


DISCIPLINE		SEMESTER	NAME OF THE TEACHING FACULTY
MECHANICAL ENGG.		6th	SRI. SAGAR KUMAR BEHERA, LECT., MECH.
SUBJECT: INDUSTRIAL ENGG AND MANAGEMENT.		NO. OF DAYS PER WEEK CLASS ALLOTTED:	SEMESTER FROM 15/04/2021
			NO. OF WEEKS : 16 NOS.
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	
2ND WEEK	1ST	Explain Combination Layout	
	2ND	Techniques to improve layout.	
	3RD	Principles of material handling equipment, Plant Maintenance	
	4TH	Importance of plant maintenance	
3RD WEEK	1ST	Break down maintenance, Preventive maintenance	
	2ND	Scheduled maintenance	
	3RD	Introduction to Operations Research and its applications	
	4TH	Define Linear Programming Problem	
4TH WEEK	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	
5TH WEEK	1ST	DO	
	2ND	Simple Problems on Above	
	3RD	Explain distinct features of PERT with respect to CPM.	
	4TH	DO	
6TH WEEK	1ST	Classification of inventory	
	2ND	Objective of inventory control	
	3RD	Describe the functions of inventories.	
	4TH	Benefits of inventory control	
7TH WEEK	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	
9TH WEEK	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).	
10TH WEEK	1ST	Methods of attributes	
	2ND	Concept of ISO 9001-2008.	
	3RD	Quality management system, Registration /certification procedure.	
	4TH	Benefits of ISO to the organization.	
11TH WEEK	1ST	JIT, Six sigma,	
	2ND	7S, Lean manufacturing	
	3RD	Solve related problems	
	4TH	DO	
12TH WEEK	1ST	DO	
	2ND	INTRODUCTION ON PRODUCTION PLANNING AND CONTROL	
	3RD	Major functions of production planning and control	
	4TH	Methods of forecasting	

  
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
  
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13THWEEK	1ST	
	2ND	Routing
	3RD	Scheduling
	4TH	Dispatching
14THWEEK	1ST	Controlling
	2ND	Types of production
	3RD	Mass production
	4TH	Batch production
15THWEEK	1ST	Job order production
	2ND	Principles of product and process planning.
	3RD	DO
	4TH	DO
16THWEEK	1ST	DO
	2ND	
	3RD	
	4TH	

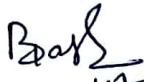
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MECHANICAL ENGG.		6th	SRI. MANOJ KUMAR DAS,PTGF,MECH.
SUBJECT:AUTOMOBILE ENGG.		NO. OF DAYS PER WEEK CLASS ALLOTTED:	SEMESTER FROM 15/04/2021 NO. OF WEEKS : 16 NOS.
WEEKS	CLASS DAYS	THEORY TOPICS	
1ST WEEK	1ST	Automobiles: Definition, need and classification	
	2ND	Layout of automobile chassiswith major components (Line diagram)	
	3RD	Clutch System: Need, Types (Single & Multiple)	
	4TH	Working principle Of Clutch with sketch	
2NDWEEK	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	
3RDWEEK	1ST	DO	
	2ND	Need of Differential	
	3RD	Types of Differential	
	4TH	Working Principle of Differential	
4THWEEK	1ST	Braking systems in automobiles: Need and types	
	2ND	Mechanical Brake	
	3RD	Air assisted Hydraulic Brake	
	4TH	Vacuum Brake	
5THWEEK	1ST	Hydraulic Brake	
	2ND	Describe the Battery ignition	
	3RD	Magnet ignition system	
	4TH	Specifications of Spark plug	
6THWEEK	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 tensionbars)	
7THWEEK	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	
9THWEEK	1ST	DO	
	2ND	DO	
	3RD	DO	
	4TH	Describe Air fuel ratio	
10THWEEK	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	
11THWEEK	1ST	Describe the working principle of Fuel feed pump	
	2ND	Fuel Injector for Diesel	
	3RD	DO	
	4TH	DO	
12THWEEK	1ST	DO	
	2ND	Introduction Of Hybrid Vehicle	
	3RD	Social and Environmental importance of Hybrid vehicle	
	4TH	Social and Environmental importance of Electrical vehicle	
13THWEEK	1ST	Description of Electric Vehicles	
	2ND	operational advantages of Electric Vehicle	
	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	

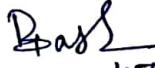
  
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15THWEEK	1ST	Parallel and series Configuration	
	2ND		
	3RD		Drive train
	4TH		Solar powered vehicles
16THWEEK	1ST	Revision	
	2ND		
	3RD		
	4TH		

