

### Y24 COURSE OUTCOMES

| S# | Cat | Course         | CO  | CO Description   |
|----|-----|----------------|-----|--|
| 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  | HAS | 23FL3054 - FLG | CO2 | Classify questions and respond in the affirmative or negative with ?tre and avoir and form plurals   |
| 3  | HAS | 23FL3054 - FLG | CO3 | Utilize and apply the adjectives and essential verbs.  |
| 4  | HAS | 23FL3054 - FLG | CO4 | Construct and use in speech, vocabulary, reading, questions and answers  |
| 5  | HAS | 23FL3055 - GLG | CO1 | classify their understanding of greeting wishes, alphabets and numbers learning. to understand the greetings in formal and informal way  |
| 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 |
| 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   |
| 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.                                     |

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|----|-----|-----------------|-----|---|
| 9  | HAS | 23FL3058 - JLG  | CO1 | Classify Hiragana, Katakana, and basic Kanji characters used in greetings and simple scripts  |
| 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   |
| 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 |
| 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  |
| 13 | HAS | 23MB0001 - BME  | CO1 | Understand the basic concepts of marketing management   |
| 14 | HAS | 23MB0001 - BME  | CO2 | Understand the concepts of Marketing environment, consumer behaviour and Segmentation, Targeting and Positioning (STP)  |
| 15 | HAS | 23MB0001 - BME  | CO3 | Apply the marketing mix strategies with special focus on technology products  |
| 16 | HAS | 23MB0001 - BME  | CO4 | Apply promotion and distribution strategies for marketing of high tech products and services  |
| 17 | HAS | 23MB0002 - PIMT | CO1 | Understand the basic management concepts along with an insight into levels of management  |
| 18 | HAS | 23MB0002 - PIMT | CO2 | Understand the key contributions of classical approach to Management  |

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|----|-----|------------------|-----|---|
| 19 | HAS | 23MB0002 - PI MT | CO3 | Understand and apply Quantitative methods to improve Management performance.  |
| 20 | HAS | 23MB0002 - PI MT | CO4 | Understand the key contributions of Behavioural and contemporary approaches to Management.  |
| 21 | HAS | 23MB0003 - FM FE | CO1 | Understanding the comprehension of finance functions and diverse business models to facilitate informed decision-making processes within financial management.                      |
| 22 | HAS | 23MB0003 - FM FE | CO2 | Analyzing the investment decisions through an understanding of capital budgeting techniques, both traditional and modern, emphasizing long-term implications.                       |
| 23 | HAS | 23MB0003 - FM FE | CO3 | Analyze and make informed decisions regarding working capital management, considering the short-term financial health of organizations through practical case studies.              |
| 24 | HAS | 23MB0003 - FM FE | CO4 | Developing proficiency in comprehending and utilizing various sources of finance while discerning the implications of different dividend policies in practical financial scenarios. |
| 25 | HAS | 23MB4067 - IM PP | CO1 | Understand the basic management concepts along with an insight into production and control  |
| 26 | HAS | 23MB4067 - IM PP | CO2 | Select best forecasting models to predict future demand   |
| 27 | HAS | 23MB4067 - IM PP | CO3 | Solve various production scheduling problems to optimize productivity   |

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|----|-----|-----------------|-----|---|
| 28 | HAS | 23MB4067 - IMPP | CO4 | Understand concept of Inventory control, Method study and time study  |
| 29 | HAS | 23UC0026 - HGP  | CO1 | Understanding the basic concepts of value education   |
| 30 | HAS | 23UC0026 - HGP  | CO2 | Gain basic understanding of the principles in harmony among the human beings  |
| 31 | HAS | 23UC0026 - HGP  | CO3 | Gain knowledge in the concept of Harmony in the family and society  |
| 32 | HAS | 23UC0026 - HGP  | CO4 | Acquire knowledge in the concepts of harmony in the nature  |
| 33 | HAS | 23UC0027 - LAMS | CO1 | Understand basic leadership, skills and perspectives and leadership styles  |
| 34 | HAS | 23UC0027 - LAMS | CO2 | Understand different managerial skills and apply them to develop high performance teams   |
| 35 | HAS | 23UC0027 - LAMS | CO3 | Analyse effective communicative strategies and apply them in team tasks   |
| 36 | HAS | 23UC0027 - LAMS | CO4 | Apply strategic planning fundamentals and decision-making techniques, through exercises and case studies  |
| 37 | HAS | 24UC1102 - LSE  | CO1 | Understand the essential listening, speaking, and reading skills, preparing them for effective communication in various personal and professional contexts.                 |
| 38 | HAS | 24UC1102 - LSE  | CO2 | Apply essential writing and non-verbal communication skills, preparing them for effective written and non-verbal interactions in various personal and professional contexts |
| 39 | HAS | 24UC1203 - DTI  | CO1 | Understand the importance of Design thinking mindset for identifying contextualized problems  |

