Odd semester 2017

MA8353 TRANSFORMS AND PARTIAL DIFFERENTIAL EQUATIONS

Upon successful completion of the course, students should be able to:

- Understand how to solve the given standard partial differential equations.
- Solve differential equations using Fourier series analysis which plays a vital role in engineering applications.
- Appreciate the physical significance of Fourier series techniques in solving one and two dimensional heat flow problems and one dimensional wave equations.
- Understand the mathematical principles on transforms and partial differential equations would provide them the ability to formulate and solve some of the physical problems of engineering.
- Use the effective mathematical tools for the solutions of partial differential equations by using Z transform techniques for discrete time systems.

ME8391 ENGINEERING THERMODYNAMICS

- To apply the first law of thermodynamics for simple open and closed systems under steady and unsteady conditions.
- To apply second law of thermodynamics to open and closed systems and calculate entropy and availability.
- To apply Rankine cycle to steam power plant and compare few cycle improvement methods.
- To derive simple thermodynamic relations of ideal and real gases.
- To calculate the properties of gas mixtures and moist air and its use in psychometric processes

CE8395 STRENGTH OF MATERIALS FORMECHANICAL ENGINEERS

Students will be able to

- Understand the concepts of stress and strain in simple and compound bars, the importance of principal stresses and principal planes.
- Understand the load transferring mechanism in beams and stress distribution due to shearing force and bending moment.
- Apply basic equation of simple torsion in designing of shafts and helical spring
- Calculate the slope and deflection in beams using different methods.
- Analyze and design thin and thick shells for the applied internal and external pressures

AT8301 SPARK IGNITION ENGINES

- On successful completion of this course the student will be able to understand the overall concepts of S.I engines.

ME8392 MANUFACTURING TECHNOLOGY

- The Students can able to use different manufacturing process and use this in industry for component production

CE8394 FLUID MECHANICS AND MACHINERY

Upon completion of this course, the students will be able to

- Apply mathematical knowledge to predict the properties and characteristics of a fluid.
- Can analyse and calculate major and minor losses associated with pipe flow in piping networks. Can mathematically predict the nature of physical quantities
- Can critically analyse the performance of pumps
- Can critically analyse the performance of turbines.

ME8593 DESIGN OF MACHINE ELEMENTS

- To Explain the influence of steady and variable stresses in machine component design.
- To Apply the concepts of design to shafts, keys and couplings.
- To Apply the concepts of design to temporary and permanent joints.
- To Apply the concepts of design to energy absorbing members, bearings and connecting rod.
- To Apply the concepts of design to bearings.
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AT8501 AUTOMOTIVE TRANSMISSION

- The students will understand the constructional, working principle of various types of manual and automotive transmission of an automobile.

AT8502 AUTOMOTIVE ELECTRICAL AND ELECTRONICS SYSTEMS

- The student will have to know about all theoretical information and about electrical components used in a vehicle.

AT8503 VEHICLE DESIGN AND DATA CHARACTERISTICS

- The students can able to understand the basic design principle of vehicle, able to draw the performance curves pertain to engine and chassis.

AT8504 AUTOMOTIVE FUELS AND LUBRICANTS

- At the end of the course, the student can understand the importance, manufacturing methods, testing methods, combustion methodology of automotive fuels and lubricants.

. **ORO551 RENEWABLE ENERGY SOURCES**

- Understanding the physics of solar radiation.
- Ability to classify the solar energy collectors and methodologies of storing solar energy.
- Knowledge in applying solar energy in a useful way.
- Knowledge in wind energy and biomass with its economic aspects.
- Knowledge in capturing and applying other forms of energy sources like wind, biogas and geothermal energies.

AT8701 ENGINE AND VEHICLE MANAGEMENT SYSTEM

- At the end of the course, the student will understand the role of various sensor, its construction and working principle and it influence in controlling pollution, enhancing safety of the vehicle.

ME8692 FINITE ELEMENT ANALYSIS

The basics of finite element formulation.

- To Apply finite element formulations to solve one dimensional Problems
- To Apply finite element formulations to solve two dimensional Problems.
- To Apply finite element method to solve heat transfer and fluid mechanics problems.
- To Apply finite element method to solve problems on dynamic analysis

AT8702 VEHICLE MAINTENANCE

- Upon the completion of the course, the student can able to understand the importance of maintenance and also the step by step procedure for maintain the various automotive sub systems

OML753 SELECTION OF MATERIALS

- Understand different types of availability materials
- Easy and effective way to select required materials
- Ability to identify the material properties
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AT8004 NEW GENERATION AND HYBRID VEHICLES

- Upon completion of this course the student will familiar in the recent development pertain to energy system, vehicle operation, newer vehicle, recent technologies in the area of suspension systems, brakes, aerodynamics etc
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AT8007 NOISE, VIBRATION AND MEASUREMENTS

- At the end of the course, the student will understand the sources, effects, prediction, control techniques, measurement techniques of noise, vibration pertain to an automobile.