



RISE KRISHNA SAI PRKASAM GROUP OF INSTITUTIONS
DEPARTMENT OF MECHANICAL ENGINEERING
COURSE OUTCOMES

ACADEMIC YEAR: 2019-20

MECHANICAL

YEAR/ SEM: I / I

CO.NO.	SUBJECT : MATHEMATICS-I	BT LEVEL
C111.1	Test the convergence of an infinite series , utilize mean value theorems to real life problems and express a function in terms of power series.	Applying
C111.2	Solve first order and first degree differential equations arising in various Engineering fields.	Applying
C111.3	Solve linear differential equations of higher order and use the knowledge to study LCR Circuits and SHM.	Applying
C111.4	Apply the techniques of multivariable differential calculus to determine extrema and series Expansions of a function of several variables.	Applying
C111.5.	Using multiple integrals to find areas, surface areas and volumes.	Applying

CO.NO.	SUBJECT : MATHEMATICS-II	BT LEVEL
C112.1	Solve system of linear algebraic equations using matrix techniques and find eigen values and eigen vectors.	Applying
C112.2	Use Cayley-Hamilton theorem to find inverse and higher powers of matrices and study the nature of Quadratic forms.	Applying
C112.3	Evaluate a root of algebraic and transcendental equations using different methods.	Evaluating
C112.4	Apply Newton's interpolation and Lagrange's formula for equal and unequal intervals to find interpolating polynomial.	Applying
C112.5	Evaluate the solutions of ordinary differential equations to its analytical computations using different methods.	Evaluating

CO.NO	SUBJECT : ENGINEERING PHYSICS	BT LEVEL
C113.1	Apply the basic concepts of mechanics to determine rigidity modulus of a material by using Torsional pendulum.	Applying
C113.2	Apply the basic concepts of laser and techniques for the Diffraction Grating.	Applying
C113.3	Apply the basic concepts of magnetism to study the variation of B versus H.	Applying
C113.4	Apply the basic concepts of dielectrics to determine dielectric constant by charging and discharging method.	Applying
C113.5	Apply the mathematical concepts/equations to obtain quantitative results	Evaluating



CO.NO.	SUBJECT : PROGRAMMING FOR PROBLEM SOLVING USING C	BT LEVEL
C114.1	To use different operators, data types and write programs that use two-way/multi-way selection	Applying
C114.2	To select the best loop construct for a given problem	Applying
C114.3	To design and implement programs to analyze the different pointer applications	Applying
C114.4	To decompose a problem into functions and to develop modular reusable code	Understanding
C114.5	To apply File, I/O operations	Applying

CO.NO.	SUBJECT : ENGINEERING DRAWING	BT LEVEL
C115.1	Draw different regular polygons, engineering curves and scales to match with relevant applications.	Applying
C115.2	Draw orthographic projections of points and lines inclined to both the planes and apply them in related problems.	Applying
C115.3	Draw orthographic projections of various planes inclined both the reference planes.	Understanding
C115.4	Draw projections of different solids like prisms, pyramids, cylinders and cones with axis inclined to both the reference planes	Understanding
C115.5	Convert isometric views in to orthographic views and vice versa and generate 2D/3D objects in AutoCAD.	Applying

CO.NO	SUBJECT : ENGLISH-LAB	BT LEVEL
C116.1	Develop phonetic sounds and uses.	Applying
C116.2	Utilize the knowledge of contrastive word stress, recall word stress and syllabic words.	Applying
C116.3	Classify Rhythm and intonation.	Understanding
C116.4	Identify the context and specific pieces of information to answer a series of questions in speaking.	Applying
C116.5	Identify the structure of reports for professional writing and expertise in it.	Applying


S.NO	LAB NAME: ENGINEERING PHYSICS LAB	BT LEVEL
C117.1	Apply the basic concepts of mechanics to determine rigidity modulus of a material by using Torsional pendulum.	Applying
C117.2	Apply the basic concepts of laser and techniques for the Diffraction Grating.	Applying
C117.3	Apply the basic concepts of magnetism to study the variation of B versus H.	Applying
C117.4	Apply the basic concepts of dielectrics to determine dielectric constant by charging and discharging method.	Applying
C117.5	Apply the mathematical concepts/equations to obtain quantitative results.	Evaluating



CO.NO	PROGRAMMING FOR PROBLEM SOLVING USING C LAB	BT LEVEL
C118.1	Gains knowledge on various concepts of a C Language.	Understanding
C118.2	Able to draw flow charts and write algorithms.	Applying
C118.3	Able to design and development to C problem solving skills.	Applying
C118.4	Able to design and develop modular programming skills.	Applying
C118.5	Able to trace and debug a program.	Applying

CO.No.	SUBJECT : CONSTITUTION OF INDIA	BT LEVEL
C119.1	Understand historical background of the constitution making and its importance for building a democratic India.	Understanding
C119.2	Understand the functioning of three wings of the union government i.e. executive, legislative and judiciary.	Understanding
C119.3	Analyze the role Governor and Chief Minister and Differentiate between structure and functions of state secretariat	Analyzing
C119.4	Understand the district administration role and importance.	Understanding
C119.5	Analyze the constitutional institutions like Election Commission and various commissions of SC/ST/OBC and women for sustaining democracy.	Analyzing

SPD


 Head of the Department
 Department of S&H
 RISE Krishna Sai Prakasam
 Group of Institutions
 VALLURU, ONGOLE A.P.