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|----|-----|-----------------|-----|--|
| 40 | HAS | 24UC1203 - DTI  | CO2 | Analyze the problem statement by empathizing with user   |
| 41 | HAS | 24UC1203 - DTI  | CO3 | Develop ideation and test the prototypes made  |
| 42 | HAS | 24UC1203 - DTI  | CO4 | Explore the fundamentals of entrepreneurship skills for transforming the challenge into an opportunity   |
| 43 | HAS | 24UC1204 - CSFE | CO1 | Understand the essential career skills, including resume writing, interview techniques, group discussions, and exploring career opportunities, preparing them for successful career advancement. |
| 44 | HAS | 24UC1204 - CSFE | CO2 | Apply a comprehensive understanding of essential team skills, preparing them for successful collaboration and contribution in professional team environments.                                    |
| 45 | BSC | 23ME1005 - MSM  | CO1 | Understand crystallography and various material testing methods to solve the relevant problems.  |
| 46 | BSC | 23ME1005 - MSM  | CO2 | Distinguish and analyze various types of materials based on their engineering applications.  |
| 47 | BSC | 23ME1005 - MSM  | CO3 | Apply the concepts of cooling curves and phase diagrams.   |
| 48 | BSC | 23ME1005 - MSM  | CO4 | Analyze various heat treatment processes and their strengthening mechanisms.   |
| 49 | BSC | 23ME1005 - MSM  | CO5 | Gain hands on experience to conduct various experiments of metallography and heat treatment process practically.   |

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| 50 | 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. |
| 51 | 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.          |
| 52 | 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. |
| 53 | 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.                   |
| 54 | BSC | 23MT2010 - CAMS | CO1 | Apply various approximate methods to solve problems in structural mechanics and to provide simplicity involved in Finite Element Method.  |
| 55 | BSC | 23MT2010 - CAMS | CO2 | Apply Galerkin method for solving problems on heat transfer, torsion, and fluid flow  |
| 56 | BSC | 23MT2010 - CAMS | CO3 | Analyze dynamic problems for longitudinal and transverse vibration of beam, and critical load estimation of columns to Engineering Devices.                                     |
| 57 | BSC | 23MT2010 - CAMS | CO4 | Analyze the experimental data using simple and useful methods of Statistics   |
| 58 | BSC | 23MT2011 - OTQ  | CO1 | Identify Optimum solutions for various single objective problems using Linear Programming models  |

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| 59 | BSC | 23MT2011 - OTQ  | CO2 | Identify Optimum Solutions through Transportation and Assignment models                                    |
| 60 | BSC | 23MT2011 - OTQ  | CO3 | Identify Optimum Solutions through Queuing theory and Dynamic Programming models                           |
| 61 | BSC | 23MT2011 - OTQ  | CO4 | Solve project management problems using CPM and PERT   |
| 62 | BSC | 24CY1001 - ECY  | CO1 | Apply the operation of electrochemical systems to produce electric energy and storage devices.             |
| 63 | BSC | 24CY1001 - ECY  | CO2 | Apply the fundamental aspects of electrochemistry and materials science relevant to corrosion phenomena.   |
| 64 | BSC | 24CY1001 - ECY  | CO3 | Examine water quality and apply appropriate purification technique for intended problem                    |
| 65 | BSC | 24CY1001 - ECY  | CO4 | Employ the fundamental principles and general properties of materials in various engineering applications. |
| 66 | BSC | 24CY1001 - ECY  | CO5 | Analyse the data, develop skills in chemical analysis and their application in engineering.                |
| 67 | ESC | 23EC1203 - BEEC | CO1 | Understand the basic concepts of circuits and its fundamentals   |
| 68 | ESC | 23EC1203 - BEEC | CO2 | Grasp the principles of AC circuits, including sinusoidal waveforms, impedance, and power factor.          |
| 69 | ESC | 23EC1203 - BEEC | CO3 | Comprehend the behavior of basic electronic components, such as diodes, and transistors.                   |
| 70 | ESC | 23EC1203 - BEEC | CO4 | Understand the basic functional Principles of analog and digital ICs.                                      |

