GOVT, POLYTEC	HNIC BOLANGIR	LESSON PLAN	
Discipline : Mechanical	Semester: 4th	Name of the Teaching Faculty: Anarolanarda Prison	
Subject : THEORY OF MACHINES	No. of Days / per week class allotted :	Semester From date: 16.01.2024 To Date: 26.04.2024 No. of Weeks: 15	
Week	Class Day	Topics	
	1st	Simple mechanism	
	2nd	Link ,kinematic chain, mechanism, machine	
16.01 - 20.01	3rd	Inversion, four bar link mechanism and its inversion	
	4th	Lower pair and higher pair	
	1st	Cam and followers	
	2nd	Friction between nut and screw for square thread, screw jack	
22.01 - 27.01			
	3rd	Bearing and its classification, Description of roller, needle roller& ball bearing	
	4th	Torque transmission in flat pivot& conical pivot bearings.	
	1st	Flat collar bearing of single and multiple types.	
20.04.02.02	2nd	Torque transmission for single and multiple clutches	
29.01-03.02	3rd	Working of simple frictional brakes.	
	4th	Working of Absorption type of dynamometer	
	1st	Concept of power transmission	
	2nd	Type of drives, belt, gear and chain drive.	
05.02 - 10.02	3rd	Computation of velocity ratio, length of belts (open and cross)with and witho slip.	
	4th	Ratio of belt tensions, centrifugal tension and initial tension.	
	1st	Power transmitted by the belt.	
12.02 - 17.02	2nd	Determine belt thickness and width for given permissible stress for open a crossed belt considering centrifugal tension.	
12.02 - 17.02	3rd	V-belts and V-belts pulleys.	
	4th	Concept of crowning of pulleys.	
	1st	Gear drives and its terminology.	
		Gear trains, working principle of simple, compound, reverted and epicyclic g	
19.02 - 24.02	2nd	trains.	
	3rd	Governors and Flywheel Function of governor	
	4th	Tunction of Boverno.	
	1st	Classification of governor	
26.0202.02	2nd	Working of Watt, Porter, Proel and Hartnell governors.  Conceptual explanation of sensitivity, stability and isochronisms.	
26.02 - 02.03	3rd 4th	Conceptual explanation of sensitivity, stability and isocrifornisms.  Function of flywheel.	
		Comparison between flywheel &governor.	
	1st	Eluctuation of energy and coefficient of fluctuation of speed.	
04.03 - 09.03	2nd 3rd	Concept of static and dynamic balancing.	
	4th	Static balancing of rotating parts.	
	1st	Principles of balancing of reciprocating parts.	
	2nd	Causes and effect of unbalance.	
11.03- 16.03	3rd	Difference between static and dynamic balancing Vibration of machine parts	
	4th		
	1st	Introduction to Vibration and related terms (Amplitude, time period and	
	2nd	Classification of Vibration.	
18.03- 23.03	3rd	Basic concept of natural, forced & damped vibration Torsional and Longitudinal vibration.	
	4th		
	1ct	Causes & remedies of vibration.	