RISE KRISHNA SAI PRKASAM GROUP OF INSTITUTIONS
DEPARTMENT OF MECHANICAL ENGINEERING
COURSE OUTCOMES

ACADEMIC YEAR 2019-2020

MECHANICAL

YEAR/ SEM: I / II

CO.NO.	SUBJECT : ENGLISH	BT LEVEL
C121.1	Understand social or transactional dialogues spoken by native speakers of English and identify the context, topic, and pieces of specific information.	Understanding
C121.2	Recall the familiar topics and general questions to the students	Remembering
C121.3	Rephrase suitable strategies for note-making to locate specific information.	Understanding
C121.4	Identify the paragraph structure and able to match beginning/sending/heading with paragraph.	Applying
C121.5	Make use of grammatical structure and correct word forms.	Applying

CO.NO.	SUBJECT : ENGINEERING CHEMISTRY	BT LEVEL
C122.1	Discuss preparation, properties and applications of the plastics, rubber, composite materials.	Understanding
C122.2	Explain the batteries, fuel cells, reason for corrosion and its control methods.	Understanding
C122.3	Describe the importance of material slikenano materials, superconductors, Cement and semiconductors.	Understanding
C122.4	Explain the origin of fuel and their economic advantages and limitations	Understanding
C122.5	Explain the hardness of water and its softening techniques	Understanding

CO.NO.	SUBJECT : ENGINEERING MECHANICS	BT LEVEL
C123.1	The student should be able to draw free body diagrams for FBDs for particles and rigid bodies in plane and space and problems to solve the unknown forces, orientations and geometric parameters.	Applying
C123.2	The student should be able to determine Centroid for lines, areas and center of gravity for volumes and their composites.	Applying
C123.3	He should be able to determine area and mass movement of inertia for composite sections	Applying
C123.4	He should be able to analyze motion of particles and rigid bodies and apply the principles of motion, work energy and impulse – momentum.	Applying
C123.5	The student should be able to draw free body diagrams for FBDs for particles and rigid bodies in plane and space and problems to solve the unknown forces, orientations and geometric parameters.	Applying

CO.NO.	SUBJECT : BASIC ELECTRICAL AND ELECTRONICS ENGINEERING	BT LEVEL
C124.1	Apply the different laws in solving resistive, inductive, capacitive networks and series- parallel circuits.	Applying
C124.2	Analyze the performance of DC machines by conducting the	Analyzing



	swinburne's test.	
C124.3	Analyze the performance of transformer by conducting OC and SC test and Explain the operation of three phase alternator.	Analyzing
C124.4	Understand the operation of half wave and full wave and op-amp circuits.	Understanding
C124.5	Compare the operation of PNP and NPN transistors and amplifiers.	Understanding

CO.NO.	SUBJECT : COMPUTER AIDED ENGINEERING DRAWING	BT LEVEL
C125.1	Draw the projection of solids and auxiliary views	Remembering
C125.2	Produce the sectional views of solids and developments of surfaces	Remembering
C125.3	Construct perspective projections and Intersection of solids	Applying
C125.4	Select various tools in AUTO-CAD for generation of points, lines, circles	Remembering
C125.5	Produce 2-D models by using CAD commands	Applying

CO.NO.	SUBJECT : ENGLISH COMMUNICATION SKILLS LAB	BT LEVEL
C126.1	Explain the knowledge ability to communicate the needs and requirement of JAM.	Understanding
C126.2	Describe the stand of Role Plays through that they will get good stead when they appear for the job interviews .	Remembering
C126.3	Demonstrate the importance of Oral Presentation. So that they can excel in their jobs.	Analyzing
C126.4	Summarize the training offered to students through G.D.	Understanding
C126.5	Evaluate the knowledge of writing Emails and Curriculum Vitae.	Evaluating

CO.NO.	SUBJECT : ENGINEERING CHEMISTRY LAB	BT LEVEL
C127.1	Describe the experimental skills to design new experiments in engineering.	Understanding
C127.2	Explain the different types of titrations and acquire skills in instrumentation.	Understanding
C127.3	Determine hardness of various water samples.	Evaluating
C127.4	Determine the no of free ions and charges in amixture of acids using conductivity meter.	Evaluating
C127.5	Calculate the potential between reference electrode and unknown solution by using potentiometer.	Evaluating

CO.NO.	SUBJECT : BASIC ELECTRICAL AND ELECTRONICS LAB	BT LEVEL
C128.1	Analyze the various electrical networks	Analyzing
C128.2	Understand the operation of DC generators,3-point starter and conduct the Swinburne's Test.	Understanding
C128.3	Analyze the performance of transformer.	Analyzing
C128.4	Explain the operation of 3-phase alternator and 3-phase induction motors.	Understanding
C128.5	Analyze the operation of half wave, full wave rectifiers and OP-AMPs.	Analyzing




CO.NO.	SUBJECT : WORKSHOP PRACTICE LAB	BT LEVEL
C129.1	Use various tools to prepare basic carpentry joints	Applying
C129.2	Use various tools to prepare basic fitting joints.	Applying
C129.3	Prepare jobs of various shapes using black smithy.	Applying
C129.4	Make basic house wire connections.	Applying
C129.5	Fabricate simple components using tin smithy.	Applying

CO.NO.	SUBJECT : ENGINEERING EXPLORATION PROJECT	BT LEVEL
C1210.1	Demonstrate a through and systematic understanding of project contents	Understanding
C1210.2	Design a system, component or process to meet desired needs in Mechanical engineering.	Applying
C1210.3	Understand methodologies and professional way of documentation and communication.	Understanding
C1210.4	Know the key stages in development of the project.	Understanding
C1210.5	Extend or use the idea in mini project for major project.	Applying

SN




 Head of the Department
 Department of S&H
 RISE Krishna Sai Prakasam
 Group of Institutions
 VALLURU, ONGOLE A.P.



