2023-2024 (S)

LESSON PLAN		
Discipline : Mechanical Engg.	Semester : 4th	Name of the Teachnig Faculty : Mr. Pradeep Kumar Padhy
Subject : Theory Of Machines	No.of days/Per weeks Class Alloted Weeks :4	Semester from date : 16.01.2024 To Date : 26.04.2024 No.of Weeks : 15
Weeks	Class day	Theory
3rd (Jan-2024)	1st	Link ,kinematic chain, mechanism, machine
	2nd	
	3rd	Inversion, four bar link mechanism and its inversion
	4th	
4th (Jan-2024)	1st	
	2nd	Lower pair and higher pair
	3rd	
	4th	Cam and followers
5th (Jan-2024 & 1st (Feb-2024)	1st	
	2nd	Friction between nut and screw for square thread, screw jack
	3rd	
	4th	
2nd (Feb-2024)	1st	Bearing and its classification, Description of roller, needle roller& ball bearings.
	2nd	
	3rd	Torque transmission in flat pivot& conical pivot bearings.
	4th	
3rd (Feb-2024)	1st	
	2nd	Flat collar bearing of single and multiple types.
	3rd	
	4th	Torque transmission for single and multiple clutches
4th (Feb-2024)	1st	
	2nd	
	3rd	Working of simple frictional brakes
	4th	
5th (Feb-2024 & 1st (Mar-2024)	1st	Working of Absorption type of dynamometer
	2nd	Concept of power transmission
	3rd	Type of drives, belt, gear and chain drive.
	4th	Computation of velocity ratio, length of belts (open and cross)with and without slip.
2nd (Mar-2024)	1st	
	2nd	Ratio of belt tensions, centrifugal tension and initial tension
	3rd	
	4th	
3rd (Mar-2024)	1st	Power transmitted by the belt.
	2nd	
	3rd	Determine belt thickness and width for given permissible stress for open and crossed belt considering centrifugal tension.
	4th	
4th (Mar-2024)	1st	
	2nd	V-belts and V-belts pulleys
	3rd	Concept of crowning of pulleys.
	4th	Gear drives and its terminology

5th (Mar-2024)	1st	Gear trains, working principle of simple, compound, reverted and epicyclic gear trains.
	2nd	Function of governor
	3rd	Classification of governor
	4th	Working of Watt, Porter, Proel and Hartnell governors
1st (April-2024)	1st	Conceptual explanation of sensitivity, stability and isochronisms
	2nd	Function of flywheel
	3rd	Comparison between flywheel &governor.
	4th	Fluctuation of energy and coefficient of fluctuation of speed.
2nd (April-2024)	1st	Concept of static and dynamic balancing
	2nd	Static balancing of rotating parts.
	3rd	Principles of balancing of reciprocating parts
	4th	Causes and effect of unbalance
3rd (April-2024)	1st	Difference between static and dynamic balancing
	2nd	Introduction to Vibration and related terms (Amplitude, time period and frequency, cycle)
	3rd	Classification of vibration
	4th	Basic concept of natural, forced & damped vibration
4th (April-2024)	1st	Torsional and Longitudinal vibration
	2nd	Causes & remedies of vibration.
	3rd	Revision & doubt clear
	4th	Previous Year Question Discussion

