2116R - FMHM	CO2	Apply continuity, Euler and Bernoulli equations and estimatedifferent flow measuring devices	3	3												3
110	PCC	23ME2116R - FMHM	CO3	Apply continuity, Euler and Bernoulli equations and estimatedifferent flow measuring devices	3	3												3
111	PCC	23ME2116R - FMHM	CO4	Analyze the performance of hydraulic turbines and pumps usingvelocity triangles and model similitude.	3	2	3											2
112	PCC	23ME2116R - FMHM	CO5	Conduct experiments to verify and apply various fluid flowprinciples and performance evaluation of various hydraulicmachines like turbines and pumps	3	2	3											2
113	PCC	23ME2208 - MP	CO1	Identify the casting processes	2													2
114	PCC	23ME2208 - MP	CO2	Select the appropriate welding processes			2										2	
115	PCC	23ME2208 - MP	CO3	Apply principles of cold/hot forming processes			2											2
116	PCC	23ME2208 - MP	CO4	Utilize sheet metal processes and design sheet metal dies			2										2	
117	PCC	23ME2208 - MP	CO5	Fabricate the parts using manufacturing processses		2												2
118	PCC	23ME2209R - KDOM	CO1	Apply the basic principles and concepts of kinematics and mobility of the mechanisms.	3				3									
119	PCC	23ME2209R - KDOM	CO2	Analyze and kinematic design of mechanisms and machines using velocity and? acceleration analysis.	3				3									

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120	PCC	23ME2209R - KDOM	CO3	Apply principles of cams to draw cam profiles and understand gear systems and gear trains for various applications.	3				3									
121	PCC	23ME2209R - KDOM	CO4	Understand the principles of balancing and vibrations and analyze gyroscopic effect on naval ships and automobiles.	3				3									
122	PCC	23ME2209R - KDOM	CO5	Apply and analyze the concepts learned in theory to perform experiments related to mechanisms and machines using the ADAMS simulation software for data analysis.	3													
123	PCC	23ME3110R - HT	CO1	Apply Fourier law of conduction and combined conduction convection concepts to 1-D heat transfer problems	1	2											1	
124	PCC	23ME3110R - HT	CO2	Analyze heat transfer through extended surfaces and apply unsteady state heat transfer to various systems	1	2											1	
125	PCC	23ME3110R - HT	CO3	Apply the emperical correlations for solving convection heat transfer and heat transfer through during phase change problems	1	2											1	
126	PCC	23ME3110R - HT	CO4	Analyze various types of heat exchangers by applying the principles of conduction, convection, radiation	1	2											1	
127	PCC	23ME3110R - HT	CO5	Analyze various parameters of heat transfer in different thermal systems physically/numerically	1	2											1	
128	PCC	23ME3111R - MED	CO1	Apply engineering design phases and general considerations to design any machine component		2												2

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129	PCC	23ME3111R - MED	CO2	Apply the mechanical behavior of engineering materials concept to solve any material failure problem		2												2
130	PCC	23ME3111R - MED	CO3	Analyse the machine components for static strength		2												
131	PCC	23ME3111R - MED	CO4	Analyse the machine components for fatigue strength		2												
132	PCC	23ME3112 - TSE	CO1	Identify the properties of pure substances at various pressures and temperatures and apply those to evaluate the performance Of a vapour power cycle.	2	3												
133	PCC	23ME3112 - TSE	CO2	Model the convergent-divergent steam nozzle dimensional parameters and identify the performance of a steam condenser	2	3												
134	PCC	23ME3112 - TSE	CO3	Apply the principles of thermodynamics to determine the performance of Si and CI engines	2	3												
135	PCC	23ME3112 - TSE	CO4	Choose various refrigeration cycles by identifying their performance. Apply psychrometry properties to calculate various air-conditioning process parameters.				2										
136	PCC	23ME3112 - TSE	CO5	Analyze internal & external fluid flows in steady state and transient heat transfer systems.				2										
137	PCC	23ME3113R - MT	CO1	Utilize the concept of metal cutting processes		2											2	
138	PCC	23ME3113R - MT	CO2	Select appropriate machine tool to prepare desired objects	2													2
139	PCC	23ME3113R - MT	CO3	Make use of non-traditional machining processes	2													2
140	PCC	23ME3113R - MT	CO4	Construct the automation of production lines				2									2	

