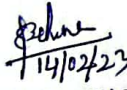
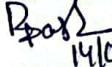


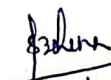
DISCIPLINE		SEMESTER	NAME OF THE FACULTY	
MECHANICAL ENGG.		6th	Sri SAGAR KUMAR BEHERA, Lect. MECH	
SUBJECT: INDUSTRIAL ENGG AND MANAGEMENT.		NO. OF DAYS PER WEEK CLASS ALLOTTED:	SEMESTER FROM 14/2/2023	
			NO. OF WEEKS : 15NOS.	
WEEKS	CLASS DAYS	THEORY TOPICS		
1ST WEEK	1ST	Selection of Site of Industry		
	2ND	Define plant layout.		
	3RD	Describe the objective and principles of plant layout		
	4TH	Explain Process Layout, Product Layout		
2NDWEEK	1ST	Explain Combination Layout		
	2ND	Techniques to improve layout.		
	3RD	Principles of material handling equipment, Plant Maintenance		
	4TH	Importance of plant maintenance		
3RDWEEK	1ST	Break down maintenance, Preventive maintenance		
	2ND	Scheduled maintenance		
	3RD	Introduction to Operations Research and its applications		
	4TH	Define Linear Programming Problem		
4THWEEK	1ST	DO		
	2ND	Solution of L.P.P. by graphical method.		
	3RD	DO		
	4TH	Evaluation of Project completion time by Critical Path Method and PERT		
5THWEEK	1ST	DO		
	2ND	Simple Problems on Above		
	3RD	Explain distinct features of PERT with respect to CPM.		
	4TH	DO		
6THWEEK	1ST	Classification of inventory		
	2ND	Objective of inventory control		
	3RD	Describe the functions of inventories.		
	4TH	Benefits of inventory control		
7THWEEK	1ST	Costs associated with inventory.		
	2ND	Terminology in inventory control		
	3RD	Explain and Derive economic order quantity for Basic model		
	4TH	DO		
8TH WEEK	1ST	Numericals on above		
	2ND	Define and Explain ABC analysis.		
	3RD	Define Inspection and Quality control		
	4TH	Describe planning of inspection		
9THWEEK	1ST	Describe types of inspection.		
	2ND	Advantages and disadvantages of quality control.		
	3RD	Study of factors influencing the quality of manufacture.		
	4TH	Explain the Concept of statistical quality control, Control charts (X, R, P and C - charts).		
10THWEEK	1ST	Methods of attributes		
	2ND	Concept of ISO 9001-2008.		
	3RD	Quality management system, Registration /certification procedure.		
	4TH	Benefits of ISO to the organization.		
11THWEEK	1ST	JIT, Six sigma,		
	2ND	7S, Lean manufacturing		



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	3RD	Solve related problems
	4TH	DO
	1ST	DO
12THWEEK	2ND	INTRODUCTION ON PRODUCTION PLANNING AND CONTROL
	3RD	Major functions of production planning and control
	4TH	Methods of forecasting
	1ST	Routing
13THWEEK	2ND	Scheduling
	3RD	Dispatching
	4TH	Controlling
	1ST	Types of production
14THWEEK	2ND	Mass production
	3RD	Batch production
	4TH	Job order production
	1ST	Principles of product and process planning.
15THWEEK	2ND	DO
	3RD	DO
	4TH	DO


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Faculty Name - Ganesh Parichha

SUBJECT: AUTOMOBILE ENGG.		NO. OF DAYS PER WEEK CLASS ALLOTTED:	SEMESTER FROM 14/2/2023 NO. OF WEEKS : 15 NOS.
WEEKS	CLASS DAYS	THEORY TOPICS	
1ST WEEK	1ST	Automobiles: Definition, need and classification	
	2ND	Layout of automobile chassis with major components (Line diagram)	
	3RD	Clutch System: Need, Types (Single & Multiple)	
	4TH	Working principle Of Clutch with sketch	
2ND WEEK	1ST	3 Gear Box: Purpose of gear box	
	2ND	Construction and working of a 4 speed gear box	
	3RD	Concept of automatic gear changing mechanisms	
	4TH	Propeller shaft: Constructional features	
3RD WEEK	1ST	DO	
	2ND	Need of Differential	
	3RD	Types of Differential	
	4TH	Working Principle of Differential	
4TH WEEK	1ST	Braking systems in automobiles: Need and types	
	2ND	Mechanical Brake	
	3RD	Air assisted Hydraulic Brake	
	4TH	Vacuum Brake	
5TH WEEK	1ST	Hydraulic Brake	
	2ND	Describe the Battery ignition	
	3RD	Magnet ignition system	
	4TH	Specifications of Spark plug	
6TH WEEK	1ST	common ignition troubles of spark plug	
	2ND	Remedies of spark plug	
	3RD	Description of the conventional suspension system for Rear and Front axle	
	4TH	Description of independent suspension system used in cars (coil spring and tension bars)	
7TH WEEK	1ST	Constructional features and working of a telescopic shock absorber	
	2ND	DO	
	3RD	DO	
	4TH	Engine cooling: Need and classification	
8TH WEEK	1ST	Describe defects of cooling	
	2ND	Remedial Measures of Defects of cooling	
	3RD	Describe the Function of lubrication	
	4TH	Describe the lubrication System of I.C. engine	
9TH WEEK	1ST	DO	
	2ND	DO	
	3RD	DO	
	4TH	Describe Air fuel ratio	
10TH WEEK	1ST	Describe Carburetion process for Petrol Engine	
	2ND	Describe Multipoint fuel injection system for Petrol Engine	
	3RD	Describe the working principle of fuel injection system for multi cylinder Engine	
	4TH	Filter for Diesel engine	
11TH WEEK	1ST	Describe the working principle of Fuel feed pump	
	2ND	Fuel Injector for Diesel	
	3RD	DO	
	4TH	DO	
12TH WEEK	1ST	DO	
	2ND	Introduction Of Hybrid Vehicle	
	3RD	Social and Environmental importance of Hybrid vehicle	
	4TH	Social and Environmental importance of Electrical vehicle	
	1ST	Description of Electric Vehicles	
	2ND	Operational advantages of Electric Vehicle	