	1st 2nd	Revision	
25.03-30.03	3rd	Class test  Q & A discaussion	
	4th	Ų ≪ ∧ uiscausion	

Discipline: Mechanical  Semester filis  Work  Class Day  Total  Work  Class Day  Total  Total	GOVT, POLYTECHNIC	BOLANGIR	LESSON PLAN
third MANUFACTURING TECHNOLOGY  Work  Class Day  Topics  1st  Composition of various tool materials  2nd  Physical properties & uses of such body and depth of out)  2nd  2nd  Physical properties & uses of such body materials  3nd  Cutting action of various tool materials  3nd  Cutting action of various tool materials  4th  Machining process parameters (Speed, feed and depth of out)  2nd  2nd  Turing tool geometry and purpose of tool angle  4th  Machining process parameters (Speed, feed and depth of out)  3nd  Coolsts and obbracins in machining and purpose  4th  Maper components of a lathe and their function  4th  Operations carried out in a lathe (Turining, thread cutting, taper turning,  2nd  3nd  Major components and their function  4th  Major components and their function  1st  Define multiple tool holders  4th  Draw the tooling lay out for preparation of a heapin both by with  1st  Potential application areas of a shaper machining  4th  Draw the tooling lay out for preparation of a heapin both & bush  1st  2nd  Salts were present to applicate bush  4th  Draw the tooling lay out for preparation of a heapin both & bush  1st  Explain the automatic table feed mechanism  4th  Explain the quick return mechanism through setch  4th  Salts the specification of a shaping machine  4th  Major components and their function  1st  Explain the quick machine of shaping machine  4th  Explain the automatic table feed mechanism  26.02 - 02.03  2nd  Salts the specification of a shaping machine  4th  Types of milling machine and operations performed by them  4th  Types of milling machine and operations performed by them  4th  Types of milling machine and operations performed by them  1st  Significance of grinding wheels  1st  Significance of grinding perations  2nd  Major components and their function  3nd  Construction a working of storing dead with performed by them  4th  Types of milling machine and operations performed by them  2nd  Major components and their functions  2nd  Major components and their functions  3nd  Constru	Discipline : Mechanical	Somester, 4th	Name of the Yeaching Faculty Ramai Ranjan Panigrati
1801 20.01  181	subject : MANUFACTURING TECH NOLOGY	per week class	Semester From date 16:01:2024 To Date 26:04:2024
16.01 20.01  2nd Flyncel properties & uses of such tool materials.  3rd Cutting action of various hand tools such as Khiel, hack saw blade, dies and the materials.  4th Machining process parameters (Speed, feed and depth of cut).  27.01-27.01  2nd Turning tool geometry, and purpose of tool angle Coolants and lubricants in machining and purpose of tool angle Coolants and lubricants in machining and purpose of tool angle Coolants and lubricants in machining and purpose of tool angle Coolants and lubricants in machining and purpose of tool angle Coolants and lubricants in machining and purpose of tool angle Coolants and lubricants in machining and purpose of tool angle Coolants and lubricants in machining and purpose of tool angle Coolants and lubricants in machining and purpose of tool angle Coolants and lubricants in machining and purpose of tool angle Coolants and lubricants in machining and purpose of tool angle Coolants and lubricants in machining and purpose of tool angle Coolants and lubricants in machining and purpose of tool angle Coolants and lubricants in machining and purpose of tool angle Coolants and lubricants of the purpose of tool angle Coolants and lubricants and their function  3rd Difference with respect to capstan lathe Major components and their function Coolants and Lookants an	Week	Class Day	Taples
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2.02 - 17.02   2nd   Major components and their function   3rd   Explain the automatic table feed mechanism   4th   Explain the construction & working of tool head   1st   Explain the quick return mechanism through sketch   2nd   State the specification of a shaping machine.   3rd   Application area of a planar and its difference with respect to shaper   4th   Major components and their functions   1st   The table drive mechanism   26.02 - 02.03   2nd   Working of tool and tool support   3rd   Clamping of work through sketch.   4th   Types of milling machine and operations performed by them   1st   Types of milling machine and operations performed by them   2nd   Explain work holding attachment   3rd   Construction & working of simple dividing head, universal dividing head   4th   Procedure of simple and compound indexing   1st   Illustration of different indexing methods   2nd   Major components and their function   3rd   Construction and working of slotter machine   1st   Significance of grinding operations   2nd   Major components and their function   3rd   Construction and working of slotter machine   1st   Significance of grinding operations   2nd   Manufacturing of grinding wheels   3rd   Criteria for selecting of grinding wheels   25.03 - 30.03   2nd   Bench drilling machine & Pillar drilling machine   2nd   Definition of Surface finish, Define super finishing   2nd   Definition of Surface finish, Define super finishing   2nd   Description of lapping & explain their specific cutting.			B. J. J. S.