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| 71 | ESC | 23ME1001 - EM  | CO1 | Apply the concept of forces, governing static equations, and analyze the planar system of forces.   |
| 72 | ESC | 23ME1001 - EM  | CO2 | Use analytical techniques for analyzing forces in statically determinate structures.  |
| 73 | 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.        |
| 74 | ESC | 23ME1001 - EM  | CO4 | Apply fundamental concepts of kinematics and kinetics of particles to solve simple practical problems.  |
| 75 | ESC | 23ME1002 - EG  | CO1 | Enumerating engineering curves, Listing various geometries and descriptions on multiple scales.   |
| 76 | ESC | 23ME1002 - EG  | CO2 | Apply the concept of first-angle and third-angle projection,  |
| 77 | ESC | 23ME1002 - EG  | CO3 | Demonstrate sectional view and sketching in modern tools.   |
| 78 | ESC | 23ME1002 - EG  | CO4 | Apply the engineering design process to real world problems   |
| 79 | ESC | 23ME1004 - WPE | CO1 | Prepare carpentry joints, fitting trade fits, tinsmithy components, and house wiring.   |
| 80 | ESC | 23ME1004 - WPE | CO2 | Prepare mould cavities, perform lathe, drill, grinding operations, create welding joints, and CNC programs.                                     |
| 81 | ESC | 23ME1103 - DTW | CO1 | Demonstrate proficiency in typing sentence , paragraph , report , presentations along spread sheets using office tools, LaTeX tools and PowerBI |

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| 82 | ESC | 23ME1103 - DTW   | CO2 | Build a static website and blog with using html along with Special features of HTML5, CSS and Javascript  |
| 83 | ESC | 23ME1103 - DTW   | CO3 | Develop a virtual environment with cospace and construct a marker based Augmented Reality   |
| 84 | ESC | 23ME1103 - DTW   | CO4 | Utilising the softwares of Autodesk Fusion 360 and the same can be printed in 3D printer as physical prototype  |
| 85 | ESC | 24AD2001R - AIML | CO1 | Apply a variety of artificial intelligence algorithms and techniques to effectively solve complex problems in diverse real-world environments   |
| 86 | ESC | 24AD2001R - AIML | CO2 | Demonstrate proficiency in formulating and solving constraint satisfaction problems, employing knowledge engineering principles to perform inferencing, reasoning and probability theory. |
| 87 | ESC | 24AD2001R - AIML | CO3 | Proficient in understanding and applying various machine learning techniques to analyze and solve real-world problems   |
| 88 | ESC | 24AD2001R - AIML | CO4 | Demonstrate proficiency in advanced supervised learning techniques and unsupervised learning techniques to solve complex real-world problems.   |
| 89 | ESC | 24AD2001R - AIML | CO5 | Build solutions for various AI & ML related problems  |
| 90 | ESC | 24SC1102 - CTP   | CO1 | Apply the concepts of Basic Data types, Operators, Decision and Looping Control Statements, Strings to solve real world problems  |

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| 91  | ESC | 24SC1102 - CTP | CO2 | Apply the methods to create and manipulate python programs on the complex data structures like lists, tuples, sets, dictionaries  |
| 92  | ESC | 24SC1102 - CTP | CO3 | Apply the concepts of object-oriented programming, call by value & call by reference, recursion to enhance the code design flexibility  |
| 93  | ESC | 24SC1102 - CTP | CO4 | Apply the robust approaches such as exception handling, file handling, interfaces, packages, threads for resilience code crafting   |
| 94  | ESC | 24SC1102 - CTP | CO5 | Design, implement, and evaluate Python programs using basic data types, variables, expressions, conditional statements, loops, functions, built-in data structures, object-oriented programming concepts, Python libraries and modules, debugging techniques, and file I/O to solve programming problems. |
| 95  | ESC | 24SC1102 - CTP | CO6 | Analyse requirements and design to implement lab-based project with SDLC in a group of students and apply object-oriented programming concepts to write programs  |
| 96  | ESC | 24SC1204 - DSP | CO1 | Analyze and measure efficiency of algorithms  |
| 97  | ESC | 24SC1204 - DSP | CO2 | Develop and analyze different Sorting Algorithms along with stacks and queues   |
| 98  | ESC | 24SC1204 - DSP | CO3 | Develop and Analyze different Trees and their applications.   |
| 99  | ESC | 24SC1204 - DSP | CO4 | Develop and Analyze different Hashing techniques and priority queues  |
| 100 | ESC | 24SC1204 - DSP | CO5 | Implement Data Structures concepts by Analyzing requirements of a problem and design to implement lab-based project   |