  
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DISCIPLINE	SEMESTER	NAME OF THE TEACHING FACULTY
MECHANICAL ENGG.	6th	SRI. BIPIN KUMAR DASH
SUBJECT: POWER STATION ENGINEERING (TH-3)		SEMESTER FROM 15/04/2021
NO. OF DAYS PER WEEK CLASS ALLOTTED : 04		NO. OF WEEKS : 16 NOS.
WEEKS	CLASS DAYS	THEORY TOPICS
1ST WEEK	1ST	INTRODUCTION TO POWER PLANT ENGINEERING
	2ND	DESCRIBE SOURCES OF ENERGY, LOAD CURVE
	3RD	EXPLAIN CONCEPT OF CAPTIVE AND CENTRAL POWER PLANT
	4TH	CLASSIFY POWER PLANT, PERFORMANCE PARAMETERS
2ND WEEK	1ST	IMPORTANCE OF ELECTRICAL POWER IN DAY TODAY LIFE, OVERVIEW METHOD OF
	2ND	LAYOUT OF STEAM POWER PLANT, BASIC CONCEPT
	3RD	STEAM POWER CYCLE, CARNOT VAPOUR POWER CYCLE (P-V, T-S, H-S DIAGRAM), THERMAL
	4TH	RANKINE CYCLE (P-V, T-S, H-S DIAGRAM), THERMAL EFFICIENCY
3RD WEEK	1ST	WORK DONE, WORK RATIO, SPECIFIC STEAM CONSUMPTION
	2ND	NUMERICAL PROBLEMS BASED ON RANKINE CYCLE
	3RD	REHEAT CYCLE AND RELATED NUMERICAL PROBLEMS
	4TH	REGENERATIVE CYCLE AND RELATED NUMERICAL PROBLEM
4TH WEEK	1ST	COMBINATION OF REHEAT AND REGENERATIVE CYCLE
	2ND	LIST OF THERMAL POWER STATIONS IN THE STATE WITH THEIR CAPACITIES, BOILER
	3RD	AIR PREHEATER, ECONOMISER, ESP, SUPERHEATER.
	4TH	DRAUGHT SYSTEM, ADVANTAGES AND DISADVANTAGES
5TH WEEK	1ST	PERFORMANCE OF STEAM TURBINE AND EFFICIENCY
	2ND	NUMERICAL PROBLEMS ON STEAM TURBINE
	3RD	STEAM CONDENSER, CLASSIFICATION ON STEAM TURBINE
	4TH	JET AND SURFACE CONDENSER AND AUXILIARIES
6TH WEEK	1ST	FUNCTION AND TYPES OF COOLING TOWER (CT)
	2ND	NATURAL DRAFT COOLING TOWER AND MECHANICAL DRAFT CT
	3RD	CONCEPT OF NUCLEAR FISSION AND FISSION REACTION
	4TH	CLASSIFICATION OF NUCLEAR FUEL, NUCLEAR REACTOR
7TH WEEK	1ST	NUCLEAR REACTOR, MODERATOR, REFLECTOR, SHIELDING
	2ND	REACTORY VESSEL, COOLANT, CONTROL ROD, LINE DIAGRAM
	3RD	WORKING PRINCIPAL OF PWR
	4TH	WORKING PRINCIPAL OF BWR
8TH WEEK	1ST	WORKING PRINCIPLE OF BWR
	2ND	DIFFERENCE BETWEEN PWR AND BWR
	3RD	COMPARISON BETWEEN NUCLEAR AND THERMAL POWER PLANT
	4TH	NUCLEAR WASTE DISPOSAL
9TH WEEK	1ST	REVISION OF THERMAL POWER PLANT
	2ND	REVISION OF NUCLEAR POWER PLANT
	3RD	INTRODUCTION OF DIESEL ENGINE POWER PLANT (DEPP)
	4TH	CONSTRUCTION AND WORKING PRINCIPLE OF DEPP
10TH WEEK	1ST	ADVANTAGE AND DISADVANTAGE OF DEPP
	2ND	DIFFERENT SYSTEM OF DIESEL POWER PLANT
	3RD	DIFFERENT SYSTEM OF DIESEL POWER PLANT
	4TH	FUEL STORAGE AND FUEL SUPPLY SYSTEM
11TH WEEK	1ST	LUBRICATION SYSTEM, STARTING SYSTEM
	2ND	STARTING SYSTEM
	3RD	GOVERNING SYSTEM
	4TH	REVISION OF DIESEL ENGINE POWER PLANT
12TH WEEK	1ST	INTRODUCTION TO HYDROELECTRIC POWER PLANT
	2ND	DIFFERENT COMPONENT OF HYDROELECTRIC POWER PLANT
	3RD	DIFFERENT COMPONENT OF HYDROELECTRIC POWER PLANT
	4TH	ADVANTAGE AND DISADVANTAGE OF HYDROELECTRIC POWER PLANT
13TH WEEK	1ST	WORKING PRINCIPLE OF HYDROELECTRIC POWER PLANT
	2ND	REVISION OF HYDROELECTRIC POWER PLANT
	3RD	REVISION OF CHAPTER-1
	4TH	RANKINE, REHEAT, REGENERATIVE CYCLE
	1ST	NUMERICAL PROBLEM SOLVE
	2ND	NUMERICAL PROBLEM SOLVE