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3rd   Clamping of work through sketch.	26.02 - 02.03		
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2nd   Explain work holding attachment		4th	Types of milling machine and operations performed by them
3rd Construction & working of simple dividing head, universal dividing head 4th Procedure of simple and compound indexing  1st Illustration of different indexing methods 2nd Major components and their function 3rd Construction and working of slotter machine 4th Tools used in slotter  1st Significance of grinding operations 2nd Manufacturing of grinding wheels 3rd Criteria for selecting of grinding wheels 4th Cylindrical Grinder  1st Centre less Grinder & Surface Grinder 25.03-30.03 Bench drilling machine & Pillar drilling machine 3rd Radial drilling machine 4th Basic Principle of Boring  1st Different between Boring and drilling & Types of Broaching (pull type, putype) 01.04-06.04 2nd Definition of Surface finish, Define super finishing 3rd Description of lapping & explain their specific cutting.			Types of milling machine and operations performed by them
1st   Illustration of different indexing methods   2nd   Major components and their function   3rd   Construction and working of slotter machine   4th   Tools used in slotter	04.03 - 09.03		Explain work holding attachment
1st Illustration of different indexing methods 2nd Major components and their function 3rd Construction and working of slotter machine 4th Tools used in slotter  1st Significance of grinding operations 2nd Manufacturing of grinding wheels 3rd Criteria for selecting of grinding wheels 4th Cylindrical Grinder  25.03- 30.03 2nd Bench drilling machine & Surface Grinder 25.03- 30.03 2nd Bench drilling machine & Pillar drilling machine 4th Basic Principle of Boring  1st Different between Boring and drilling & Types of Broaching (pull type, pust type)  01.04- 06.04 2nd Definition of Surface finish, Define super finishing 3rd Description of lapping & explain their specific cutting.			
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3rd Radial drilling machine 4th Basic Principle of Boring  1st Different between Boring and drilling & Types of Broaching (pull type, pustype)  01.04- 06.04 2nd Definition of Surface finish, Define super finishing 3rd Description of lapping & explain their specific cutting.	25.03-30.03		
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	GOVT.	POLYTECHNIC BOLANGIR
		LESSON PLAN
Discipline : Mechanical	Semester: 4th	Name of the Teaching Faculty: Siddharth Swarup Tripagn
Subject : FLUID MECHANICS	No. of Days / per week class allotted : 4	Semester From date: 16.01.2024 To Date: 26.04.2024 No. of Weeks: 15
Week	Class Day	Topics
	1st	Properties of Fluid
	2nd	Define fluid
16.01 - 20.01	3rd	Description of fluid properties like Density, Specific weight, specific gravity, specific volume and solve simple problems.
	4th	Definitions and Units of Dynamic viscosity, kinematic viscosity, surface tension Capillary phenomenon
	1st	Definitions and units of fluid pressure, pressure intensity and pressure
22.01 - 27.01	2nd	Statement of Pascal's Law.
	3rd	Concept of atmospheric pressure, gauge pressure, vacuum pressure and
	4th	Pressure measuring instruments
	1st	Manometers (Simple and Differential)
	2nd	Bourdon tube pressure gauge(Simple Numerical)
29.01-03.02	3rd	Solve simple problems on Manometer.
	4th	Hydrostatics
	Ten	Hydrostatics
	1st	Definition of hydrostatic pressure
05.02 - 10.02	2nd	Total pressure and centre of pressure on
	3rd	immersed bodies(Horizontal and Vertical Bodies)
	4th	Solve Simple problems.
	1st	Archimedes 'principle, concept of buoyancy, meta center and meta centr
12.02 - 17.02	2nd	(Definition only)
22.02 17.02	3rd	Concept of floatation
	4th	Kinematics of Flow
	1st	Types of fluid flow
10.03. 34.03	2nd	Continuity equation(Statement and proof for one dimensional flow)
19.02 - 24.02	3rd	Bernoulli's theorem(Statement and proof)
	4th	Applications and limitations of Bernoulli's theorem (Venturimeter, pitot
	1st	Solvo simale arablams
22-400	2nd	Solve simple problems Orifices, notches & weirs
26.02 - 02.03	3rd	Define orifice
	4th	Flow through orifice
		-
	1st	Orifices coefficient & the relation between the orifice coefficients
04.03 - 09.03	2nd	Classifications of notches & weirs
	3rd 4th	Discharge over a rectangular notch or weir
	4tn	Discharge over a triangular notch or weir
	1st	Simple problems on above
11.03- 16.03	2nd	Flow through pipe
11,03- 10,03	3rd	Definition of pipe.