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LESSON PLAN		
Discipline : Mechanical Engg.	Semester : 4th	Name of the Teachnig Faculty : Mr. Piyush Bhusan Dash
Subject : Manufacturing Technology	No.of days/Per weeks Class Alloted Weeks :4	Semester from date : 16.01.2024 To Date : 26.04.2024 No.of Weeks : 15
Weeks	Class day	Theory
3rd (Jan-2024)	1st	Composition of various tool materials
	2nd	
	3rd	Physical properties& uses of such tool materials
	4th	
4th (Jan-2024)	1st	Cutting action of various and tools such as Chisel, hacksaw blade, dies and reamer
	2nd	
	3rd	Turning tool geometry and purpose of tool angle
	4th	
5th (Jan-2024 & 1st (Feb-2024)	1st	Machining process parameters (Speed, feed and depth of cut)
	2nd	Coolants and lubricants in machining and purpose
	3rd	Construction and working of lathe and CNC lathe
	4th	
2nd (Feb-2024)	1st	Major components of a lathe and their function
	2nd	
	3rd	Operations carried out in a lathe(Turning, thread cutting, taper turning, internal machining, parting off, facing, knurling)
	4th	
3rd (Feb-2024)	1st	
	2nd	Safety measures during machining
	3rd	Difference with respect to engine lathe
	4th	Major components and their function
4th (Feb-2024)	1st	Multiple tool holders
	2nd	Difference with respect to capstan lathe
	3rd	Major components and their function
	4th	Tooling layout for preparation of a hexagonal bolt &bush
5th (Feb-2024 & 1st (Mar-2024)	1st	Potential application areas of a shaper machine
	2nd	Major components and their function
	3rd	Automatic able feed mechanism
	4th	Construction &working of tool head
2nd (Mar-2024)	1st	Quick return mechanism
	2nd	Specification of a shaping machine.
	3rd	Application area of a planer and its difference with respect to shaper
	4th	Major components and their functions
3rd (Mar-2024)	1st	
	2nd	The table drive mechanism
	3rd	Working of tool and tool support
	4th	Clamping of work through sketch
4th (Mar-2024)	1st	Types of milling machine and operations performed by them and also same for CNC milling machine
	2nd	
	3rd	Explain work holding attachment
	4th	Construction & working of simple dividing head, universal dividing head
5th (Mar-2024)	1st	
	2nd	

	3rd	Procedure of simple and compound indexing
	4th	Different indexing methods
1st (April-2024)	1st	Major components and their function of a slotter
	2nd	Construction and working of slotter machine
	3rd	Tools used in slotter
	4th	Significance of grinding operations
2nd (April-2024)	1st	Manufacturing of grinding wheels
	2nd	Criteria for selecting of grinding wheels
	3rd	Specification of grinding wheels with example Working of Cylindrical Grinder Surface Grinder Centreless Grinder
	4th	Classification of drilling machines
3rd (April-2024)	1st	Working of Bench drilling machine
	2nd	Basic Principle of Boring Different between Boring and drilling
	3rd	Types of Broaching(pull type, push type) Advantages of Broaching and applications
	4th	Definition of Surface finish
4th (April-2024)	1st	Description of lapping& explain their specific cutting.
	2nd	Revision & Doubt Clear
	3rd	Revision & Doubt Clear
	4th	Previous Year Question Discussion

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LESSON PLAN		
Discipline : Mechanical Engg.	Semester : 4th	Name of the Teachnig Faculty : Mr. Nilamadhaba Sabat
Subject : Fluid Mechanics	No.of days/Per weeks Class Alloted Weeks :4	Semester from date : 16.01.2024 To Date : 26.04.2024 No.of Weeks : 15
Weeks	Class day	Theory
3rd (Jan-2024)	1st	Define fluid,comparison of solid,liquid and gas
	2nd	Description of fluid properties like Density, Specific weight,
	3rd	numericals based on Density, Specific weight
	4th	specific gravity, specific volume
4th (Jan-2024)	1st	numericals based on fluid propertoies
	2nd	numericals based on fluid propertoies
	3rd	Definitions and Units of Dynamic viscosity, kinematic viscosity,
	4th	surface tension
5th (Jan-2024 & 1st	1st	numericals based on surface tension
	2nd	Capillary phenomenon
	3rd	numericals based on capillarity
	4th	Definitions and units of fluid pressure
2nd (Feb-2024)	1st	pressure intensity and pressure head
	2nd	Statement of Pascal's Law,applications of pascal law
	3rd	Concept of atmospheric pressure, gauge pressure, vacuum pressure and absolute pressure
	4th	Concept of atmospheric pressure, gauge pressure, vacuum pressure and absolute pressure
3rd (Feb-2024)	1st	Pressure measuring instruments,classification
	2nd	Simple Manometers
	3rd	numericals on Simple Manometers
	4th	Differential manometer
4th (Feb-2024)	1st	numericals on differential Manometers
	2nd	Bourdon tube pressure gauge
	3rd	Bourdon tube pressure gauge numericals
	4th	Definition of hydrostatic pressure , Total pressure and centre of pressure
(Mar-2024)	1st	Total pressure and centre of pressure
	2nd	Total pressure and centre of pressure on immersed bodies(Horizontal and Vertical Bodies)
	3rd	numericals based on total pressure and center of pressure
	4th	numericals based on total pressure and center of pressure
2nd (Mar-2024)	1st	Archimedes 'principle
	2nd	concept of buoyancy
	3rd	meta center and meta centric height
	4th	Concept of floatation
3rd (Mar-2024)	1st	Continuity equation(Statement and proof for one dimensional flow)
	2nd	Bernoulli's theorem(Statement) and total energy concept
	3rd	proof of Bernoulli's theorem
	4th	numericals based on Bernoulli's theorem
4th (Mar-2024)	1st	numericals based on Bernoulli's theorem
	2nd	numericals based on Bernoulli's theorem
	3rd	venturimeter
	4th	numericals on(Venturimeter)
5th (Mar-2024)	1st	pitot tube