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| 101 | ESC | 24SC1204 - DSP   | CO6 | Implement Data Structures concepts by Analyzing requirements of a problem SKILL BASED PROBLEMS                           |
| 102 | ESC | 24SC21050 - CTOD | CO1 | Apply Object oriented paradigm for code reusability  |
| 103 | ESC | 24SC21050 - CTOD | CO2 | Design object-oriented solutions to the real-world problems through SOLID design principles                              |
| 104 | ESC | 24SC21050 - CTOD | CO3 | Design object-oriented solutions to the real-world problems through SOLID design principles                              |
| 105 | ESC | 24SC21050 - CTOD | CO4 | Demonstrate Exception handling and String manipulation techniques  |
| 106 | ESC | 24SC21050 - CTOD | CO5 | Design solutions to real time problems by using object-oriented programming concepts.                                    |
| 107 | ESC | 24SC21050 - CTOD | CO6 | Design GUI based applications for real time problems   |
| 108 | PCC | 23ME2106R - MOS  | CO1 | Analyze stresses in members with axial loading or torsion?   |
| 109 | PCC | 23ME2106R - MOS  | CO2 | Analyze members with multi axial loading and lateral loading?  |
| 110 | PCC | 23ME2106R - MOS  | CO3 | Analyze deflections and stresses in beams?   |
| 111 | PCC | 23ME2106R - MOS  | CO4 | Analyse columns and pressure vessels?  |
| 112 | PCC | 23ME2106R - MOS  | CO5 | Apply the theoretical concepts to conduct various experiments of strength of materials practically and analyze the data? |
| 113 | PCC | 23ME2107 - TD    | CO1 | Examine the basic terminology used in thermodynamics   |
| 114 | PCC | 23ME2107 - TD    | CO2 | Apply first law of thermodynamics to various flow and non-flow processes.  |

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| 115 | PCC | 23ME2107 - TD    | CO3 | Apply second law of thermodynamics and principle of entropy to Engineering Devices   |
| 116 | PCC | 23ME2107 - TD    | CO4 | Apply thermodynamic principles to estimate the performance of different air standard cycles and different psychrometric processes                                  |
| 117 | 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 |
| 118 | PCC | 23ME2116R - FMHM | CO2 | Apply continuity, Euler and Bernoulli equations and estimatedifferent flow measuring devices   |
| 119 | PCC | 23ME2116R - FMHM | CO3 | Apply continuity, Euler and Bernoulli equations and estimatedifferent flow measuring devices   |
| 120 | PCC | 23ME2116R - FMHM | CO4 | Analyze the performance of hydraulic turbines and pumps usingvelocity triangles and model similitude.  |
| 121 | PCC | 23ME2116R - FMHM | CO5 | Conduct experiments to verify and apply various fluid flowprinciples and performance evaluation of various hydraulicmachines like turbines and pumps               |
| 122 | PCC | 23ME2208 - MP    | CO1 | Identify the casting processes   |
| 123 | PCC | 23ME2208 - MP    | CO2 | Select the appropriate welding processes   |
| 124 | PCC | 23ME2208 - MP    | CO3 | Apply principles of cold/hot forming processes   |
| 125 | PCC | 23ME2208 - MP    | CO4 | Utilize sheet metal processes and design sheet metal dies  |
| 126 | PCC | 23ME2208 - MP    | CO5 | Fabricate the parts using manufacturing processes  |