RISE KRISHNA SAI PRAKASAM GROUP OF INSTITUTIONS
DEPARTMENT OF MECHANICAL ENGINEERING

Course Outcomes Summary

A.Y:2019-20

Year / Sem: II / I

At the end of the course student will be able to

Course Name: C211 Metallurgy & Material Science		BT LEVEL
C211.1	To know the basic concepts of bonds in metals, alloys and understand the basic requirements for the formation of solid solutions and other compounds	Understanding
C211.2	Interpret the phase diagrams of materials that occur in an alloy system in order to solve the problems in practical metallurgy	Remembering
C211.3	Classify and Distinguish different types of cast irons, steels and Can select metals and alloys for engineering applications.	Understanding
C211.4	Gain knowledge on the effects of various alloying elements on iron-iron carbide system and understand the various heat treatment and strengthening processes used in practical applications for improving properties.	Applying
C211.5	Gain knowledge on the properties and applications of widely used non-ferrous metals and alloys so as to use the suitable material for practical applications.	Applying
C211.6	Compare the properties of ceramics, glasses, composites, polymers and other advanced materials applications so as to use the suitable material for practical and industrial applications.	Applying
Course Name: C212 Mechanics of Solids		
C212.1	Establish the relations between various stresses and strains, Elastic constants and also determine the principal stresses and planes and strain energy for various loadings.	Applying
C212.2	Construct the Shear force and bending moment diagrams of statically determinant beams under various loading.	Evaluating
C212.3	Analyze the bending stresses and shear stresses in beams of various cross- sections.	Analyzing
C212.4	Apply the various concepts for determining slope and deflections of different beams under different loads.	Applying
C212.5	Derive various stresses in thick and thin cylinders.	Understanding
C212.6	Explain the concept of Torsion and columns.	Understanding
Course Name: C213 Thermo dynamics		
C213.1	The basic concepts of thermodynamic such as temperature, pressure, system, properties, process, state, cycles and equilibrium. Also apply the first Law of Thermodynamics on closed and control volume systems	Understanding
C213.2	The basic concepts of open system, SFEE, PMM-1. The concept of equality of temperature and various temperature measuring devices.	Understanding
C213.3	Second Law of Thermodynamics and entropy concepts in analyzing the thermal efficiencies of heat engines, heat pump, refrigerator and also the Carnot cycle. Also analyze the concepts	Analyzing



	of availability, Irreversibility and Maxwell relations	
C213.4	The process of steam formation and various property diagrams with phase changes and also calculate the quality of steam after expansion.	Analyzing
C213.5	Psychometric chart and analyze the various psychometric properties air.	Analyzing
C213.6	Concept of air standard cycles and also analyzes the various parameters related to efficiency of the air standard cycles.	Analyzing
Course Name: C214 Managerial Economics & Financial Analysis		
C214.1	Relate Economic Principles with Business Practices for getting successful outcomes.	Remembering
C214.2	Make use of Cost analysis to find Break Even Point (BEP) of an enterprise in order to avoid losses.	Applying
C214.3	Compare the Price – out determinations under different competitions in the Markets and Pricing strategies.	Understanding
C214.4	Interpret different forms of business organizations and the new economic environment in the real business.	Understanding
C214.5	Make use of the financial statements and relevant ratios for evaluating company's financial performance to make optimal decisions.	Applying
C214.6	Illustrate different Capital Budgeting Methods to estimate the best investment decision in business practices.	Understanding
Course Name: C215 Fluid Mechanics and Hydraulic Machines		
C215.1	Explain the effect of fluid properties on a flow system.	Understanding
C215.2	Identify type of fluid flow patterns and describe continuity equation.	Remembering
C215.3	To analyze a variety of practical fluid flow and measuring devices and utilize fluid mechanics principles in design.	Analyzing
C215.4	To select and analyze an appropriate turbine with reference to given situation in power plants.	Analyzing
C215.5	To estimate performance parameters of a given Centrifugal and Reciprocating pump.	Analyzing
C215.6	Demonstrate boundary layer concepts.	Remembering
Course Name: C216 Computer Aided Engineering Drawing Practice		
C216.1	Draw the projection of solids and auxiliary views.	Remembering
C216.2	Produce the sectional views of solids and developments of surfaces	Remembering
C216.3	Construct perspective projections and Intersection of solids.	Applying
C216.4	Select various tools in AUTO-CAD for generation of points, lines, and circles.	Remembering
C216.5	Produce 2-D models by using CAD commands.	Applying
C216.6	Produce 3-D models by using CAD commands.	Applying

Faculty coordinator



Head of the Department
Mechanical
RISE Krishna Sai Prakasham
Group of Institutions,
Ongole-523 272