	4th	Loss of energy in pipes.

GOVT. POLY	TECHNIC BOLA	NGIR LESSON PLAN
Discipline : Mechanical	Semester: 4th	Name of the Teaching Faculty: 18 UK (884) 1 (Umfhar
Subject : THERMAL ENGINEERING-II	No. of Days / per week class allotted : 4	Semester From date: 15.01.2024 To Clate: 26.04.2024 No. of Weeks: 15
Week	Class Day	Topics
	1st	Performance of I.C engine
	2nd	Define mechanical efficiency, Indicated thermal efficiency,
16.01 - 20.01	3rd	Relative Efficiency, brake thermal efficiency overall efficiency
	4th	Mean effective pressure & specific fuel consumption.
	1st	Define air-fuel ratio & calorific value of fuel.
22.01 - 27.01	2nd	Work out problems to determine efficiencies & specific fuel consumption.
27.01	3rd	Explain functions of compressor & industrial use of compressor air
	4th	Classify air compressor & principle of operation.
	1st	Describe the parts and working principle of reciprocating Air compressor.
	2nd	2.4 Explain the terminology of reciprocating compressor such as bore, stroke
29.01- 03.02	3rd	pressure ratio free air delivered &Volumetric efficiency.
	4th	Derive the work done of single stage & two stage compressor with and witho
	1st	Difference between gas & vapours.
05.02 - 10.02	2nd	Formation of steam.
03.02 - 10.02	3rd	Representation on P-V, T-S, H-S, & T-H diagram.
	4th	Definition & Properties of Steam.
	1st	Use of steam table & mollier chart for finding unknown properties.
12.02 - 17.02	2nd	3.6 Non flow & flow process of vapour.
	3rd	3.7 P-V, T-S & H-S, diagram.
	4th	3.8 Determine the changes in properties & solve simple numerical.
	1st	Steam Generator
19.02 - 24.02	2nd	Classification & types of Boiler.
	3rd	4.2 Important terms for Boiler.
	4th	4.3 Comparison between fire tube & Water tube Boiler.
	1st	Description & working of common boilers (Cochran, Lancashire, Babcock
26.02 - 02.03	2nd	Wilcox Boiler)
	3rd 4th	Boiler Draught (Forced, induced & balanced) 4.6 Boiler mountings & accessories.
	1st	
04.03 - 09.03	2nd	Steam Power Cycles
04.03 - 09.03	3rd	Carnot cycle with vapour. 5.2 Derive work & efficiency of the cycle.
	4th	5.2 Betwee work & entitiently of the cycle.  5.3 Rankine cycle.
	1st	Representation in P-V, T-S & h-s diagram.
11.03- 16.03	2nd	5.3.2 Derive Work & Efficiency.
_2,00 20,00	3rd	5.3.3 Effect of Various end conditions in Rankine cycle.
	4th	5.3.4 Reheat cycle & regenerative Cycle.
	1st	Solve simple numerical on Carnot vapour Cycle & Rankine Cycle.
18.03- 23.03	2nd	Heat Transfer
	3rd	Modes of Heat Transfer (Conduction, Convection, Radiation).
	4th	6.2 Fourier law of heat conduction and thermal conductivity (k).
	1st	6.3 Newton's laws of cooling.
25.03- 30.03	2nd	6.4 Radiation heat transfer (Stefan, Boltzmann & Kirchhoff's law) only stateme
25.03- 30.03	3rd	only stateme
	4th	

GOVT. POLYTECHN	NIC BOLANGIR	LESSON PLAN
Discipline : Mechanical	Semester: 6th	Name of the Teaching Faculty: MANABHANJAN BHO
Subject :INDUSTRIAL ENGINEERING & MANAGEMENT	No. of Days / per week class allotted : 4	Semester From date: 16.01.2024 To Date: 26.04.2024 No. of Weeks: 15
Week	Class Day	Topics
	1st	PLANT ENGINEERING:
	2nd	Selection of Site of Industry.
16.01 - 20.01	3rd	Define plant layout.
