



Details of Courses with Course Outcomes for Session 2020-21

1. Course Name: Mathematics-IV (KAS-302), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to -
KAS-302.1	Remember the concept of partial differential equation and to solve partial differential equations
KAS-302.2	Analyze the concept of partial differential equations to evaluate the problems concerned with partial differential equations
KAS-302.3	Understand the concept of correlation, moments, skewness and kurtosis and curve fitting
KAS-302.4	Remember the concept of probability to evaluate probability distributions
KAS-302.5	Apply the concept of hypothesis testing and statistical quality control to create control charts

2. Course Name: Technical Communication (KAS-301), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
KAS-301.1	Understand the nature and objective of Technical Communication relevant for the work place as Engineers.
KAS-301.2	Utilize the technical writing for the purposes of Technical Communication and its exposure in various dimensions.
KAS-301.3	Have effective Presentations skill to face diverse audience with confidence.
KAS-301.4	Create a vast know-how of the application of the learning to promote their technical competence.
KAS-301.5	Evaluate their efficacy as fluent & efficient communicators by learning the voice-dynamics.

3. Course Name: Thermodynamics (KME-301), Year of study: 2020-21

Course outcome	Statement (On completion of this course, the student will be able to -)
KME-301.1	Explain fundamental concepts of thermodynamics.
KME-301.2	Apply first law of thermodynamics to open and closed systems.
KME-301.3	Understand second law of thermodynamics, concept of entropy and their applications.
KME-301.4	Understand availability and irreversibility and thermodynamic relations.
KME-301.5	Use properties of pure substance and air-water vapour mixture to analyze the open and closed systems.
KME-301.6	Analyze air and vapour compression refrigeration systems.



4. Course Name: Fluid Mechanics and Fluid Machines (KME-302), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to -
KME-302.1	Apply the Bernoulli's equation to fluid measurement problems.
KME-302.2	Distinguish various types of fluid flows using continuity equation, stream function and velocity potential function.
KME-302.3	Apply principles of dimensional analysis to form dimensionless numbers.
KME-302.4	Use the equation of motion for laminar flow to find losses in a flow through pipe and to comprehend the concepts of laminar and turbulent boundary layers
KME-302.5	Calculate the force and work done by jet on fix and moving plates.
KME-302.6	Understand working and evaluate the performance of water pumps and turbines.

5. Course Name: Materials Engineering (KME-303), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to-
KME-303.1	Explain crystal structure and mechanical properties of materials.
KME-303.2	Understand the theories of failures of materials.
KME-303.3	Provide a detailed interpretation of equilibrium phase diagrams.
KME-303.4	Explain the microstructure and heat treatment of metals and alloys.
KME-303.5	Describe various case hardening methods.
KME-303.6	Explain properties and applications of ferrous and non-ferrous metals.

6. Course Name: Fluid Mechanics Lab (KME-351), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to -
KME-351.1	Calculate friction losses in pipes and determine the flow pattern in pipes.
KME-351.2	Calibrate the flow measurement devices using Bernoulli's equation.
KME-351.3	Verify momentum equation experimentally and find metacentric height of a floating bodies.

7. Course Name: Material Testing Lab (KME-352), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to -
KME-352.1	Determine various Mechanical Properties experimentally
KME-352.2	Calculate Spring Index and Young's Modulus.
KME-352.3	Understand Non Destructive Testing Methods.



8. Course Name: Computer Aided Machine Drawing Lab (KME-353), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to -
KME-353.1	Use various conventional representation of machine components and materials.
KME-353.2	Apply the fundamental concepts of engineering drawing to represent various machine components
KME-353.3	Understand the concepts of computer aided 2D drafting using AutoCAD and draw machine elements using AutoCAD.

9. Course Name: Mini Project or Internship (KME-354), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to-
KME-354.1	Perform the engineering activities with effective presentation and report.
KME-354.2	Perform as an individual and/or team member to manage the tasks in time.
KME-354.3	Justify the ethical principles in engineering practices.

10. Course Name: Universal Human Values (KVE-401), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to-
KVE-401.1	Understand the need, concept and content of value-education in individual's life and modifies their aspirations for happiness & prosperity.
KVE -401.2	Comprehend the term self-exploration and its application for self-evaluation and development.
KVE -401.3	Reconstruct the concepts about different values & discriminate between them.
KVE -401.4	Analyze the concept of co-existence & evaluate the program to ensure self-regulation.
KVE -401.5	Identify the holistic perception of harmony at level of self, family, society, nature and explain it by various examples.
KVE -401.6	Apply professional ethics in their future profession & contribute for making a value based society.