RISE KRISHNA SAI PRAKASAM GROUP OF INSTITUTIONS
DEPARTMENT OF MECHANICAL ENGINEERING

Course Outcomes Summary

A.Y:2019-20


Year / Sem: II / I

At the end of the course student will be able to

Course Name: C217 Basic Electrical and Electronics Engineering Lab...		BT LEVEL
C217.1	Analyze the various electrical networks.	Analyzing
C217.2	Understand the operation of DC generators, 3-point starter and conduct the Swinburne's Test.	Understanding
C217.3	Analyze the performance of transformer.	Analyzing
C217.4	Explain the operation of 3-phase alternator and 3-phase induction motors.	Understanding
C217.5	Analyze the operation of half wave, full wave rectifiers and OP-AMPs.	Analyzing
C217.6	Explain the single stage CE amplifier and concept of feedback amplifier.	Understanding
Course Name: C218 Mechanics of Solids and Metallurgy Lab		
C218.1	Determine the tensile, compressive and shear strength	Evaluating
C218.2	Determine the toughness of a material	Evaluating
C218.3	Determine stiffness and hardness of a material.	Evaluating
C218.4	Classify and Distinguish different types of cast irons & steels.	Understanding
C218.5	Determine hardenability of steels	Evaluating
C218.6	Study the Micro structures of different materials	Understanding


Faculty coordinator




Head of the Department
Head of the Department
Mechanical Engineering
RISE Krishna Sai Prakasam
Group of Institutions.
Ongole-523 272



RISE KRISHNA SAI PRAKASAM GROUP OF INSTITUTIONS
DEPARTMENT OF MECHANICAL ENGINEERING

Course Outcomes Summary

A.Y:2019-20

Year / Sem: II / II

At the end of the course student will be able to

Course Name: C221 Kinematics of Machinery		BT LEVEL
C221.1	Visualize a four bar mechanisms and their inversions.	Understanding
C221.2	Describe various types of straight line motion mechanisms and their applications.	Understanding
C221.3	Determine velocity and accelerations of various mechanisms using graphical and Instantaneous methods.	Evaluating
C221.4	Construct cam profiles for various types of follower motions.	Applying
C221.5	Explain the principle of higher pairs used for power transmission.	Understanding
C221.6	Analyze various power transmission mechanisms like belts, chains, ropes and gear trains and apply them appropriately.	Analyzing
Course Name: C222 Thermal Engineering -I		
C222.1	Differentiate realistic and unrealistic thermodynamic cycles and their efficiencies.	Analyzing
C222.2	Understand the working principles of different types of internal combustion engines.	Understanding
C222.3	Understand the combustion processes and methods to improve the combustion processes in different types of internal combustion engines	Understanding
C222.4	Calculate efficiency and power developed in internal combustion engine with a given set of operational parameters.	Applying
C222.5	Understand the working principles of different types of compressors and its minimum work requirement.	Understanding
C222.6	Calculate efficiency and power requirement of compressors with a given set of operational parameters.	Applying
Course Name: C223 Production Technology		
C223.1	Overall process of casting and different methods in casting & applications.	Understanding
C223.2	Concept of different methods in casting & applications, Methods of melting and types of furnaces.	Remembering
C223.3	Concept of welding & different welding methods such as gas welding and arc welding	Remembering
C223.4	Advanced welding processes and their Applications.	Understanding
C223.5	Different forming process such as Forging, Rolling and Extrusion.	Understanding
C223.6	Different types of sheet metal forming and processing of plastics.	Understanding



Course Name: C224 Design of Machine Members-I		
C224.1	Understand the knowledge on combined stress and strain on mechanical members and understand theories of failures	Remembering
C224.2	Understand the concept of stress concentration, notch sensitivity, fatigue analysis to develop safety factors, failures and calculation of endurance strength	Creating
C224.3	Design different machine elements such as fasteners like riveted, bolted and welded joints	Creating
C224.4	Design keys, shafts, cotters and knuckle joints	Creating
C224.5	Design various couplings using used in fastening	Creating
C224.6	Design various springs used in suspension systems	Creating
Course Name: C225 Machine Drawing		
C225.1	Familiarize drawing practice of various joints, simple mechanical parts selection of views. Draw various joints, keys, nuts and threads, shaft couplings. Draw the journal, pivot, collar and footstep bearing. Pivot, collar and footstep bearing.	Understanding
C225.2	Construct an assembly drawing using part drawings of machine parts, engine parts and Valves	Applying
Course Name: C226 Industrial Engineering and Management		
C226.1	Explain basic concept of industrial engineering and various theories of scientific management.	Remembering
C226.2	Explain the Concept Of Plant Layout, Optimal Design Of Layouts, Plant Maintenance	Understanding
C226.3	Discuss concept of operations management, learn method study and time study	Applying
C226.4	Explain concept of statistical quality control, various control charts and their applications	Applying
C226.5	Explain concept of Concept of human resource management quantitative methods, wage incentive plans.	Applying
C226.6	Discuss concept and design of Value engineering, project management (PERT/CPM)	Analyzing

Faculty coordinator



Head of the Department
 Head of the Department
 Mechanical Engineering
 RISE Krishna Sai Prakasham
 Group of Institutions.
 Ongole-523 272



RISE KRISHNA SAI PRAKASAM GROUP OF INSTITUTIONS
DEPARTMENT OF MECHANICAL ENGINEERING


Course Outcomes Summary

A.Y:2019-20


Year / Sem: II / II

At the end of the course student will be able to

Course Name: C227 Fluid Mechanics and Hydraulic Machines Lab		BT LEVEL
C227.1	Evaluate the force exerted by a jet on different vane	Evaluating
C227.2	Evaluate the performance of turbines	Evaluating
C227.3	Evaluate the performance of pumps	Evaluating
C227.4	Determine the coefficient of discharge of Venturi-meter and Orifice-meter	Evaluating
C227.5	Determine friction losses in a pipe line	Evaluating
C227.6	Determine the flow in a pipe using turbine flow meter	Evaluating
Course Name: C228 Production Technology Lab		
C228.1	Design a pattern for making metal casting	Creating
C228.2	Determine the strength and permeability of sand for mould preparation	Evaluating
C228.3	Perform joining of metals using different welding methods	Understanding
C228.4	Perform blanking and piercing operations and study about types of dies	Understanding
C228.5	Perform deep drawing, extrusion and bending operations	Understanding
C228.6	Perform injection moulding and blow moulding by processing of plastics	Understanding