	2nd	numericals on pitot tube
	3rd	Define orifice and Flow through orifice
	4th	Orifices coefficient & the relation between the orifice coefficients
1st (April-2024)	1st	problems on Orifices coefficient & the relation between the orifice coefficients
	2nd	Classifications of notches & weirs
	3rd	Discharge over a rectangular notch or weir
	4th	numericals on rectangular notch
2nd (April-2024)	1st	Discharge over a triangular notch or weir
	2nd	numericals on triangular notch
	3rd	Definition of pipe, Loss of energy in pipes.
	4th	type of Head loss, Head loss due to friction:, Darcy's formula
3rd (April-2024)	1st	numericals on Darcy's formula
	2nd	Chezy's formula., numericals on Chezy's formula.
	3rd	Hydraulic gradient and total gradient line
	4th	Impact of jet:Impact of jet on fixed & moving vertical flat plates
4th (April-2024)	1st	Derivation of work done on series of vanes
	2nd	condition for maximum efficiency.
	3rd	Impact of jet on moving curved vanes, illustration using velocity triangles,
	4th	derivation of work done, efficiency

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LESSON PLAN		
Discipline : Mechanical Engg.	Semester : 4th	Name of the Teachnig Faculty : Miss. Tapati Panigrahy
Subject : Thermal Engineering-II	No.of days/Per weeks Class Alloted Weeks :4	Semester from date : 16.01.2024 To Date : 26.04.2024 No.of Weeks : 15
Weeks	Class day	Theory
3rd (Jan-2024)	1st	Mechanical efficiency, Indicated thermal efficiency, Relative Efficiency, brake thermal efficiency overall efficiency Mean effective pressure &specific fuel consumption
	2nd	
	3rd	
	4th	
4th (Jan-2024)	1st	Define air-fuel ratio & calorific value of fuel
	2nd	problems to determine efficiencies & specific fuel consumption
	3rd	
	4th	
5th (Jan-2024 & 1st (Feb-2024)	1st	Functions of compressor & industrial use of compressor air
	2nd	
	3rd	Classification of air compressor & principle of operation
	4th	
2nd (Feb-2024)	1st	
	2nd	Parts and working principle of reciprocating Air compressor.
	3rd	Terminology of reciprocating compressor such as bore, stroke, pressure ratio free air delivered &Volumetric efficiency.
	4th	
3rd (Feb-2024)	1st	Work done of single stage & two stage compressor with and without clearance.
	2nd	
	3rd	
	4th	
4th (Feb-2024)	1st	Problems solved
	2nd	
	3rd	
	4th	Difference between gas & vapours.
5th (Feb-2024 & 1st (Mar-2024)	1st	Formation of steam.
	2nd	Representation on P-V, T-S, H-S, & T-H diagram
	3rd	
	4th	Definition & Properties of Steam.
2nd (Mar-2024)	1st	Use of steam table & mollier chart for finding unknown properties
	2nd	Non flow & flow process of vapour
	3rd	
	4th	P-V, T-S & H-S, diagram
3rd (Mar-2024)	1st	
	2nd	
	3rd	Changes in properties
	4th	Problems solved
4th (Mar-2024)	1st	
	2nd	Classification & types of Boiler
	3rd	Important terms for Boiler
	4th	Comparison between fire tube & Water tube Boiler
5th (Mar-2024)		