	4th	Describe the objective and principles of plant layout.
	1st	Explain Process Layout, Product Layout and Combination Layout.
	2nd	Techniques to improve layout.
22.01 - 27.01	3rd	Principles of material handling equipment.
	4th	Principles of material handling equipment.  Plant maintenance.
	401	Frant maintenance.
	1st	Importance of plant maintenance.
	2nd	1.7.2 Break down maintenance.
29.01-03.02	3rd	1.7.2 Break down maintenance.
	4th	1.7.4 Scheduled maintenance
	1-4	ODEDATIONS DESCRIPTION
	1st	OPERATIONS RESEARCH:
05.02 - 10.02	2nd	Introduction to Operations Research and its applications.
	3rd 4th	Define Linear Programming Problem  2.3Solution of L.P.P. by graphical method.
	10.1	2.335 action of E.M. by Braphical Metriod.
	1st	Evaluation of Project completion time by Critical Path Method and Pi (Simple problems)-
12.02 - 17.02	2nd	Explain distinct features of PERT with respect to CPM.
	3rd	INVENTORY CONTROL:
	4th	Classification of inventory.
	1st	Objective of inventory control.
19.02 - 24.02	2nd	Describe the functions of inventories.
	3rd	Benefits of inventory control.
	4th	Costs associated with inventory.
	1st	Terminology in inventory control
26.02 - 02.03	2nd	Explain and Derive economic order quantity for Basic model. (Solv numerical)
	3rd	Define and Explain ABC analysis.
	4th	INSPECTION AND QUALITY CONTROL:
	1st	4.1Define Inspection and Quality control.
04.0300.00	2nd	4.2Describe planning of inspection.
04.03 - 09.03	3rd	4.3 Describe types of inspection.
	4th	4.4 Advantages and disadvantages of quality control.
	1st	Study of factors influencing the quality of manufacture.
11.03- 16.03	2nd	4.6 Explain the Concept of statistical quality control, Control charts () P and C - charts).
	3rd	4.7 Methods of attributes.
	4th	4.8 Concept of ISO 9001-2008.

GOVT. POLYTE	CHNIC BOLAN	IGIR LESSON PLAN
Discipline : Mechanical	Semester: 6th	Name of the Teaching Faculty: AShirbod Bobu
Subject :AUTOMOBILE ENGINEERING AND HYBRID VEHICLES	No. of Days / per week class allotted: 4	Semester From date : 16.01.2024 To Date : 26.04.2024 No. of Weesks : 15
Week	Class Day	Tapics
	1st	Automobiles: Definition, need
16.01 - 20.01	2nd	Automobiles: classification: Layout of automobile chassis with major compon (Line diagram)
	3rd	Clutch System: Need, Types (Single & Multiple)
	4th	Clutch System: Working principle with sketch
	1st	Gear Box: Purpose of gear box, Construction and
22.01 - 27.01	2nd	Gear Box: working of a 4 speed gear box
27102	3rd	Concept of automatic gear changing mechanisms
	4th	Concept of automatic gear changing mechanisms
	1st	Propeller shaft: Constructional features
29.01-03.02	2nd 3rd	Propeller shaft: Constructional features  Differential: Need, Types
	4th	Differential: Weed, Types  Differential: Working principle
	1st	Braking systems in automobiles
05.02 - 10.02	2nd	Braking systems in automobiles: Need and types
	3rd	Mechanical Brake
	4th	USES OF Mechanical Brake
	1st	Hydraulic Brake
12.02 - 17.02	2nd	Hydraulic Brake
12.02 - 17.02	3rd	Air Brake
	4th	Air Brake
	1at	No. of the Albertonic Production
	1st 2nd	Air assisted Hydraulic Brake
19.02 - 24.02	3rd	Air assisted Hydraulic Brake  Vacuum Brake
	4th	Vacuum Brake Vacuum Brake
	701	vacuuiii biake
	1st	Describe the Battery ignition
76.07.07.07	2nd	Describe the Magnet ignition system
26.02 - 02.03	3rd	Spark plugs: Purpose, construction
	4th	Spark plugs: specifications
	1st	State the common ignition troubles and its remedies
04.03 - 09.03	2nd	State the its remedies
	3rd	Description of the conventional suspension system for Rear and Front as
	4th	Description of the conventional suspension system for Rear and Front a
	1st	Description of independent suspension system used in cars (coil spring and t bars)
11.03- 16.03	2nd	Constructional features and working of a telescopic shock absorber
	3rd	Engine cooling: Need and classification
	4th	4.2 Describe defects of cooling and their remedial measures

GOVT. POLY	TECHNIC BOLA	NGIR LESSON PLAN
Discipline : Mechanical	Semester: 6th	Name of the Teaching Faculty: Siddharth Swarup Triothy
Subject : POWER STATION ENGINEERING	No. of Days / per week class allotted : 4	Semester From date: 16.01.2024 To Date: 26.04.2024 No. of Weeks: 15
Week	Class Day	Topics
	1st	Describe sources of energy.