Faculty coordinator




Head of the Department
Head of the Department
Mechanical Engineering
RISE Krishna Sai Prakasam
Group of Institutions.
Ongole-523 272



RISE KRISHNA SAI PRAKASAM GROUP OF INSTITUTIONS
DEPARTMENT OF MECHANICAL ENGINEERING

Course Outcomes-Summary


A.Y:2019-20

Year / Sem: III / I


At the end of the course student will be able to

Course Name: C311 Dynamics of Machinery		BT LEVEL
C311.1	Analyze the effect of gyroscopic couple on sea vehicles, aircrafts and two and four wheelers	Analyzing
C311.2	Apply the concept of friction on clutches, brakes and dynamometers	Applying
C311.3	Compute the fluctuation of flywheels, inertia torque, velocity and acceleration of connecting rod	Applying
C311.4	Discuss the function of governors and its principle	Understanding
C311.5	Explain the concept of balancing of reciprocating and rotary masses	Understanding
C311.6	Discuss to determine the natural frequencies of continuous systems starting from the general equation of displacement	Understanding
Course Name: C312 Metal Cutting & Machine Tools		
C312.1	Analyze cutting forces acting on the work piece and cutting tool. Also will gain knowledge on tool life, tool materials and coolants.	Analyzing
C312.2	Illustrate and categorize the lathe machines its principles and its operations.	Understanding
C312.3	Select a specified machine among shaping, slotting, and planning, drilling and boring machines for a specific type of metal removal operation depending upon shape, size, and material speed.	Understanding
C312.4	Perform milling operation using indexing plate and various types of miller cutters to produce slots (Gear teeth).	Applying
C312.5	Do surface grinding operation in various methods using types of abrasive tools and will know about the other similar operations.	Understanding
C312.6	Execute a simple program for the motion controls in CNC Machine or for machining a component and can design jigs and fixtures,	Applying
Course Name: C313 Design of Machine Members-II		
C313.1	Select the suitable bearing based on the Application of the loads and predict the life of the bearing.	Remembering
C313.2	Design of engine parts such as connecting rod, piston, crank shafts, cylinder, cylinder line, pins	Creating
C313.3	Design of curved beams like, rectangular, circular, trapezoidal and 'T' sections, crane hooks, and 'C' clamps	Creating
C313.4	Design power transmission elements such as gears, belts, chains, Pulleys, ropes, levers and power screws	Creating
C313.5	Capable to design of gear drives, dynamic load factor, compressive strength, bending strength, estimation of center	Creating

	distance, module and face width, wear conditions of spur gear, helical gear. Design of screws such as square buttress, design of nut, compound screw and differential screw.	
C313.6	Design of levers, brackets and stresses in Wire ropes	Creating
Course Name: C314 Operation Research		
C314.1	Solve the linear programming problems.	Applying
C314.2	Solve transportation and assignment problems.	Applying
C314.3	Solve replacement problems.	Applying
C314.4	Solve game theory, queuing problems.	Applying
C314.5	Solve inventory problems.	Applying
C314.6	Discuss about dynamic programming and simulation to LPP and inventory problems.	Understanding
Course Name: C315 Thermal Engineering-II		
C315.1	Calculate the efficiency of the Rankine vapor power cycle and effect of operating variables on efficiency of Rankine Cycle.	Applying
C315.2	Understand the construction details and working of boilers, mountings and accessories of boilers.	Applying
C315.3	Identify & apply fundamentals to solve problems involving nozzles	Applying
C315.4	Analyze the velocity diagrams and efficiency of Impulse and Reaction turbines.	Analyzing
C315.5	Understand the functionality of major components of gas turbine plants	Applying
C315.6	Understand the functionality of major components of gas turbine plants.	Applying


Faculty coordinator




Head of the Department
Head of the Department
Mechanical Engineering
RISE Krishna Sai Prakasam
Group of Institutions,
Ongole-523 272



RISE KRISHNA SAI PRAKASAM GROUP OF INSTITUTIONS
DEPARTMENT OF MECHANICAL ENGINEERING

Course Outcomes Summary

A.Y:2019-20

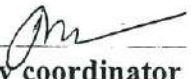
Year / Sem: III / I


At the end of the course student will be able to

Course Name: C316 Theory of Machines Lab		BT LEVEL
C316.1	Determine whirling speed of a shaft theoretically and experimentally, frequency of damped force vibration, un-damped free vibration of a spring mass system	Analyzing
C316.2	Determine the position of sleeve and plot the characteristic curve of a Hartnell governor at different speeds and radius of rotation	Analyzing
C316.3	Analyse the motion of gyroscope when the couple is applied at the axis of spin	Analyzing
C316.4	Determine the moment of inertia of flywheel and coefficient of friction between belt and pulley	Analyzing
C316.5	Demonstrate the function of simple and compound screw jack, static and dynamic balancing using rigid blocks and various types of gears- Spur, Helical, Worm and Bevel Gears	Understand
C316.6	Plot slider displacement, velocity and acceleration against crank rotation for single slider crank mechanism/Four bar mechanism and follower displacement vs cam rotation for various Cam Follower systems	Analyzing
Course Name: C317 Machine Tools Lab		
C317.1	Identify and know the general purpose of machines.	Understanding
C317.2	Perform turning, knurling and thread cutting on lathe.	Understanding
C317.3	Perform drilling and tapping operations.	Understanding
C317.4	Perform shaping, planing, slotting operations on different machines	Understanding
C317.5	Work with indexing plate and produce grooves using milling machines	Understanding
C317.6	Perform cylindrical surface grinding and grinding of tool angles	Understanding
Course Name: C318 Thermal Engineering Lab		
C318.1	Plot the valve timing and port timing diagrams for 2 stroke and 4 stroke IC engines.	Remembering
C318.2	Conduct constant speed and variable speed tests on IC engines and interpret their Performances and estimate fuels viscosity.	Evaluating
C318.3	Estimate energy distribution by conducting heat balance test on IC engines.	Evaluating
C318.4	Conduct the performance test on reciprocating air compressor.	Evaluating