11. Course Name: Applied Thermodynamics (KME-401), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to-
KME-401.1	Understanding of different types of fuels and their combustion characteristics.
KME-401.2	Comparison of different air standard cycles.
KME-401.3	Analyze the Rankine cycle with various configurations to optimize the design of a power plant and combustion analysis. .
KME-401.4	Classification and working performance of boilers, condensers and their components.
KME-401.5	Understand the flow of steam and gases in nozzles, working of steam turbines and calculation of its efficiency and losses.
KME-401.6	Analyze the working of gas turbine and calculation of its power and efficiency. Analyze jet propulsion and rocket engines.

12. Course Name: Engineering Mechanics (KME-402), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
KME-402.1	Calculate the resultant force and moment for planar force system under equilibrium condition.
KME-402.2	Use the concept of equilibrium to solve engineering problems involving friction.
KME-402.3	Analyze mechanical structure using equations of equilibrium (Truss and Beam).
KME-402.4	Determine mass and area properties of various geometrical shapes.
KME-402.5	Calculate the motion parameters like displacement, velocity and acceleration using principles of rigid body dynamics.
KME-402.6	Comprehend the fundamentals of mechanics of deformable solids.

13. Course Name: Manufacturing Processes (KME-403), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
KME-403.1	Explain the various types of casting processes, defects in casting processes and design of riser and gating.
KME-403.2	Analyze metal forming operations like forging, tube drawing, extrusion, rolling, and sheet metal working operations.
KME-403.3	Analyze various aspects of metal cutting processes and comprehend the fundamentals of additive manufacturing.
KME-403.4	Understand the grinding process, the specification of grinding wheel and various super finishing processes.
KME-403.5	Describe the welding processes like; Gas welding, Arc welding, TIG & MIG, Resistance welding etc.
KME-403.6	Explain the unconventional machining processes..



14. Course Name: Electronics Engineering (KOE-048), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
KOE-048.1	Understand the concept of PN junction and special purpose diodes.
KOE-048.2	Study the application of conventional diode and semiconductor diode.
KOE-048.3	Analyze the I-V Characteristics of BJT and FET.
KOE-048.4	Analyze the Op-Amp, amplifiers, integrator and differentiator.
KOE-048.5	Understand the concept of digital storage oscilloscope and compare DSO with analog oscilloscope.

15. Course Name: Applied Thermodynamics Lab (KME-451), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to-
KME-451.1	Explain the working of IC Engines.
KME-452.2	Describe the working of boilers.
KME-453.3	Comprehend the working of gas & steam turbines.

16. Course Name: Manufacturing Processes Lab (KME-452), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to-
KME-452.1	Make pattern and execute metal casting.
KME-452.2	Perform machining processes like turning, milling, drilling, grinding, etc.
KME-452.3	Execute various forming and welding operations.

17. Course Name: Computer Aided Machine Drawing-II Lab (KME-453), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
KME-453.1	Recognize and use conventional representation of machine components, materials, surface finish and welded joints in part, assembly and production drawings.
KME-453.2	Represent limits, fits, tolerances and surface roughness on assembly drawing of a machine component.
KME-453.3	Draw part drawings of machine components and assembly drawing using computer aided drafting software.

18. Course Name: Heat & Mass Transfer (KME-501), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
KME-501.1	Understand the fundamentals of heat and mass transfer.
KME-501.2	Apply the concept of steady and transient heat conduction
KME-501.3	Apply the concept of thermal behavior of fins.
KME-501.4	Apply the concept of forced and free convection.
KME-501.5	Apply the concept of radiation for black and non-black bodies
KME-501.6	Conduct thermal analysis of heat exchangers



Galgotias College of Engineering & Technology, Greater Noida
Mechanical Engineering Department

19. Course Name: Strength of Material (KME-502), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
KME-502.1	Understand the concept of stress and strain under different conditions of loading
KME-502.2	Determine the principal stresses and strains in structural members
KME-502.3	Determine the stresses and strains in the members subjected to axial, bending and torsional loads
KME-502.4	Apply the concepts of stresses and strain in solving problems related to springs, column and pressure vessels
KME-502.5	Calculate the slope, deflection and buckling of loaded members
KME-502.6	Analyze the stresses developed in straight and curved beams of different cross sections