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141	PCC	23ME3113R - MT	CO5	Apply the concepts of modern manufacturing processes					2									2
142	PCC	23ME3214R - MD	CO1	Analyze transmission shafts, couplings and springs for given design conditions			2											2
143	PCC	23ME3214R - MD	CO2	Analyze welding,bolted fastening systems for given design conditions			2											2
144	PCC	23ME3214R - MD	CO3	Analyze and select the appropriate bearings, belt drives and chain drives for given working conditions			2											2
145	PCC	23ME3214R - MD	CO4	Analyze the spur and helical gears, band and block brakes for given working conditions			2											2
146	PCC	23ME3214R - MD	CO5	Simulate and Evaluate a virtual/functional prototype				2										2
147	PCC	23ME3215 - DMR	CO1	Describe the digital manufacturing framework, covering CNC fundamentals, Additive Manufacturing processes, solid modeling, 3D scanning, and AM applications		3												
148	PCC	23ME3215 - DMR	CO2	Explain the functions of basic robot components and apply them across various robot types and drive systems in diverse applications.		3											2	
149	PCC	23ME3215 - DMR	CO3	Apply image processing techniques for robot vision, including sensor principles and applications such as inspection and navigation.	2													3
150	PCC	23ME3215 - DMR	CO4	Understand and apply various robot programming languages (VAL, AML, RAIL) for motion, sensor, and end effector commands, and kinematics principles.		3												

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151	PRI	23IE2040 - SIP	CO1	Remember the fundamentals of the science of water cycle along with powerful tools that students can use to diagnose the health of the local water cycle as well as develop targeted action plans to restore the local natural water cycle and bring water prosperity			3										3	
152	PRI	23IE2040 - SIP	CO2	Remember the water sustainability and water resilience of village, city, residential facilities and households using multi-level water scorecards				3									3	
153	PRI	23IE2040 - SIP	CO3	Apply the design thinking positive action plan for a village, campus, residential facility and community neighbourhood.					3								3	
154	PRI	23IE2040 - SIP	CO4	Apply the water positive solutions within an urban watershed, a rural watershed, residential institutional and corporate community						3							3	
155	PRI	23IE3041 - TIP	CO1	Ability to demonstrate the impact of academic skills and logical thinking			3										3	
156	PRI	23IE3041 - TIP	CO2	Ability to integrate existing and new technical knowledge for industrial application				3									3	
157	PRI	23IE3041 - TIP	CO3	Ability to demonstrate the impact of the internship on their learning and professional development					3								3	
158	PRI	23IE3041 - TIP	CO4	Demonstrate the ability to harness resources by analyzing challenges						3							3	
159	PRI	23IE4042 - IIP	CO1	Apply fundamental engineering/technology knowledge to solve real-world industrial problems.	2				3								2	
160	PRI	23IE4042 - IIP	CO2	Demonstrate effective communication and Technical skills in a professional setting.		2		3										2

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161	PRI	23IE4042 - IIP	CO3	Collaborate effectively in a team environment.	3					2								3
162	PRI	23IE4048 - EPJ	CO1	Literature search equips students with the ability to efficiently locate, evaluate, and synthesize academic and scholarly sources relevant to their field of study. Students will develop skills to conduct comprehensive searches, critically assess the credibility of sources, and apply research findings to support their academic or professional work.	2													
163	PRI	23IE4048 - EPJ	CO2	Problem identification enables students to accurately recognize and define complex issues or challenges within a given context. Students will learn to analyze situations critically, identify underlying causes, and articulate clear problem statements that guide effective problem-solving strategies.		2												
164	PRI	23IE4048 - EPJ	CO3	Analysis of research work prepares students to critically evaluate and interpret research studies, assessing the methodology, data, and conclusions. Students will develop the ability to dissect research findings, identify strengths and weaknesses, and draw informed conclusions that contribute to their own academic or professional endeavors.						3							3	

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165	PRI	23IE4048 - EPJ	CO4	Evaluation of research work trains students to systematically assess the quality and relevance of research studies by examining their design, methodology, and overall contributions to the field. Students will gain the skills to judge the validity, reliability, and impact of research, enabling them to make informed decisions and provide constructive feedback in academic or professional contexts.									3					3
166	PRI	23IE4051 - IIP-1	CO1	Apply theoretical knowledge to practical tasks in an industrial setting, ensuring that academic concepts are effectively translated into real-world applications.		3	3											
167	PRI	23IE4051 - IIP-1	CO2	Build problem-solving skills in real-world industrial projects by identifying challenges, brainstorming potential solutions, and implementing strategies to overcome obstacles.			3	3										
168	PRI	23IE4051 - IIP-1	CO3	Analyze the industry-standard tools and techniques to complete assigned tasks with precision, staying updated with the latest advancements and best practices in the field.	3		3										3	
169	PRI	23IE4051 - IIP-1	CO4	Examine and interpret data collected during the internship to enhance process efficiency and effectiveness, utilizing statistical methods and data analytics to derive actionable insights and recommendations.			3		3									
170	PRI	23IE4052 - IIP-2	CO1	Apply theoretical knowledge to practical tasks in an industrial setting, ensuring that academic concepts are effectively translated into real-world applications.		3	3											