	2nd	Explain concept of Central and Captive power station.
16.01 - 20.01	3rd	Classify power plants.
	4th	Importance of electrical power in day today life.
	1st	Layout of steam power stations
	2nd	Steam power cycle. Explain Carnot vapour power cycle with P-V, T-s diagram and determine thermal efficiency.
22.01 - 27.01	3rd	Explain Rankine cycle with P-V, T-S & H-s diagram and determine thermal efficiency, Work
	4th	done, work ratio, and specific steam Consumption.  Solve Simple Problems
	1st 2nd	List of thermal power stations in the state with their capacities.  Boiler Accessories: Operation of Air pre heater, Operation of Economiser, Operation Electrostatic precipitator and Operation of super heater. Need of boiler mountings and operation of boiler
29.01- 03.02	3rd	Draught systems (Natural draught, Forced draught & balanced draught) with their advantages & disadvantages.
	4th	Steam prime movers: Advantages & disadvantages of steam turbine, Elements of steam turbine, governing of steam turbine. Performance of steam turbine: Explain Thermal efficiency, Stage efficiency and Gross efficiency.
05.00.40.00	4th	turbine, governing of steam turbine. Performance of steam turbine: Explain Thermal efficiency, Stage efficiency and Gross efficiency.  Steam condenser: Function of condenser, Classification of condenser, function of condenser auxiliaries such as hot well, condenser extraction pump, air extraction pump,
05.02 - 10.02	1st	turbine, governing of steam turbine. Performance of steam turbine: Explain Thermal efficiency, Stage efficiency and Gross efficiency.  Steam condenser: Function of condenser, Classification of condenser, function of
05.02 - 10.02	1st	turbine, governing of steam turbine. Performance of steam turbine: Explain Thermal efficiency, Stage efficiency and Gross efficiency.  Steam condenser: Function of condenser, Classification of condenser. function of condenser auxiliaries such as hot well, condenser extraction pump, air extraction pump, and circulating pump.  Cooling Tower: Function and types of cooling tower, and spray ponds  Selection of site for thermal power stations.
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12.02 - 17.02	1st  2nd 3rd 4th  1st 2nd 3rd 4th  1st 2nd 3rd 4th  1st 2nd 3rd 4th	turbine, governing of steam turbine. Performance of steam turbine: Explain Thermal efficiency, Stage efficiency and Gross efficiency.  Steam condenser: Function of condenser, Classification of condenser function of condenser auxiliaries such as hot well, condenser extraction pump, air extraction pump and circulating pump.  Cooling Tower: Function and types of cooling tower, and spray ponds  Selection of site for thermal power stations.  Classify nuclear fuel (Fissile & fertile material)  Potential application areas of a shaper machine  Explain fusion and fission reaction.  Explain working of nuclear power plants with block diagram.  Explain the working and construction of nuclear reactor.  Explain the disposal of nuclear power stations.  List of nuclear power stations.  List of nuclear power stations.  Major components and their functions  State the advantages and disadvantages of diesel electric power stations.  Explain briefly different systems of diesel electric power stations: Fuel storage and fue
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12.02 - 17.02 19.02 - 24.02	1st  2nd 3rd 4th  1st 2nd 3rd 4th  1st 2nd 3rd 4th  1st 2nd 3rd 4th  1st	turbine, governing of steam turbine. Performance of steam turbine: Explain Thermal efficiency, Stage efficiency and Gross efficiency.  Steam condenser: Function of condenser, Classification of condenser, function of condenser auxiliaries such as hot well, condenser extraction pump, air extraction pump and circulating pump.  Cooling Tower: Function and types of cooling tower, and spray ponds Selection of site for thermal power stations.  Classify nuclear fuel (Fissile & fertile material)  Potential application areas of a shaper machine Explain fusion and fission reaction. Explain working of nuclear power plants with block diagram. Explain the working and construction of nuclear reactor.  Explain the working and construction of nuclear reactor.  Explain the disposal of nuclear waste. Selection of site for nuclear power stations. List of nuclear power stations.  Major components and their functions  State the advantages and disadvantages of diesel electric power stations. Explain briefly different systems of diesel electric power stations: Fuel storage and fuel supply system, Fuel injection system, Air supply system, Exhaust system, cooling system. Selection of site for diesel electric power stations.