20. Course Name: Industrial Engineering (KME-503), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
KME-503.1	Understand the concept of production system, productivity, facility and process planning in various industries
KME-503.2	Apply the various forecasting and project management techniques
KME-503.3	Apply the concept of break-even analysis, inventory control and resource utilization using queuing theory
KME-503.4	Apply principles of work study and ergonomics for design of work systems
KME-503.5	Formulate mathematical models for optimal solution of industrial problems using linear programming approach

21. Course Name: Computer Integrated Manufacturing (KME-051), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
KME-051.1	Understand the basic concepts of automation, computer numeric control machining
KME-051.2	Understand the algorithms of line generation, circle generation, transformation, curve, surface modeling and solid modeling
KME-051.3	Understand group technology, computer aided process planning, flexible manufacturing, Industry 4.0, robotics
KME-051.4	Understand information system and material handling in CIM environment, rapid prototyping
KME-051.5	Apply the algorithms of line & circle generation and geometric transformations
KME-051.6	Develop CNC program for simple operations



22. Course Name: Mechatronic System (KME-052), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
KME-052.1	Identify key elements of mechatronics and its representation by block diagram.
KME-052.2	Understand the concept of sensors and use of interfacing systems.
KME-052.3	Understand the concept and applications of different actuators
KME-052.4	Illustrate various applications of mechatronic systems.
KME-052.5	Develop PLC ladder programming and implementation in real life problem.

23. Course Name: Automobile Engines & Combustion (KAU- 051), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
KAU-051.1	Explain the working principle, performance parameters and testing of IC Engine
KAU-051.2	Understand the phenomena of combustion and its application in SI and CI engines.
KAU-051.3	Understand the essential systems of IC engine
KAU-051.4	Understand the effect of engine emissions on environment and human health and methods of reducing it
KAU-051.5	Apply the concepts of thermodynamics to air standard cycle Engines
KAU-051.6	Analyze the effect of various operating parameters on IC engine performance

24. Course Name: Welding Engineering (KME-055), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
KME-055.1	Understand the theoretical and practical aspects of welding and its phenomena.
KME-055.2	Understand the various welding process.
KME-055.3	Describe the basic metallurgy of the melted and heat-affected zone of a metal or alloy and heat transfer involved in different welding process
KME-055.4	Understand the various process involved in repair and maintenance of welding i.e. hard facing, cladding
KME-055.5	Understand the weldability of different metal.
KME-055.6	Demonstrate their ability to check the weldment quality using various inspection and testing methods.



25. Course Name: Programming, Data Structures And Algorithms Using Python (KME 056), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
KME-056.1	Understand the numbers, math's function, strings, list, tuples, and dictionaries in python.
KME-056.2	Apply conditional statement and functions in python.
KME-056.3	Apply file handling techniques in python.
KME-056.4	Analyze the graphical demonstration in python.
KME-056.5	Apply techniques of Classes and Object Concept in Python.

26. Course Name: Automotive Chassis & Suspension (KAU 052), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
KAU-052.1	Understand different types of automotive chassis and frames used in automobiles.
KAU-052.2	Understand transmission and drive line components used in automobile
KAU-052.3	Understand the axles and types of steering system in automobile.
KAU-052.4	Understand the constructional features of braking, suspension system, wheels and tyres in automobile application
KAU-052.5	Understand the recent advancements made in chassis components of automobile
KAU-052.6	Apply the concepts of braking and steering system to design the same for automobile application.

27. Course Name: Heat Transfer Lab (KME-551), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
KME-551.1	Apply the concept of conductive heat transfer.
KME-551.2	Apply empirical correlations for both forced and free convection to determine the value of convection heat transfer coefficient
KME-551.3	Apply the concept of radiation heat transfer for black and grey body.
KME-551.4	Analyze the thermal behaviour of parallel or counter flow heat exchangers
KME-551.5	Conduct thermal analysis of a heat pipe

28. Course Name: Python Lab (KME-552), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
KME-552.1	Apply conditional statement, loops condition and functions in python program
KME-552.2	Solve mathematical and mechanical problems using python program
KME-552.3	Plot various type of chart using python program
KME-552.4	Analyze the mechanical problem using python program



Galgotias College of Engineering & Technology, Greater Noida
Mechanical Engineering Department

29. Course Name: Internet of Things Lab (KME-553), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
RME-553.1	Understand Internet of Things and its hardware and software components.
RME-553.2	Interface I/O devices, sensors & communication modules and remotely monitor data and control devices.
RME-553.3	Develop IOT based projects for real life problem.