C318.5	Demonstrate the procedure for assembly & dis-assembly of 2 stroke and 4 stroke IC engines.	Remembering
C318.6	Demonstrate about boilers, mountings and accessories.	Remembering


Faculty coordinator


Head of the Department
Mechanical Engineering
RISE Krishna Sai Prakesam
Group of Institutions,
Ongole-523 272





RISE KRISHNA SAI PRAKASAM GROUP OF INSTITUTIONS
DEPARTMENT OF MECHANICAL ENGINEERING

Course Outcomes Summary

A.Y:2019-20

Year / Sem: III / II

At the end of the course student will be able to

Course Name: C321 Metrology		BT LEVEL
C321.1	Design tolerances and fits for selected product quality.	Creating
C321.2	Explain various linear, angle, taper measurements instruments and different gauges.	Understanding
C321.3	Explain the principles of optical measuring instruments and Interferometer.	Understanding
C321.4	Differentiate surface roughness and surface waviness and various methods of measurement of surface roughness and comparators.	Analyzing
C321.5	Describe various gear measurement and screw thread measurement instruments.	Understanding
C321.6	Use various tools in aligning lathe, drilling and milling machines and explain various flatness measurement instruments	Understanding
Course Name: C322 Instrumentation & Control Systems		
C322.1	Explain concept of the generalized configuration of measurements, errors, and various potentiometers	Remembering
C322.2	Explain the construction working of various temperature and pressure measurement instruments	Understanding
C322.3	Discuss the construction & working of instruments measures level speed & flow.	Applying
C322.4	Discuss the construction & working. of various strain gauges & strain gauge rosettes.	Applying
C322.5	Explain the construction & working of instruments measures humidity, force, torque & power.	Applying
C322.6	Discuss the elements of control system & speed ,position control systems	Analyzing
Course Name: C323 Refrigeration & Air-conditioning		
C323.1	Explain the terminology associated with Refrigeration and understand the different applications of Refrigeration.	Understanding
C323.2	Explain Working principle and essential components of the VCR system and understand different methods to improve COP of VCR system.	Understanding
C323.3	Describe about different types of refrigerants and VCR system components.	Remembering
C323.4	Demonstrate working principle and basic components of VAR system and Steam jet refrigeration	Understanding
C323.5	Apply the basic principles of psychrometry and applied psychrometrics	Applying



C323.6	Describe heating and cooling load conditions for humidified space and dehumidified space.	Remembering
Course Name: C324 Heat Transfer		
C324.1	Understand the modes and of mechanisms of heat transfer.	Applying
C324.2	Explain The significance of Biot and Fourier numbers and to know the fin efficiency.	Applying
C324.3	Understand the use of non dimensional numbers in choosing the right empirical formulae for calculating the heat transfer from a object.	Applying
C324.4	Use the empirical correlations for convective heat transfer for various cross sections.	Understanding
C324.5	Calculate the efficiency and effectiveness of different types of heat exchangers	Applying
C324.6	Understand the basics and laws of radiation heat transfer.	Understanding
Course Name: C325 Green Engineering Systems		
C325.1	Explain concept of solar radiation, design and concept of solar collectors.	Understanding
C325.2	Discuss the concept of solar energy storage ,its applications and basics of wind energy	Understanding
C325.3	Describe concept of bio mass energy ,geothermal energy and ocean energy	Understanding
C325.4	Explain concept of Energy efficient systems of mechanical and electrical	Understanding
C325.5	Explain concept of Energy efficient systems	Understanding
C325.6	Explain concept and design of green building.	Understanding

Faculty coordinator



Head of the Department
 Head of the Department
 Mechanical Engineering
 RISE Krishna Sai Prakasam
 Group of Institutions.
 Ongole-523 272