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13THWEEK	3RD	present performance of Electric Vehicle
	4TH	applications of Electric Vehicles
14THWEEK	1ST	Battery for Electric Vehicles
	2ND	Battery types and fuel cells
	3RD	Hybrid vehicles, Types of Hybrid
	4TH	Electric Vehicles: Parallel, Series
15THWEEK	1ST	Parallel and series Configuration
	2ND	Drive train
	3RD	Solar powered vehicles
	4TH	Revision


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Discipline	Semeter	Name of the Faculty
Mechanical	6th	Sri Bipin Kumar Dash, SR.LECT MECH
Subject- PSE	Class Allotted per week : 4 no	Semester Starts from 14/02/2023
Weeks	Class Days	Theory Topics
1st	1st	Describe sources of energy
	2nd	Explain concept of Central and Captive power station
	3rd	Classify power plants
	4th	Importance of electrical power in day today life.
2nd	1st	Overview of method of electrical power generation
	2nd	Layout of steam power stations
	3rd	Explain Carnot vapour power cycle with P-V, T-s diagram and determine thermal efficiency
	4th	Explain Rankine cycle with P-V, T-S & H-s diagram and determine thermal efficiency,
3rd	1st	Determine Work done, work ratio, and specific steam Consumption.
	2nd	Solve Simple Problems
	3rd	List of thermal power stations in the state with their capacities
	4th	Operation of Air pre heater, Economiser, Electrostatic precipitator and super heater
4th	1st	Need of boiler mountings and operation of boiler
	2nd	Draught systems (Natural draught, Forced draught & balanced draught) with their advantages & disadvantages
	3rd	Steam prime movers: Advantages & disadvantages of steam turbine, Elements of steam turbine, governing of steam turbine
	4th	Performance of steam turbine: Explain Thermal efficiency,
5th	1st	Stage efficiency and Gross efficiency
	2nd	Steam condenser: Function of condenser
	3rd	Classification of condenser
	4th	function of condenser auxiliaries such as hot well
6th	1st	condenser extraction pump ,air extraction pump ,circulating pump
	2nd	Cooling Tower: Function
	3rd	types of cooling tower and spray bonds
	4th	selection of site of thermal power plants
7th	1st	classify nuclear fuel (fissile and fertile material)
	2nd	explain fusion and fission reaction
	3rd	working of nuclear powerplant with block diagram
	4th	working and construction of nuclear reactor
8th	1st	compare the nuclear and thermal power plant
	2nd	explain the disposal of nuclear waste
	3rd	selection of site of nuclear power stations
	4th	list of nuclear power stations
9th	1st	advantages and disadvantages of diesel electric power stations
	2nd	do
	3rd	different systems of diesel electric power stations ,fuel storage
	4th	fuel supply system ,fuel injection system ,
10th	1st	air supply system,exhaust system ,cooling sysytem
	2nd	lubrication system,starting system ,governing system
	3rd	selection of site for diesel electric power stations
	4th	performance and thermal efficiency of diesel electric power stations
11th	1st	do
	2nd	advantages and disadvantages of hydro electric power pland

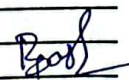
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	3rd	do
	4th	general arrangement of storage type hydroelectric project
12th	1st	operatin of hydro electric project
	2nd	selection for site of hydel power planr
	3rd	list of hydro power stations with capacities
	4th	number of units in the state
13th	1st	types of turbine and generation used
	2nd	simple problems
	3rd	simple problems
	4th	simple problems
14th	1st	gas turbine power stations
	2nd	selection of site for gas turbine
	3rd	fuels used for gas turbine
	4th	elements of simple gas
15th	1st	do
	2nd	merits and demerits of gas turbine power plants
	3rd	application of gas turbine power stations
	4th	revision of unit 1
16th	1st	revision of unit 2
	2nd	revision of unit 3
	3rd	revision of unit 4
	4th	revision of unit 5