30. Course Name: Mini Project or Internship Assessment (KME-554), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
KME-554.1	Perform the engineering activities with effective presentation and report.
KME-554.2	Perform as an individual and/or team member to manage the tasks in time.
KME-554.3	Justify the ethical principles in engineering practices.

31. Course Name: Constitution of India (NC+), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
NC01.1	Identify and explore the basic features and modalities about Indian constitution.
NC01.2	Differentiate and relate the functioning of Indian parliamentary system at the center and state level
NC01.3	Differentiate different aspects of Indian Legal System and its related bodies
NC01.4	Discover and apply different laws and regulations related to engineering practices
NC01.5	Correlate role of engineers with different organizations and governance models.
NC01.1	Identify and explore the basic features and modalities about Indian constitution.

32. Course Name: Refrigeration & Air-conditioning (KME-601), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
KME-601.1	Understand the basic concepts of Refrigeration & Air-Conditioning and its future prospects.
KME-601.2	Explain the construction and working of various components in Refrigeration & Air-Conditioning systems.
KME-601.3	Understand the different types of RAC systems with their respective applications
KME-601.4	Apply the basic laws to the thermodynamic analysis of different processes involved in Refrigeration and Air-Conditioning.
KME-601.5	Apply the basic concepts to calculate the COP and other performance parameters for different RAC systems
KME-601.6	Analyze the effects of performance parameters on COP



Galgotias College of Engineering & Technology, Greater Noida
Mechanical Engineering Department

33. Course Name: Machine Design (KME-602), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
KME-602.1	Recall the basic concepts of Solid Mechanics to understand the subject.
KME-602.2	Classify various machine elements based on their functions and applications.
KME-602.3	Apply the principles of solid mechanics to machine elements subjected to static and fluctuating loads.
KME-602.4	Analyze forces, bending moments, twisting moments and failure causes in various machine elements to be designed.
KME-602.5	Design the machine elements to meet the required specification.

34. Course Name: Theory of Machine (KME-603), Year of study: 2019-20

Course outcome	On completion of this course, the student will be able to
KME-603.1	Understand the principles of kinematics and dynamics of machines.
KME-603.2	Calculate the velocity and acceleration for 4-bar and slider crank mechanism
KME-603.3	Develop cam profile for followers executing various types of motions
KME-603.4	Apply the concept of gear, gear train and flywheel for power transmission
KME-603.5	Apply dynamic force analysis for slider crank mechanism and balance rotating reciprocating masses in machines.
KME-603.6	Apply the concepts of gyroscope, governors in fluctuation of load and brake dynamometer in power transmission

35. Course Name: Non-destructive Testing (KME 061), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
KME-061.1	Understand the concept of destructive and Non-destructive testing methods.
KME-061.2	Explain the working principle and application of die penetrant test and magnetic particle inspection.
KME-061.3	Understand the working principle of eddy current inspection.
KME-061.4	Apply radiographic techniques for testing
KME-061.5	Apply the principle of Ultrasonic testing and applications in medical and engineering areas.

36. Course Name: Artificial Intelligence (KME 062), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
KME-062.1	Understand concepts of Artificial Intelligence
KME-062.2	Solve problem by Search-I & Search-II
KME-062.3	Understand Knowledge representation
KME-062.4	Apply concepts of Learning methods
KME-062.5	Analyse Decision Networks
KME-062.6	Build planning graphs



Galgotias College of Engineering & Technology, Greater Noida
Mechanical Engineering Department

37. Course Name: Automotive Electrical and Electronics (KAU 061), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
KAU-061.1	Understand the basic concepts of electrical systems used in automobile
KAU-061.2	Understand the constructional features of charge storage devices and methods to test these devices for their healthy operation.
KAU-061.3	Understand the principles and characteristics of charging and starting system of automobile and study the various faults occurring in system.
KAU-061.4	Understand the ignition and auxiliary system- types & constructional features used in automobile.
KAU-061.5	Describe the principles and architecture of electronics systems and its components present in an automobile related to data transfer, instrumentation, control, and security systems.
KAU-061.6	Understand latest trends developed in electrical and electronic systems of automobile and their advantages over conventional technologies