RISE KRISHNA SAI PRAKASAM GROUP OF INSTITUTIONS
DEPARTMENT OF MECHANICAL ENGINEERING

Course Outcomes Summary

A.Y:2019-20

Year / Sem: III / II


At the end of the course student will be able to

Course Name: C326 Heat Transfer Lab		BT LEVEL
C326.1	Understand the modes and of mechanisms of heat transfer.	Applying
C326.2	Explain The significance of Biot and Fourier numbers and to know the fin efficiency.	Applying
C326.3	Understand the use of non dimensional numbers in choosing the right empirical formulae for calculating the heat transfer from a object.	Applying
C326.4	Use the empirical correlations for convective heat transfer for various cross sections.	Understanding
C326.5	Calculate the efficiency and effectiveness of different types of heat exchangers	Applying
C326.6	Understand the basics and laws of radiation heat transfer.	Understanding
Course Name: C327 Metrology and Instrumentation Lab		
C327.1	Students will be able to design tolerances and fits for selected product quality. Identify the basic concepts of new measurement systems and various calibration processes	Applying
C327.2	Understand the standards of length, angles and also design gauges for measurements of different products. Classify the various processes in temperature and pressure measurement system.	Understanding
C327.3	Understand the optical principles, and its applications for measurements of the small components. Apply different methods to measure the level, flow, speed, acceleration and vibration etc.	Understanding
C327.4	Understand the evaluation of surface finish and measure the parts with various comparators. Analyze various types of components in stress, strain measuring system.	Understanding
C327.5	Choose appropriate method and instruments for inspection of various gear elements and thread elements. Design an appropriate device for the measurement of parameters like humidity, force, power and torque and justify its use through characteristics	Evaluating
C327.6	Evaluate the quality of the machine tool with the help of alignment test. Evaluate and interpret the results of measuring systems	Evaluating



Course Name: C328 Computational Fluid Dynamics Lab		
C328.1	Understand the program structure of differentiation, Integration, various algebraic equations using C and MATLAB.	Understanding
C328.2	Understand the program structure of partial differential equations using C and MATLAB.	Understanding
C328.3	Understand the program structure of 1D and 2D heat conduction using C and MATLAB.	Understanding
C328.4	Understand the program structure of Incompressible and Inviscid fluid flowing using C and MATLAB.	Understanding
C328.5	Perform various heat transfer modes, Lumped heat transfer, Steady state conduction heat transfer using ANSYS.	Analyzing


Faculty coordinator


Head of the Department
Head of the Department
Mechanical Engineering
RISE Krishna & Prakasam
Group of Institutions
Ongole-523 272





RISE KRISHNA SAI PRAKASAM GROUP OF INSTITUTIONS
DEPARTMENT OF MECHANICAL ENGINEERING

Course Outcomes Summary

A.Y:2019-20

Year / Sem: IV / I

At the end of the course student will be able to

Course Name: C411 Mechatronics		BT LEVEL
C411.1	Design a mechatronic system using micro processor based controllers and sensors	Creating
C411.2	Gain knowledge on solid state devices, signal conditioning and amplifiers	Understanding
C411.3	Identify the elements and apply the basic principles of actuating systems	Applying
C411.4	Gain knowledge on digital electronics, its applications and will be able to work on PLC	Applying
C411.5	Apply their knowledge to convert the signals by data acquisition and interfacing	Applying
C411.6	Design mechatronic systems as per the requirement of future trends using various types of controllers	Creating
Course Name: C412 CAD/CAM		
C412.1	Learn computer application in various design techniques as required in manufacturing industries.	Evaluating
C412.2	Lines, parametric curves, surfaces and solid, and the technique of transformation of geometric entities using transformation matrix	Understanding
C412.3	Learn various part programming for Computer aided design and manufacturing	Evaluating
C412.4	Describe the use of GT , production flow analysis and CAPP	Remembering
C412.5	Identify the CAQC using contact and non contact inspection methods.	Analyzing
C412.6	Illustrates concepts of integrated manufacturing system.	Applying
Course Name: C413 Finite Element Methods		
C413.1	Correlate a differential equation and its equivalent integral form.	Creating
C413.2	Develop the element stiffness matrix characteristic equation procedure and generation of global stiffness equation will be applied able to numerically solve for stresses, strains and deformation of a structural component.	Creating
C413.3	Identify the application and demonstrate the ability to create models for different components such as trusses, bars, beams, plane isoperimetric elements, and 3-D element etc..using ANSYS general-purpose software.	Applying
C413.4	Implement the formulation techniques to solve two-dimensional problems using triangle and quadrilateral elements.	Applying
C413.5	Formulate and solve Higher order and isoparametric elements.	Analyzing



	vibration analysis problems using ANSYS general-purpose software.	
Course Name: C414 Power Plant Engineering		
C414.1	Understand the working and efficiency calculations of steam power plant.	Understanding
C414.2	Understand the working & efficiency calculations of internal combustion and gas turbine power plants.	Understanding
C414.3	Analyze the working & efficiency calculations of hydro electric power plants.	Analyzing
C414.4	Explain the working & operations on nuclear power plants.	Analyzing
C414.5	Discuss the working & operations of combined power plants and power plants instrumentation & control	Understanding
C414.6	Analyze the power plant economics & environmental considerations	Analyzing
Course Name: C415 Additive Manufacturing		
C415.1	Understand The fundamentals of Additive manufacturing and the working principles of SLA and SGC processes	Understanding
C415.2	Explain the working principle LOM and FDM processes	Understanding
C415.3	Explain the working principle of SLS and Three Dimensional Printing Machine.	Understanding
C415.4	Understand the various techniques of Rapid Tooling	Understanding
C415.5	Understand the data formats and system software's of various Rapid manufacturing machines.	Understanding
C415.6	Understand the applications of Rapid manufacturing processes	Understanding
Course Name: C416 Advanced Materials		
C416.1	To classification different types of materials.	Applying
C416.2	Manufacturing thermoplastic, thermosetting PMC,MMC,CCC	Remembering
C416.3	Different types of manufacturing methods for RTM	Analyzing
C416.4	Applying the hook's law for orthographic lamina-laminated code	Applying
C416.5	Applying graded material and classification of graded material	Applying
C416.6	Introduction of Nano materials and advantages and disadvantages	Evaluating

Faculty coordinator



Head of the Department

Head of the Department
Mechanical Engineering
RISE Krishna Sai Prakasam
Group of Institutions,
Ongole-523 272