	1st	Description & working of common boilers (Cochran, Lancashire, Babcock & Wilcox Boiler)
	2nd	
	3rd	
1st (April-2024)	4th	Boiler Draught (Forced, induced & balanced)
	1st	Boiler mountings & accessories
	2nd	Carnot cycle with vapour
	3rd	Derivation of work & efficiency of the cycle
2nd (April-2024)	4th	
	1st	Rankine cycle---Representation in P-V, T-S & h-s diagram.
	2nd	Derivation of Work Efficiency
	3rd	Effect of Various end conditions in Rankine cycle
3rd (April-2024)	4th	Reheat cycle & regenerative Cycle
	1st	Problem solved on Carnot vapour Cycle & Rankine Cycle
	2nd	Modes of Heat Transfer (Conduction, Convection, Radiation).
	3rd	Fourier law of heat conduction and thermal conductivity (k).
4th (April-2024)	4th	Newton's laws of cooling
	1st	Radiation heat transfer (Stefan, Boltzmann & Kirchhoff's law)
	2nd	Black body Radiation, Definition of Emissivity, absorptivity, & transmissibility
	3rd	Revision & doubt clear
	4th	Previous Year Question Discussion

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LESSON PLAN		
Discipline : Mechanical Engg.	Semester : 6th	Name of the Teachnig Faculty : Mr. Pradeep Kumar Padhy
Subject : INDUSTRIAL ENGINEERING & MANAGEMENT	No.of days/Per weeks Class Alloted Weeks :4	Semester from date : 16.01.2024 To Date : 26.04.2024 No.of Weeks : 15
Weeks	Class day	Theory
3rd (Jan-2024)	1st	Selection of Site of Industry
	2nd	Concept of Plant Layout
	3rd	objective and principles of plant layout
	4th	
4th (Jan-2024)	1st	Process Layout, Product Layout and Combination Layout
	2nd	
	3rd	Techniques to improve layout
	4th	Principles of material handling equipment
5th (Jan-2024 & 1st (Feb-2024)	1st	Concept of Plant maintenance
	2nd	Importance of plant maintenance.
	3rd	Break down maintenance.
	4th	Preventive maintenance.
2nd (Feb-2024)	1st	Scheduled maintenance
	2nd	Introduction to Operations Research and its applications
	3rd	Linear Programming Problem,
	4th	Solution of L.P.P. by graphical method
3rd (Feb-2024)	1st	Problems sloved on L.P.P
	2nd	
	3rd	Evaluation of Project completion time by Critical Path Method and PERT
	4th	
4th (Feb-2024)	1st	
	2nd	Simple Problems Discussed
	3rd	Distinct features of PERT with respect to CPM
	4th	
5th (Feb-2024 & 1st (Mar-2024)	1st	
	2nd	Classification of inventory
	3rd	Objective of inventory control.
	4th	Describe the functions of inventories.
2nd (Mar-2024)	1st	Benefits of inventory control.
	2nd	Costs associated with inventory.
	3rd	Terminology in inventory control
	4th	Derivation on economic order quantity for Basic model
3rd (Mar-2024)	1st	
	2nd	Simple Problems Discussed
	3rd	
	4th	Cocept and explanation of ABC Analysis
4th (Mar-2024)	1st	
	2nd	Inspection and Quality control
	3rd	planning of inspection
	4th	
5th (Mar-2024)	1st	Types of inspection