38. Course Name: Refrigeration & Air-conditioning Lab (KME 651), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
KME-651.1	Determine the performance of different refrigeration and air-conditioning systems
KME-651.2	Apply the concept of psychrometry on different air cooling systems
KME-651.3	Interpret the use of different components, control systems and tools used in RAC systems
KME-651.4	Demonstrate the working of practical applications of RAC systems

39. Course Name: Machine Design Lab (KME 652), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
KME-652.1	Apply the principles of solid mechanics to design various machine Elements subjected to static and fluctuating loads.
KME-652.2	Write computer programs and validate it for the design of different machine elements
KME-652.3	Evaluate designed machine elements to check their safety.

40. Course Name: Theory of Machine Lab (KME 653), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
KME-653.1	Demonstrate various mechanisms, their inversions and brake and clutches in automobiles
KME-653.2	Apply cam-follower mechanism to get desired motion of follower
KME-653.3	Apply the concepts of gears and gear train to get desired velocity ratio for power transmission
KME-653.4	Apply the concept of governors to control the fuel supply engine
KME-653.5	Determine the balancing load in static and dynamic balancing problem



Galgotias College of Engineering & Technology, Greater Noida
Mechanical Engineering Department

41. Course Name: Essence of Indian Traditional Knowledge, Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
NC02.1	Understand the development of both, society as well as state in ancient India, and connect it with their modern counterparts
NC02.2	Understand the evolution of languages, scripts and literature in ancient India
NC02.3	Understand the Vedic religion & epistemology discussed in six schools of Indian philosophy(Shadarshna) and able to link them with the modern religious practices
NC02.4	Understand the ancient Indian knowledge system in various sciences and Indian dominance in international trade till Pre-colonial times
NC02.5	Understand the development culture, related architecture and various art forms in ancient India
NC02.1	Understand the development of both, society as well as state in ancient India, and connect it with their modern counterparts

42. Course Name: RME-075 (Operations Research), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
RME-075.1	Formulate suitable mathematical models of the day-to-day business problems and employ Simplex method to solve Linear Programming Problems.
RME-075.2	Develop minimum cost solutions for conventional Transportation and Assignment problems.
RME-075.3	Use Network flow models to find solution to problems like - shortest path, Minimal spanning Tree, Max-Flow & Minimum cut problems.
RME-075.4	Monitor the progress of projects using techniques like PERT & CPM and take necessary steps to avoid any time and cost overruns in projects.
RME-075.5	Suggest optimum strategies for the decision makers via Games theory fundamentals.
RME-075.6	Apply OR tools & techniques to make optimum decisions regarding issues like - Queuing system design, Inventory Control, Replacement of old equipments.

43. Course Name: RME-701 (CAD/CAM), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
RME-701.1	Explain the basic elements of computer graphics and transformations
RME-701.2	Interpret synthetic curves in Parametric form and exemplify different modelling techniques.
RME-701.3	Execute the Finite Element Modelling technique and implement modelling softwares.
RME-701.4	Interpret and execute the key elements of CAM environment.
RME-701.5	Explain the robot's working, its programming and interpret the key features of QFD in manufacturing environment.
RME-701.6	Classify the different rapid prototyping techniques and interpret FMS.



44. Course Name: RME-702 (Automobile Engineering), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
RME-702.1	Understand the design principles for main components of an automotive vehicle.
RME-702.2	Understand the basics of transmission systems of an automotive vehicle.
RME-702.3	Understand the function & types of braking, chassis and suspension systems of an automobile.
RME-702.4	Understand the electrical & fuel supply systems of an automotive vehicle.
RME-702.5	Understand the automobile air-conditioning, cooling & lubrication systems.
RME-702.6	Understand the key features of an automobile maintenance system.

45. Course Name: RME-073 (Additive Manufacturing), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
RME-073.1	Elaborate the basic fundamentals of additive manufacturing technology
RME-073.2	Differentiate and classify the additive manufacturing processes.
RME-073.3	Understand various process parameters of latest AM technologies.
RME-073.4	Understand and solve various design & software issues associated with AM technologies.
RME-073.5	Understand material design and quality aspects related to AM technology.
RME-073.6	Explore various new advanced applications of AM processes.