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| 127 | PCC | 23ME2209R - KDOM | CO1 | Apply the basic principles and concepts of kinematics and mobility of the mechanisms.   |
| 128 | PCC | 23ME2209R - KDOM | CO2 | Analyze and kinematic design of mechanisms and machines using velocity and? acceleration analysis.  |
| 129 | PCC | 23ME2209R - KDOM | CO3 | Apply principles of cams to draw cam profiles and understand gear systems and gear trains for various applications.   |
| 130 | PCC | 23ME2209R - KDOM | CO4 | Understand the principles of balancing and vibrations and analyze gyroscopic effect on naval ships and automobiles.   |
| 131 | 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. |
| 132 | PCC | 23ME3110R - HT   | CO1 | Apply Fourier law of conduction and combined conduction convection concepts to 1-D heat transfer problems   |
| 133 | PCC | 23ME3110R - HT   | CO2 | Analyze heat transfer through extended surfaces and apply unsteady state heat transfer to various systems   |
| 134 | PCC | 23ME3110R - HT   | CO3 | Apply the emperical correlations for solving convection heat transfer and heat transfer through during phase change problems                                      |
| 135 | PCC | 23ME3110R - HT   | CO4 | Analyze various types of heat exchangers by applying the principles of conduction, convection, radiation  |
| 136 | PCC | 23ME3110R - HT   | CO5 | Analyze various parameters of heat transfer in different thermal systems physically/numerically   |

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| 137 | PCC | 23ME3111R - MED | CO1 | Apply engineering design phases and general considerations to design any machine component  |
| 138 | PCC | 23ME3111R - MED | CO2 | Apply the mechanical behavior of engineering materials concept to solve any material failure problem  |
| 139 | PCC | 23ME3111R - MED | CO3 | Analyse the machine components for static strength  |
| 140 | PCC | 23ME3111R - MED | CO4 | Analyse the machine components for fatigue strength   |
| 141 | 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.         |
| 142 | PCC | 23ME3112 - TSE  | CO2 | Model the convergent-divergent steam nozzle dimensional parameters and identify the performance of a steam condenser  |
| 143 | PCC | 23ME3112 - TSE  | CO3 | Apply the principles of thermodynamics to determine the performance of Si and CI engines  |
| 144 | PCC | 23ME3112 - TSE  | CO4 | Choose various refrigeration cycles by identifying their performance. Apply psychrometry properties to calculate various air-conditioning process parameters. |
| 145 | PCC | 23ME3112 - TSE  | CO5 | Analyze internal & external fluid flows in steady state and transient heat transfer systems.  |
| 146 | PCC | 23ME3113R - MT  | CO1 | Utilize the concept of metal cutting processes  |
| 147 | PCC | 23ME3113R - MT  | CO2 | Select appropriate machine tool to prepare desired objects  |

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| 148 | PCC | 23ME3113R - MT | CO3 | Make use of non-traditional machining processes   |
| 149 | PCC | 23ME3113R - MT | CO4 | Construct the automation of production lines  |
| 150 | PCC | 23ME3113R - MT | CO5 | Apply the concepts of modern manufacturing processes  |
| 151 | PCC | 23ME3214R - MD | CO1 | Analyze transmission shafts, couplings and springs for given design conditions  |
| 152 | PCC | 23ME3214R - MD | CO2 | Analyze welding,bolted fastening systems for given design conditions  |
| 153 | PCC | 23ME3214R - MD | CO3 | Analyze and select the appropriate bearings, belt drives and chain drives for given working conditions  |
| 154 | PCC | 23ME3214R - MD | CO4 | Analyze the spur and helical gears, band and block brakes for given working conditions  |
| 155 | PCC | 23ME3214R - MD | CO5 | Simulate and Evaluate a virtual/functional prototype  |
| 156 | PCC | 23ME3215 - DMR | CO1 | Describe the digital manufacturing framework, covering CNC fundamentals, Additive Manufacturing processes, solid modeling, 3D scanning, and AM applications |
| 157 | PCC | 23ME3215 - DMR | CO2 | Explain the functions of basic robot components and apply them across various robot types and drive systems in diverse applications.                        |
| 158 | PCC | 23ME3215 - DMR | CO3 | Apply image processing techniques for robot vision, including sensor principles and applications such as inspection and navigation.                         |

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| 159 | PCC | 23ME3215 - DMR | CO4 | Understand and apply various robot programming languages (VAL, AML, RAIL) for motion, sensor, and end effector commands, and kinematics principles.  |
| 160 | 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 |
| 161 | PRI | 23IE2040 - SIP | CO2 | Remember the water sustainability and water resilience of village, city, residential facilities and households using multi-level water scorecards  |
| 162 | PRI | 23IE2040 - SIP | CO3 | Apply the design thinking positive action plan for a village, campus, residential facility and community neighbourhood.  |
| 163 | PRI | 23IE2040 - SIP | CO4 | Apply the water positive solutions within an urban watershed, a rural watershed, residential institutional and corporate community   |
| 164 | PRI | 23IE3041 - TIP | CO1 | Ability to demonstrate the impact of academic skills and logical thinking  |
| 165 | PRI | 23IE3041 - TIP | CO2 | Ability to integrate existing and new technical knowledge for industrial application   |
| 166 | PRI | 23IE3041 - TIP | CO3 | Ability to demonstrate the impact of the internship on their learning and professional development   |
| 167 | PRI | 23IE3041 - TIP | CO4 | Demonstrate the ability to harness resources by analyzing challenges   |