	2nd	Types of inspection
	3rd	Advantages and disadvantages of quality control
	4th	Factors influencing the quality of manufacture
1st (April-2024)	1st	Concept of statistical quality control, Control charts (X, R, P and C - charts)
	2nd	Methods of attributes
	3rd	Problems on X,P,R & C Charts
	4th	
2nd (April-2024)	1st	Concept of ISO 9001-2008
	2nd	Quality management system, Registration /certification procedure
	3rd	Benefits of ISO to the organization
	4th	JIT, Six sigma,7S, Lean manufacturing
3rd (April-2024)	1st	Introduction to Production Planning and Control
	2nd	Major functions of production planning and control
	3rd	Methods of forecasting, Routing, Scheduling
	4th	Dispatching, Controlling
4th (April-2024)	1st	Types of production
	2nd	Mass Production, Batch Production, Job order Production
	3rd	Principles of product and process planning
	4th	Revision & Previous Year Question Paper Discussion

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LESSON PLAN		
Discipline : Mechanical Engg.	Semester : 6th	Name of the Teachnig Faculty : Mr. Piyush Bhusan Dash
Subject : AUTOMOBILE ENGINEERING & HYBRID VEHICLES	No.of days/Per weeks Class Alloted Weeks :4	Semester from date : 16.01.2024 To Date : 26.04.2024 No.of Weeks : 15
Weeks	Class day	Theory
3rd (Jan-2024)	1st	INTRODUCTION & TRANSMISSION SYSTEM:
	2nd	Automobiles: Definition, need and classification
	3rd	Clutch System: Need, Types (Single & Multiple) and Working principle with sketch
	4th	
4th (Jan-2024)	1st	Gear Box: Purpose of gear box, Construction and working of a 4 speed gear box
	2nd	
	3rd	Concept of automatic gear changing mechanisms
	4th	Propeller shaft: Constructional features
5th (Jan-2024 & 1st (Feb-2024)	1st	Differential: Need, Types and Working principle
	2nd	
	3rd	Layout of automobile chassis with major components (Line diagram)
	4th	BRAKING SYSTEM:
2nd (Feb-2024)	1st	Braking systems in automobiles: Need and types
	2nd	Mechanical Brake in detail
	3rd	
	4th	Hydraulic Brake
3rd (Feb-2024)	1st	Air Brake and Air assisted Hydraulic brake
	2nd	
	3rd	
	4th	Vacuum Brake
4th (Feb-2024)	1st	IGNITION & SUSPENSION SYSTEM:
	2nd	Describe the Battery ignition and Magnet ignition system
	3rd	
	4th	Spark plugs: Purpose, construction and specifications
5th (Feb-2024 & 1st (Mar-2024)	1st	
	2nd	State the common ignition troubles and its remedies
	3rd	Description of the conventional suspension system for Rear and Front axle
	4th	
2nd (Mar-2024)	1st	Description of independent suspension system used in cars (coil spring and tension bars)
	2nd	
	3rd	
	4th	Constructional features and working of a telescopic shock absorber
3rd (Mar-2024)	1st	
	2nd	COOLING AND LUBRICATION:
	3rd	Engine cooling: Need and classification
	4th	Describe defects of cooling and their remedial measures
4th (Mar-2024)	1st	
	2nd	Describe the Function of lubrication
	3rd	Describe the lubrication System of I.C. engine

	4th	Describe the lubrication System of I.C. engine
5th (Mar-2024)	1st	FUEL SYSTEM:
	2nd	Describe Air fuel ratio
	3rd	
	4th	Describe Carburetion process for Petrol Engine
1st (April-2024)	1st	Describe Multipoint fuel injection system for Petrol Engine
	2nd	Describe the working principle of fuel injection system for multi cylinder Engine 5.5 Filter for Diesel engine
	3rd	
	4th	
2nd (April-2024)	1st	Describe the working principle of Fuel feed pump and Fuel Injector for Diesel engine
	2nd	
	3rd	ELECTRIC AND HYBRID VEHICLES:
	4th	Introduction, Social and Environmental importance of Hybrid and Electric Vehicles
3rd (April-2024)	1st	Description of Electric Vehicles, operational advantages,present performance and applications of Electric Vehicles
	2nd	
	3rd	Battery for Electric Vehicles, Battery types and fuel cells
	4th	Hybrid vehicles, Types of Hybrid and Electric Vehicles: Parallel, Series, Parallel and Series configurations
4th (April-2024)	1st	Series Configurations
	2nd	Drive train
	3rd	Solar powered vehicles
	4th	Revision Classes

