

Koneru Lakshmaiah Education Foundation (Deemed to be University estd. u/s. 3 of the UGC Act, 1956)

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Department of Mechanical Engineering

Program: M.Tech-Machine Design

Academic Year: 2018-2019

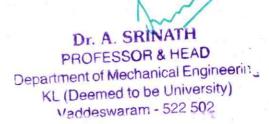
S.No	Course Code	Course Title	Co No.	Course Outcome Description
1	18ME5117	DESIGN METHODS	CO1	Understand Phases of design and associated requisites
			CO2	problems
			CO3	Understand Material and manufacturing considerations
			CO4	concents
2			CO1	Understand the properties of Ferrous and Non ferrous materials for suitable applications.
	18ME5118 DESIGN WITH ADVANCED MATERIALS		CO2	Understand mechanical behavior of the polymer materials and ceramics for engineering applications.
		MATERIALS	CO3	Design composites, Functionally graded materials and smart materials for advanced applications.
			CO4	Design with intermetallic, super alloys and Nano materials to develop a suitable product.
3	18ME5119 THEORY OF ELASTICITY PLASTICITY		COI	Understand the significance of compatibility and
			CO2	Solve 2-D elasticity problems in Cartesian and
			1	Analyze the bending of cantilever beams having rectangular and circular cross sections; Axisymmetric stress and deformation in a solid of revolution; and simple 3-D stress analysis problems
			CO	methods and engineering methods.
			СО	To understand various evaluation criteria's for CAD/CAM system and need of graphics standard
	10 2		СО	To represent different curves and surfaces of geometric models mathematically.
4	18ME5120	MODELING AND ANLALYSIS – (CAD)	CO	To represent solid models using different solid represent schemes

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_	101/5001	ACCUANICAL MIDDATIONS	CO4 CO5 CO1	To recognize and apply various data exchange formats in geometric modeling and also will be able to apply finite element modeling and mechanical assembly concepts in design applications To apply concepts of geometric modeling in designing using CAD tools Analyze the behavior of single degree of freedom undamped and damped free vibrations using basic principles. Analyze the behavior of single degree of freedom damped forced vibrations using basic principles
5	18M5221	MECHANICAL VIBRATIONS	CO3	Analyze the behavior of two degree of freedom and multi-degree of freedom
			CO4	Analyze the the shafts for critical speeds as well as analysis of transient vibrations based on laplace transform approach.
	18ME5222 DESIGN FO		COI	Understanding the basic principles of optimizations and applying various design constraints for solving optimization problems.
6		DESIGN FOR OPTIMIZATION	CO2	Applying various optimization techniques for solving real time applications through Matlab and Python programming
			CO3	Designing of various structural applications by considering static conditions.
			CO4	Designing of various structural applications by considering dynamic conditions.
8	18ME5223	ADVANCED STRENGTH OF MATERIALS	CO1	Analyse the stresses and deflections in the beams under unsymmetrical bending and determination of shear centre.
7			CO2	Analyse the stresses induced in curved beams subjected to loading.
-			CO3	Analyse the torsional stresses in beams and determine the contact stresses.
		· La	CO4	Apply principles of elasticity to determine stresses in two-dimensional and three dimensional problems.
	2 -		COI	Apply finite element method to solve problems in Bending of plates and shells and Conforming and Non- Conforming elements.
			CO2	Formulate and solve the Non Linear problems in - Elasto Plasticity and Large displacement formulation.
8	18ME5224	24 MODELING AND ANALYSIS- 2 (ADVANCED FEM)	CO3	Formulate the Dynamic Problems problems in free transient and forced vibration.
			CO4	Interpret and Evaluate the quality of fluid mechanics and heat transfer and error estimates and adaptive refinement.
	17		CO5	Gain hands on experience in converting a given structure into desired shape and size by applying suitable ANSYS APDL software.
	ı		CO1	Understand and apply the measuring tools to machines and instruments.

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	•	PRECISION AND QUALITY	CO2	Understand the different methods and solve the problems of Quality control.
9	18ME51II	ENGINEERING	CO3	Relate the Quality and Reliability and it's associated failure modes.
			CO4	Understand and implement the ISO 9000 series of total quality management.
	6		CO1	Develop the concepts of different types of mechanism with the mobility and motion parameters along with their Application in
10	18ME51I2	ADVANCED MECHANISMS	CO2	kinematic analysis Analyze the coupler motion of links by analytical and graphical method.
			СОЗ	Apply different method to evaluate the path generation of four bar Mechanism.
lo lo			CO4	Analyze the Kinematic mechanism using ADAMs and different application of R0B0T by D-H notation by contrast with forward and inverse kinematics
			CO1	Understand the benefits of Concurrent Engineering and solve the relevant problems.
11	18ME51I3	CONCURRENT ENGINEERING	CO2	organization and its Philosophies.
			CO3	Understand the System engineering and its Complexity
		g 1		Understand the Conventional Design and Development Process.
	1 101/12/51/11	DESIGN OF PRESSURE VESSELS AND PLATES	CO1	components
12			CO2	loads
		F	CO3	AND THE PARTY OF T
	×		CO4	Understand the surface wear and its treatment
42	18ME51J2	TRIBOLOGICAL SYSTEM DESIGN	CO2	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
13			CO3	Understand the rolling bearings and its failure criterion.
			CO4	Understand the tools to measure the bearing performance.
	18ME51J3	PRODUCT DESIGN & DEVELOPMENT	CO1	
			CO2	Understand the product design and development.
14			CO3	Understand the customer needs to establish the engineering specifications.
			CO4	technique.
	18ME52K1	1 1 1	CO1	
		MECHANICS OF COMPOSITE MATERIALS	CO2	composites and its characterization.
15			CO3	Understand the Macro-mechanics of Composite lamina.
e			CO4	strength of composite lamina.
			CO1	Understand the design of machine tools and its manufacturing.



16	18ME52K2	MACHINE TOOL DESIGN	CO2	Design the machine tool structures and speed & feed rate regulation.
			CO3	Design the machine tools beds and guide ways.
			CO4	Understand numerical control of machine tools.
	18ME52K3	FRACTURE MECHANICS	CO1	Understand Crack growth and fracture mechanic
17			CO2	Development of stress field equations in fracture mechanics
			CO3	Know the various methods for evaluating stress intensity factors
٨			CO4	Understand how to perform fracture toughness testing and crack growth phenomenon
	18ME52L1	ENGINEERING NOISE AND CONTROL	CO1	Understand the Noise-Control Strategies.
18			CO2	Understand and apply the instruments for noise measurement and analysis
			CO3	Understand the harmful effects of Noise.
			CO4	Understand and estimate the Noise of Noise associated devices and their control.
	18ME52L2	ENGINEERING FAILURE ANALYSIS AND PREVENTION	CO1	Familiarizing with failure causes and analysis
19			CO2	Understanding Different types of failures.
19			CO3	Exploring Failure problems during processing
			CO4	Reviewing Case studies
	18ME52L3	DESIGN FOR MANUFACTURING, ASSEMBLY AND ENVIRONMENT	CO1	Understand the manufacturability and form design.
20			CO2	
0			CO3	Identify uneconomical design and redesign the cast components.
	15 N	, , , , , , , , , , , , , , , , , , ,	CO4	Understand different methods for design for the environment.

Professor I/C Academics

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