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| 168 | PRI | 23IE4042 - IIP | CO1 | Apply fundamental engineering/technology knowledge to solve real-world industrial problems.   |
| 169 | PRI | 23IE4042 - IIP | CO2 | Demonstrate effective communication and Technical skills in a professional setting.   |
| 170 | PRI | 23IE4042 - IIP | CO3 | Collaborate effectively in a team environment.  |
| 171 | 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. |
| 172 | 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.  |
| 173 | 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.        |

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| 174 | 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. |
| 175 | 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.   |
| 176 | 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.   |
| 177 | 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.   |
| 178 | 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.   |
| 179 | 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.   |

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| 180 | 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.   |
| 181 | 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.   |
| 182 | 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.   |
| 183 | PRI | 23IE4053R - CP-1 | CO1 | Exercise to acquire knowledge within the chosen area of technology for project development.   |
| 184 | PRI | 23IE4053R - CP-1 | CO2 | Identify, discuss and justify the technical aspects of the chosen area for problem analysis   |
| 185 | PRI | 23IE4053R - CP-1 | CO3 | Reproduce, improve and refine technical aspects for chosen problem  |
| 186 | PRI | 23IE4053R - CP-1 | CO4 | Communicate and report effectively project related activities and findings.   |
| 187 | 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. |

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| 188 | 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.   |
| 189 | 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. |
| 190 | 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. |
| 191 | SIL | 22UC0021 - SIL-1 | CO1 | Apply effective communication and collaboration skills to work with diverse populations in addressing social issues within the community.  |
| 192 | SIL | 22UC0021 - SIL-1 | CO2 | Build technological solutions to real-world problems or challenges with peers to achieve common goals.   |

| S#  | Cat | Course           | CO  | CO Description  |
|-----|-----|------------------|-----|---|
| 193 | SIL | 22UC0021 - SIL-1 | CO3 | Plan effectively to communicate ideas and collaborate with others to achieve artistic or recreational goals.                              |
| 194 | SIL | 22UC0021 - SIL-1 | CO4 | Develop innovative solutions by thinking critically and creatively within a collaborative social immersive learning environment.          |
| 195 | SIL | 22UC0021 - SIL-1 | CO5 | Identify the strategies to promote personal well-being for healthy living through social interaction and shared experiences.              |
| 196 | SIL | 22UC0022 - SIL-2 | CO1 | Apply effective communication and collaboration skills to work with diverse populations in addressing social issues within the community. |
| 197 | SIL | 22UC0022 - SIL-2 | CO2 | Build technological solutions to real-world problems or challenges with peers to achieve common goals.                                    |
| 198 | SIL | 22UC0022 - SIL-2 | CO3 | Plan effectively to communicate ideas and collaborate with others to achieve artistic or recreational goals.                              |
| 199 | SIL | 22UC0022 - SIL-2 | CO4 | Develop innovative solutions by thinking critically and creatively within a collaborative social immersive learning environment.          |
| 200 | SIL | 22UC0022 - SIL-2 | CO5 | Identify the strategies to promote personal well-being for healthy living through social interaction and shared experiences.              |
| 201 | SIL | 22UC0023 - SIL-3 | CO1 | Apply effective communication and collaboration skills to work with diverse populations in addressing social issues within the community. |

| S#  | Cat | Course           | CO  | CO Description   |
|-----|-----|------------------|-----|--|
| 202 | SIL | 22UC0023 - SIL-3 | CO2 | Build technological solutions to real-world problems or challenges with peers to achieve common goals.                           |
| 203 | SIL | 22UC0023 - SIL-3 | CO3 | Plan effectively to communicate ideas and collaborate with others to achieve artistic or recreational goals.                     |
| 204 | SIL | 22UC0023 - SIL-3 | CO4 | Develop innovative solutions by thinking critically and creatively within a collaborative social immersive learning environment. |
| 205 | SIL | 22UC0023 - SIL-3 | CO5 | Identify the strategies to promote personal well-being for healthy living through social interaction and shared experiences.     |