RISE KRISHNA SAI PRAKASAM GROUP OF INSTITUTIONS
DEPARTMENT OF MECHANICAL ENGINEERING

Course Outcomes Summary

A.Y:2019-20

Year / Sem: IV / I

At the end of the course student will be able to

Course Name: C417 CAD/CAM Lab		BT LEVEL
C417.1	Draw complex geometries of machine components in sketcher mode	Remembering
C417.2	Write programs to generate analytical and synthetic curves used in engineering practice.	Remembering
C417.3	Generate freeform shapes in part mode to visualize components	Creating
C417.4	Create complex engineering assemblies using appropriate assembly constraints	Creating
C417.5	Develop G and M codes for turning and milling components. Generate automated tool paths for a given engineering component	Creating
C417.6	Generate automated tool paths for a given engineering component.	Creating
Course Name: C418 Mechatronics Lab		
C418.1	Measure Load, Temperature and Displacement using Analog & Digital Sensors	Applying
C418.2	Develop PLC program to control Traffic lights, water levels, lifts and conveyor belts	Creating
C418.3	Develop or create pneumatic, Hydraulic and electrical circuit using automation studio software	Creating
C418.4	Simulate & analyze PID controllers for a physical system using MATLAB	Analyzing


Faculty coordinator


Head of the Department
Mechanical Engineering
RISE Krishna Sai Prakasham
RISE Krishna Sai Prakasham
Group of Institutions,
Ongole-523 272





RISE KRISHNA SAI PRAKASAM GROUP OF INSTITUTIONS
DEPARTMENT OF MECHANICAL ENGINEERING

Course Outcomes Summary

A.Y:2019-20

Year / Sem: IV / II

At the end of the course student will be able to

Course Name: C421 Production Planning and Control		
C421.1	Apply the systems concept for the design of production and service systems.	Applying
C421.2	Make forecasts in the manufacturing and service sectors using selected quantitative and qualitative techniques.	Applying
C421.3	Apply the principles and techniques for planning and control of the production and service systems to optimize/make best use of resources.	Applying
C421.4	Understand the importance and function of routing and to be able to apply selected methods for preparing route sheets.	Applying
C421.5	Identify different strategies employed in Scheduling techniques and methods used in industries.	Remembering
C421.6	Measure the effectiveness, identify likely areas for improvement, develop and implement improved planning and control methods for dispatching.	Remembering
Course Name: C422 Unconventional Machining Process		
C422.1	Compare Conventional and Non-Conventional machining and analyze the different elements of Ultrasonic Machining and its applications	Understanding
C422.2	Explain the different elements of Chemical and Electro chemical Machining and its applications.	Understanding
C422.3	Illustrate different parameters of Electrical Discharge Machining, electric discharge grinding	Applying
C422.4	Analyze the different elements of Laser and Electronic Beam machining.	Analyzing
C422.5	Explain the process and mechanism in Plasma Arc Machining.	Understanding
C422.6	Illustrate the variables in Abrasive Jet Machining, magnetic abrasives finishing, abrasives flow finishing.	Applying
Course Name: C423 Automobile Engineering		
C423.1	Explain the constructional, working principle of various sub system of an automobile.	Understanding
C423.2	Explain the constructional, working principle of various types of manual and automotive transmission of an automobile.	Understanding
C423.3	Explain different steering mechanisms and their working principles.	Understanding
C423.4	Describe all the theoretical information of suspension, braking and electrical components used in a vehicle.	Understanding
C423.5	Discuss the detailed concept, construction and principle of operation of engine and various engine components,	Understanding



	combustion, cooling, lubrication systems and safety systems will be taught to the students.	
C423.6	Describe the various techniques to avoid the pollution formation from automobiles and engine service.	Understanding
Course Name: C424 Non Destructive Evaluation		
C424.1	Obtain knowledge on the source of light and electromagnetic rays like x-rays and gamma rays also usage of radiography in industries.	Applying
C424.2	Define principles of wave propagation and working of ultrasonic testing.	Remembering
C424.3	Gain knowledge on liquid Penetration testing on materials or welded parts.	Understanding
C424.4	Describe principles and procedure of magnetic testing, Standardization and Calibration, Interpretation and Evaluation.	Applying
C424.5	Identify defects in the work piece or weld joint using eddy current testing.	Remembering
C424.6	Compare NDE techniques and its application in industries.	Understanding


Faculty coordinator


Head of the Department
Mechanical Engineering
RISE Krishna Sai Prakasham
Group of Institutions,
Ongole-523 272





RISE KRISHNA SAI PRAKASAM GROUP OF INSTITUTIONS
DEPARTMENT OF MECHANICAL ENGINEERING

Course Outcomes Summary


A.Y:2019-20

Year / Sem: IV / II

At the end of the course student will be able to

Course Name: C425 Project		BT LEVEL
C425.1	Identify a topic in advanced areas of Mechanical Engineering	Understanding
C425.2	Review literature to identify gaps and define objectives & scope of the work.	Understanding
C425.3	Develop a prototypes/models, experimental set-up and software systems necessary to meet the objectives.	Creating
C425.4	Analyze and discuss the results to draw valid conclusions.	Analyzing
C425.5	Prepare a report as per recommended format and defend the work.	Understanding
C425.6	Understand advanced technological solutions to engineering problems.	Understanding


Faculty coordinator


Head of the Department
Head of the Department
Mechanical Engineering,
RISE Krishna Sai Prakasam
Group of Institutions.
Ongole-523 213