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
171	PRI	23IE4052 - IIP-2	CO2	Build problem-solving skills in real-world industrial projects by identifying challenges, brainstorming potential solutions, and implementing strategies to overcome obstacles.			3	3										
172	PRI	23IE4052 - IIP-2	CO3	Analyze the industry-standard tools and techniques to complete assigned tasks with precision, staying updated with the latest advancements and best practices in the field.	3		3										3	
173	PRI	23IE4052 - IIP-2	CO4	Examine and interpret data collected during the internship to enhance process efficiency and effectiveness, utilizing statistical methods and data analytics to derive actionable insights and recommendations.			3		3									
174	PRI	23IE4053R - CP-1	CO1	Exercise to acquire knowledge within the chosen area of technology for project development.	2													
175	PRI	23IE4053R - CP-1	CO2	Identify, discuss and justify the technical aspects of the chosen area for problem analysis		2												
176	PRI	23IE4053R - CP-1	CO3	Reproduce, improve and refine technical aspects for chosen problem						3							3	
177	PRI	23IE4053R - CP-1	CO4	Communicate and report effectively project related activities and findings.									2					2
178	PRI	23IE4054R - CP-2	CO1	Literature search equips students with the ability to efficiently locate, evaluate, and synthesize academic and scholarly sources relevant to their field of study. Students will develop skills to conduct comprehensive searches, critically assess the credibility of sources, and apply research findings to support their academic or professional work.	2													

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
179	PRI	23IE4054R - CP-2	CO2	Problem identification enables students to accurately recognize and define complex issues or challenges within a given context. Students will learn to analyze situations critically, identify underlying causes, and articulate clear problem statements that guide effective problem-solving strategies.		2												
180	PRI	23IE4054R - CP-2	CO3	Analysis of research work prepares students to critically evaluate and interpret research studies, assessing the methodology, data, and conclusions. Students will develop the ability to dissect research findings, identify strengths and weaknesses, and draw informed conclusions that contribute to their own academic or professional endeavors.						3								
181	PRI	23IE4054R - CP-2	CO4	Analysis of research work prepares students to critically evaluate and interpret research studies, assessing the methodology, data, and conclusions. Students will develop the ability to dissect research findings, identify strengths and weaknesses, and draw informed conclusions that contribute to their own academic or professional endeavors.									2					
182	SIL	22UC0021 - SIL-1	CO1	Apply effective communication and collaboration skills to work with diverse populations in addressing social issues within the community.								3	3				2	
183	SIL	22UC0021 - SIL-1	CO2	Build technological solutions to real-world problems or challenges with peers to achieve common goals.								3	3				2	

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
184	SIL	22UC0021 - SIL-1	CO3	Plan effectively to communicate ideas and collaborate with others to achieve artistic or recreational goals.				3									2	
185	SIL	22UC0021 - SIL-1	CO4	Develop innovative solutions by thinking critically and creatively within a collaborative social immersive learning environment.				3									2	
186	SIL	22UC0021 - SIL-1	CO5	Identify the strategies to promote personal well-being for healthy living through social interaction and shared experiences.						3							2	
187	SIL	22UC0022 - SIL-2	CO1	Apply effective communication and collaboration skills to work with diverse populations in addressing social issues within the community.								3	3					
188	SIL	22UC0022 - SIL-2	CO2	Build technological solutions to real-world problems or challenges with peers to achieve common goals.								3	3					
189	SIL	22UC0022 - SIL-2	CO3	Plan effectively to communicate ideas and collaborate with others to achieve artistic or recreational goals.			3					3	3					
190	SIL	22UC0022 - SIL-2	CO4	Develop innovative solutions by thinking critically and creatively within a collaborative social immersive learning environment.			3					3	3				3	
191	SIL	22UC0022 - SIL-2	CO5	Identify the strategies to promote personal well-being for healthy living through social interaction and shared experiences.						3		3	3					
192	SIL	22UC0023 - SIL-3	CO1	Apply effective communication and collaboration skills to work with diverse populations in addressing social issues within the community.								3	3					

S#	Cat	Course	CO	CO Description	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
193	SIL	22UC0023 - SIL-3	CO2	Build technological solutions to real-world problems or challenges with peers to achieve common goals.								3	3					
194	SIL	22UC0023 - SIL-3	CO3	Plan effectively to communicate ideas and collaborate with others to achieve artistic or recreational goals.			3						3				3	
195	SIL	22UC0023 - SIL-3	CO4	Develop innovative solutions by thinking critically and creatively within a collaborative social immersive learning environment.			3						3				3	
196	SIL	22UC0023 - SIL-3	CO5	Identify the strategies to promote personal well-being for healthy living through social interaction and shared experiences.			3			3			3					
					2.5	2.5	2.8	2.7	2.7	2.8	2.7	2.5	2.7	2.6	2.2	3	2.6	2.3