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LESSON PLAN		
Discipline : Mechanical Engg.	Semester : 6th	Name of the Teachnig Faculty : Miss. Tapati Panigrahy
Subject : POWER STATION ENGINEERING	No.of days/Per weeks Class Alloted Weeks :4	Semester from date : 16.01.2024 To Date : 26.04.2024 No.of Weeks : 15
Weeks	Class day	Theory
3rd (Jan-2024)	1st	INTRODUCTION:
	2nd	Describe sources of energy.
	3rd	Explain concept of Central and Captive power station.
	4th	Classify power plants.
4th (Jan-2024)	1st	Importance of electrical power in day today life.
	2nd	Overview of method of electrical power generation.
	3rd	THERMAL POWER STATIONS:
	4th	Layout of steam power stations.
5th (Jan-2024 & 1st (Feb-2024)	1st	Steam power cycle.
	2nd	Explain Carnot vapour power cycle with P-V
	3rd	, T-s diagram and determine thermal efficiency.
	4th	
2nd (Feb-2024)	1st	Explain Rankine cycle with P-V, T-S & H-s diagram
	2nd	Explaining the processes from the P-V, T-s Diagram
	3rd	, T-s diagram and determine thermal efficiency.
	4th	
3rd (Feb-2024)	1st	Plotting various processes on PV, TS diagram
	2nd	determine thermal efficiency, Work done ,work ratio, and specific steam Cons
	3rd	
	4th	Solve Simple Problems.
4th (Feb-2024)	1st	List of thermal power stations in the state with their capacities.
	2nd	Boiler Accessories: Operation of Air pre heater, Operation of Economiser
	3rd	Operation Electrostatic precipitator and Operation of super heater
	4th	Need of boiler mountings and operation of boiler
5th (Feb-2024 & 1st (Mar-2024)	1st	Draught systems (Natural draught, Forced draught & balanced draught) with their advantages & disadvantages.
	2nd	Steam prime movers: Advantages & disadvantages of steam turbine.
	3rd	Elements of steam turbine, governing of steam turbine. Performance of steam turbine
	4th	Explain Thermal efficiency, Stage efficiency and Gross efficiency
2nd (Mar-2024)	1st	Steam condenser: Function of condenser, Classification of condenser.
	2nd	function of condenser auxiliaries such as hot well
	3rd	condenser extraction pump, air extraction pump, and circulating pump.
	4th	Cooling Tower: Function and types of cooling tower, and spray ponds
3rd (Mar-2024)	1st	Selection of site for thermal power stations.
	2nd	NUCLEAR POWER STATIONS:
	3rd	Classify nuclear fuel (Fissile & fertile material)
	4th	Explain fusion and fission reaction.

4th (Mar-2024)	1st	Explain working of nuclear power plants with block diagram .
	2nd	Explain the working and construction of nuclear reactor .
	3rd	Compare the nuclear and thermal plants.
	4th	Explain the disposal of nuclear waste.
5th (Mar-2024)	1st	Selection of site for nuclear power stations.
	2nd	List of nuclear power stations.
	3rd	DIESEL ELECTRIC POWER STATIONS:
	4th	State the advantages and disadvantages of diesel electric power stations.
1st (April-2024)	1st	Explain briefly different systems of diesel electric power stations: Fuel storage and fuel supply system system.
	2nd	DIESEL ELECTRIC POWER STATIONS contd.
	3rd	Fuel injection system, Air supply system,cooling system
	4th	Lubrication system, Exhaust system
2nd (April-2024)	1st	starting system, governing and selection of site
	2nd	Selection of site for diesel electric power stations.
	3rd	Performance and thermal efficiency of diesel electric power stations
	4th	HYDEL POWER STATIONS:
3rd (April-2024)	1st	State advantages and disadvantages of hydroelectric power plant.
	2nd	Classify and explain the general arrangement of storage type hydroelectric project and explain its operation.
	3rd	Operation of hydroelectric project
	4th	Selection of site of hydel power plant in the state
4th (April-2024)	1st	Types of turbines and generation used.
	2nd	Simple problems.
	3rd	GAS TURBINE POWER STATIONS: Selection of site for gas turbine stations.
	4th	Fuels for gas turbine, Elements of simple gas turbine power plants, Merits, demerits and application of gas turbine power plants