  
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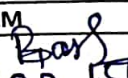
14THWEEK	3RD	NUMERICAL PROBLEM PRACTICE
	4TH	NUMERICALS ON STEAM TURBINE
15THWEEK	1ST	NUMERICALS ON STEAM TURBINE
	2ND	NUMERICALS ON STEAM TURBINE
	3RD	PREVIOUS YEAR QUESTION PAPER PRACTICE
	4TH	PREVIOUS YEAR QUESTION PAPER PRACTICE
16THWEEK	1ST	SAMPLE SET PRACTICE AND DOUBT CLEAR CLASS
	2ND	SAMPLE SET PRACTICE AND DOUBT CLEAR CLASS
	3RD	SAMPLE SET PRACTICE AND DOUBT CLEAR CLASS
	4TH	SAMPLE SET PRACTICE AND DOUBT CLEAR CLASS
17THWEEK	1ST	
	2ND	
	3RD	
	4TH	

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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 15/04/2021
WEEKS	CLASS DAYS	NO. OF WEEKS : 16 NOS.	
		THEORY TOPICS	
1ST WEEK	1ST	INTRODUCTION TO CAD-CAM LAB	
	2ND	DESCRIBE VARIOUS NON TRADITIONAL MANUFACTURING PROCESS	
	3RD	ELECTRO CHEMICAL MACHINING PROCESS	
	4TH	ELECTRO CHEMICAL MACHINING PROCESS	
2ND WEEK	1ST	ELECTRO CHEMICAL MACHINING PROCESS	
	2ND	ELECTRO DISCHARGE MACHINING PROCESS	
	3RD	-DO-	
	4TH	-DO-	
3RD WEEK	1ST	PLASMA ARC MACHINING PROCESS	
	2ND	-DO-	
	3RD	-DO-	
	4TH	LASER BEAM MACHINING PROCESS	
4TH WEEK	1ST	-DO-	
	2ND	-DO-	
	3RD	ABRASIVE JET MACHINING PROCESS	
	4TH	-DO-	
5TH WEEK	1ST	-DO-	
	2ND	ELECTRON BEAM MACHINING PROCESS	
	3RD	-DO-	
	4TH	-DO-	
6TH WEEK	1ST	REVISION OF CHAPTER-1	
	2ND	REVISION OF CHAPTER-1	
	3RD	REVISION OF CHAPTER-1	
	4TH	CONCEPT OF AUTOMATION	
7TH WEEK	1ST	TYPES OF AUTOMATION AND EXPLANATION	
	2ND	DESCRIPTION OF VARIOUS TYPES OF AUTOMATION	
	3RD	NEED OF AUTOMATION	
	4TH	CONCEPT OF NUMERICAL CONTROL (NC)	
8TH WEEK	1ST	NC SYSTEM WITH BLOCK DIAGRAM	
	2ND	EXPLANATION OF NC SYSTEM WITH BLOCK DIAGRAM	
	3RD	DESCRIPTION OF TYPES OF NC CO-ORDINATE	
	4TH	EXPLANATION OF POINT-TO-POINT NC CO-ORDINATE	
9TH WEEK	1ST	EXPLANATION OF STRAIGHT CUT NC CO-ORDINATE	
	2ND	EXPLANATION OF CONTOURING	
	3RD	CONCEPT OF NC PART PROGRAMMING	
	4TH	G-CODE	
10TH WEEK	1ST	M-CODE	
	2ND	DIFFERENCE BETWEEN G-CODE AND M-CODE	
	3RD	REFERENCE POINT (MACHINE ZERO, WORK ZERO)	
	4TH	REFERENCE POINT (TOOL ZERO, TOOL OFFICE)	
11TH WEEK	1ST	SIMPLE PART PROGRAM FOR LATHE	
	2ND	EXPLAIN THE EXTENSION OF NC WITH BLOCK DIAGRAM	
	3RD	DNC	
	4TH	CNC, DIFFERENCE BETWEEN DNC AND CNC	
12TH WEEK	1ST	ADAPTIVE CONTROL	
	2ND	APPLICATION OF ROBOTS	
	3RD	EXPLAIN ROBOT ANATOMY	
	4TH	DESCRIBE ROBOT CONFIGURATION	
	1ST	DESCRIPTION OF VARIOUS TYPES OF AUTOMATION	
	2ND	EXPLANATION OF NC SYSTEM WITH BLOCK DIAGRAM	
	3RD	INTRODUCTION TO FLEXIBLE MANUFACTURING SYSTEM	

92

  
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13TH WEEK	4TH	NEED FOR FMS
	1ST	EXPLAIN THE COMPONENTS OF FMS, PROCESSING STATION
	2ND	MATERIAL HANDLING AND STORAGE AND COMPUTER CONTROL SYSTEM
14TH WEEK	3RD	REVISION OF FMS
	4TH	DEFINE CAD, CAM SOFTWARE AND HARDWARE
	1ST	EXPLAIN BENEFITS OF CAD, CAM SOFTWARE AND HARDWARE
	2ND	BENEFITS OF CAM
15TH WEEK	3RD	DIFFERENTIATION BETWEEN CAD AND CAM
	4TH	EXPLAIN THE CONCEPT
	1ST	SOFTWARE AND HARDWARE OF CIM
16TH WEEK	2ND	REVISION CLASS
	3RD	REVISION CLASS
	4TH	REVISION CLASS

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P.008  
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