46. Course Name: Cloud Computing (ROE-073), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
ROE-073.1	Explain the fundamental of cloud and their computation over parallel and distributed computing.
ROE-073.2	Understand the concept of virtualization and their mechanism with service oriented architecture.
ROE-073.3	Organize the cloud data in Public, Private and Hybrid Clouds on cloud storage.
ROE-073.4	Examine the cloud data by Resource provisioning methods and implement global security on it.
ROE-073.5	Analyse the virtual box and programming environment can be applied over Google app engine.
ROE-073.6	Develop data processing application which is executed in distributed computing environment by using Hadoop.



Galgotias College of Engineering & Technology, Greater Noida
Mechanical Engineering Department

47. Course Name: CAD/CAM Lab (RME-751), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
RME-751.1	Write and debug C/C++ programs for line, circle and geometric transformation.
RME-751.2	Draw component/assembly of basic machine elements using Pro-E Software.
RME-751.3	Write and execute manual part-programs for different machining operations on CNC lathe/milling machines.

48. Course Name: I. C. Engine & Automobile Lab (RME-752), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
RME-752.1	Analyse the performance of an IC engine.
RME-752.2	Understand the transmission, braking, air conditioning and fuel supply systems used in automobiles
RME-752.3	Compare different vehicle based on technical specification.

49. Course Name: Industrial Training (RME-753), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
RME-753.1	Understand the operational aspects of an organization.
RME-753.2	Prepare and present summary of knowledge gained during summer training.
RME-753.3	Relate and express impact of industry on human race and environment (living / non - living) in a better way.

50. Course Name: ROE-086 (Renewable Energy Resources), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
ROE-086.1	Understand the various conventional energy systems, their prospects and limitations.
ROE-086.2	Describe the use of solar energy and the various components used in the energy production with respect to applications.
ROE-086.3	Understand the geothermal principles working of Magneto-hydrodynamics (MHD) power plant
ROE-086.4	Acquire the knowledge of fuel cells and wind energy.
ROE-086.5	Understand the concept of Biomass energy resources and their classification.
ROE-086.6	Understand the concept of wave power, tidal power.



51. Course Name: Advance Welding (RME-081), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
RME-081.1	Understand the theoretical and practical aspects of welding and its phenomena.
RME-081.2	Understand the various welding process.
RME-081.3	Describe the basic metallurgy of the melted and heat-affected zone of a metal or alloy and heat transfer involved in different welding process
RME-081.4	Understand the various process involved in repair and maintenance of welding i.e. hard facing, cladding
RME-081.5	Understand the weldability of different metal.
RME-081.6	Demonstrate their ability to check the weldment quality using various inspection and testing methods.

52. Course Name: RME-085 (Total Quality Management), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
RME-085.1	Understand the traditional and modern quality concepts.
RME-085.2	Appreciate the issues related to quality of bought out and manufactured products.
RME-085.3	Select the suitable organization structure for different products and companies
RME-085.4	Exercise process and product control through Statistical Quality Control.
RME-085.5	Diagnose and control various defects using reliability studies.
RME-085.6	Understand and implement advanced quality management systems like Taguchi, JIT and ISO-9000 in the organization.

53. Course Name: Seminar (RME-851), Year of Study: 2020-21

Course outcome	On completion of this course, the student will be able to
RME851.1	Explore the current technical area.
RME851.2	Search out the relevant material for the selected topic.
RME851.3	Portray the task with good presentation and report writing.



54. Project (RME-754/RME-852), Year of study: 2020-21

Course outcome	On completion of this course, the student will be able to
RME-754/852.1	Identify, formulate and investigate complex engineering problems with the help of acquired engineering knowledge & exposure.
RME-754/852.2	Select and apply suitable modelling and simulation tools to make decisions at different stages of the solution process.
RME-754/852.3	Demonstrate the communication and inter-personal skills while working on projects as an individual or as a member of a team.
RME-754/852.4	Understand the relevance and importance of social, ethical, environmental and cultural concerns in project conception, planning & execution.
RME-754/852.5	Understand the general principles of engineering & management and apply them to multidisciplinary project environments.
RME-754/852.6	Realize the need for, and engage in, lifelong learning to face the challenges posed by technological changes