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DISCIPLINE		SEMESTER	NAME OF THE TEACHING FACULTY SRI. SAKTI RANJAN BHUYAN
MECHANICAL ENGG.		6th	
SUBJECT: ADVANCED MANUFACTURING PROCESS.		NO. DAYS PER WEEK CLASS ALLOTTED: 04	SEMESTER FROM 14/2/2023 NO. OF WEEKS : 16 NOS.
WEEKS	CLASS DAYS	THEORY TOPICS	
1ST WEEK	1ST	INTRODUCTION TO MODERN MACHININGS	
	2ND	COMPARISON WITH TRADITIONAL AND NON TRADITIONAL MACHININGS	
	3RD	ULTRASONIC MACHINING PROCESS	
	4TH	ADVANTAGES, LIMITATIONS AND APPLICATION OF USM	
2ND WEEK	1ST	ELECTRO DISCHARGE MACHINING PROCESS	
	2ND	PROCESS PARAMETERS OF EDM	
	3RD	-DO-	
	4TH	EXPLANATION ON WIRE EDM	
3RD WEEK	1ST	CONTROLLING PARAMETERS AND APPLICATION	
	2ND	ABRASIVE JET MACHINING PROCESS	
	3RD	AJM APPLICATIONS ADVANTAGES AND LIMITATIONS	
	4TH	LASER BEAM MACHINING PROCESS	
4TH WEEK	1ST	LBM ADVANTAGES AND APPLICATIONS	
	2ND	ELECTRO CHEMICAL MACHINING PROCESS	
	3RD	MATERIAL REMOVAL RATE AND APPLICATIONS OF ECM	
	4TH	PLASMA ARC MACHINING PROCESS	
5TH WEEK	1ST	PAM APPLICATION, ADVANTAGES LIMITATION	
	2ND	ELECTRON BEAM MACHINING PROCESS	
	3RD	PROCESS PARAMETER AND PERFORMANCE CHARACTERIZATION	
	4TH	PYQ DISCUSSIONS	
6TH WEEK	1ST	INTRODUCTION TO PLASTIC AS AN ENGINEERING MATERIAL	
	2ND	INTRODUCTION TO DIFFERENT MOULDING PROCESS	
	3RD	INJECTION AND COMPRESSION MOULDING	
	4TH	TRANSFER MOULDING AND CASTING	
7TH WEEK	1ST	INTRODUCTION TO PLASTIC EXTRUSION	
	2ND	CALENDERING OPERATION OF PLASTIC	
	3RD	FABRICATION METHOD OF PLASTICS SHEET PERFORMING	
	4TH	BLOW MOULDING AND ITS EXPLANATION	
8TH WEEK	1ST	PLASTIC LAMINATION AND REINFORCING OF PLASTICS	
	2ND	APPLICATION OF PLASTICS IN DIFFERENT FIELD	
	3RD	INTRODUCTION TO ADDITIVE MANUFACTURING	
	4TH	NEED OF ADDITIVE MANUFACTURING IN MMODERN WORLD	
9TH WEEK	1ST	FUNDAMENTALS AND COMPONENTS OF AM	
	2ND	ADDITIVE MANUFACTURING PROCESS CHAIN	
	3RD	ADVANTAGES, LIMITATIONS AND APPLICATION OF AM	
	4TH	CLASSIFICATIONS OF AM PROCESS	
10TH WEEK	1ST	COMPARE AM WITH CNC AND OTHER RELATED TECHNOLOGIES	
	2ND	APPLICATION OF AM IN VARIOUS INDUSTRIES	
	3RD	INTRODUCTION TO RAPID PROTOTYPING	
	4TH	CONCEPT OF FLEXIBLE MANUFACTURING PROCESS	
11TH WEEK	1ST	COMPARISON OF FMS, RP AND AM	
	2ND	INTRODUCTION TO CONCURRENT ENGINEERING	
	3RD	PRODUCTION TOOLS LIKE CAPSTAN LATHE	
	4TH	TURRET LATHE AND ITS COMPARISON WITH CAPSTAN LATHE	
12TH WEEK	1ST	PYQ DISCUSSIONS	
	2ND	CONCEPT OF SPECIAL PURPOSE MACHINES	
	3RD	NEED AND COMPONENTS OF SPM	


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	4TH	GENERAL ELEMENTS OF SPM
13THWEEK	1ST	HOW SPM HELPS IN PRODUCTIVITY GROWTH
	2ND	REQUIREMENTS OF SPM IN MODERN TRENDS
	3RD	PRINCIPLES OF SPM DESIGN
	4TH	PYQ DISCUSSIONS
14THWEEK	1ST	INTRODUCTION TO INDUSTRIAL MAINTENANCE
	2ND	CONCEPT OF MACHINE MAINTENANCE
	3RD	TYPES OF MACHINE MAINTENANCE
	4TH	REPAIR CYCLE ANALYSIS AND REPAIR COMPLEXITY
15THWEEK	1ST	MAINTENANCE MANUAL AND RECORDS
	2ND	HOSE KEEPING CONCEPT
	3RD	INTRODUCTION TO TOTAL PRODUCTIVE MAINTENANCE
	4TH	COMPONENTS OF TPM AND QUALITY CIRCLE
16THWEEK	1ST	REVISION CLASS
	2ND	REVISION CLASS

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