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LESSON PLAN		
Discipline : Mechanical Engg.	Semester : 6th	Name of the Teachnig Faculty : Mr. Nilamadhaba Sabat
Subject : Advance Manufacturing Process	No.of days/Per weeks Class Alloted Weeks :4	Semester from date : 16.01.2024 To Date : 26.04.2024 No.of Weeks : 15
Weeks	**Class day**	**Theory**
3rd (Jan-2024)	1st	Modern Machining Processes Introduction and comparison with traditional machining.
	2nd	Ultrasonic Machining: principle
	3rd	Description of equipment,working procedure of USM.
	4th	applications and advantages ,disadvantages
4th (Jan-2024)	1st	Electric Discharge Machining: Principle, Description of equipment
	2nd	tools (electrodes), Process parameters. Output characteristics
	3rd	working procedure of EDM
	4th	applications and advantages ,disadvantages
5th (Jan-2024 & 1st (Feb-2024)	1st	Wire cut EDM: Principle, Description of equipment,
	2nd	controlling parameters;applications, advantages ,disadvantages
	3rd	Abrasive Jet Machining: principle, description of equipment,
	4th	working procedure of AJM
2nd (Feb-2024)	1st	Material removal rate,applications and advantages ,disadvantages
	2nd	Laser Beam Machining: principle, description of equipment
	3rd	working procedure of LBM
	4th	Material removal rate,applications and advantages ,disadvantages
3rd (Feb-2024)	1st	Electro Chemical Machining: principle, description of equipment
	2nd	working procedure of ECM
	3rd	Material removal rate
	4th	applications and advantages ,disadvantages
4th (Feb-2024)	1st	Plasma Arc Machining – principle, description of equipment
	2nd	working procedure of PAM
	3rd	Material removal rate,Process parameters
	4th	performance characterization,applications and advantages ,disadvantages
5th (Feb-2024 & 1st (Mar-2024)	1st	Electron Beam Machining - principle, description of equipment
	2nd	working procedure of EBM
	3rd	Material removal rate,Process parameters
	4th	performance characterization,applications and advantages ,disadvantages
2nd (Mar-2024)	1st	Processing of plastics
	2nd	Moulding processes:
	3rd	Injection moulding
	4th	Compression moulding
3rd (Mar-2024)	1st	Transfer moulding
	2nd	Extruding;
	3rd	Casting
	4th	Calendering.

4th (Mar-2024)	1st	Fabrication methods
	2nd	Sheet forming
	3rd	Blow moulding,
	4th	Laminating plastics (sheets, rod& tubes)
5th (Mar-2024)	1st	Reinforcing.
	2nd	Applications of Plastics.
	3rd	Additive Manufacturing Process:Introduction, Need for Additive Manufacturing
	4th	Fundamentals of Additive Manufacturing, AM Process Chain
1st (April-2024)	1st	Advantages and Limitations of AM, Commonly used Terms
	2nd	Classification of AM process, Fundamental Automated Processes
	3rd	Fundamental Automated Processes
	4th	Distinction between AM and CNC.other related technologies.
2nd (April-2024)	1st	Application –Application in Design, Aerospace Industry, Automotive Industry,
	2nd	Jewelry Industry, Arts and Architecture. RP Medical and Bioengineering Applications.
	3rd	Web Based Rapid Prototyping Systems, Concept of Flexible manufacturing process
	4th	concurrent engineering, production tools like capstan and turret lathes
3rd (April-2024)	1st	production tools like capstan and turret lathes, capstan and turret lathes difference
	2nd	rapid prototyping processes., Special Purpose Machines (SPM):concepts
	3rd	General elements of SPM, Productivity improvement by SPM
	4th	Productivity improvement by SPM, Principles of SPM design.
4th (April-2024)	1st	Maintenance of Machine Tools-types, Repair cycle analysis, Repair complexity
	2nd	Maintenance manual, Maintenance records,
	3rd	Introduction to Total Productive Maintenance (TPM).
	4th	Housekeeping

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