12.02 - 17.02 19.02 - 24.02 26.02 - 02.03	1st  2nd 3rd 4th  1st 2nd 3rd 4th  1st 2nd 3rd 4th  1st 2nd 3rd 4th  1st 2nd 3rd 4th	turbine, governing of steam turbine. Performance of steam turbine: Explain Thermal efficiency, Stage efficiency and Gross efficiency.  Steam condenser: Function of condenser, Classification of condenser function of condenser auxiliaries such as hot well, condenser extraction pump, air extraction pump, and circulating pump.  Cooling Tower: Function and types of cooling tower, and spray ponds  Selection of site for thermal power stations.  Classify nuclear fuel (Fissile & fertile material)  Potential application areas of a shaper machine  Explain fusion and fission reaction.  Explain working of nuclear power plants with block diagram .  Explain the working and construction of nuclear reactor .  Explain the disposal of nuclear waste.  Selection of site for nuclear power stations.  List of nuclear power stations.  Major components and their functions  State the advantages and disadvantages of diesel electric power stations.  Explain briefly different systems of diesel electric power stations: Fuel storage and fuel supply system, Fuel injection system, Air supply system, Exhaust system, cooling system Lubrication system, starting system, governing system.  Selection of site for diesel electric power stations.  Performance and thermal efficiency of diesel electric power stations.  State advantages and disadvantages of hydroelectric power plant.  Classify and explain the general arrangement of storage type hydroelectric project and
12.02 - 17.02	1st  2nd 3rd 4th  1st 2nd 3rd 4th  1st 2nd 3rd 4th  1st 2nd 3rd 4th  1st 2nd 3rd 4th  1st	turbine, governing of steam turbine. Performance of steam turbine: Explain Thermal efficiency, Stage efficiency and Gross efficiency.  Steam condenser: Function of condenser, Classification of condenser. function of condenser auxiliaries such as hot well, condenser extraction pump, air extraction pump, and circulating pump.  Cooling Tower: Function and types of cooling tower, and spray ponds Selection of site for thermal power stations.  Classify nuclear fuel (Fissile & fertile material)  Potential application areas of a shaper machine Explain fusion and fission reaction.  Explain working of nuclear power plants with block diagram.  Explain the working and construction of nuclear reactor.  Explain the disposal of nuclear waste.  Selection of site for nuclear power stations.  List of nuclear power stations.  Major components and their functions  State the advantages and disadvantages of diesel electric power stations.  Explain briefly different systems of diesel electric power stations: Fuel storage and fuel supply system, Fuel injection system, Air supply system, Exhaust system, cooling system, Lubrication system, starting system, governing system.  Selection of site for diesel electric power stations.  Performance and thermal efficiency of diesel electric power stations.

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GOVT, POLY	TECHNIC BOL	ANGIR LESSON PLAN
Discipline : Mechanical	Semester: 6th	Name of the Teaching Faculty: Ramai Ranjum Panigrah
Subject : ADVANCE MANUFACTURING PROCESS	No. of Days / per week class allotted : 4	Semester From date: 16.01.2024-to Date: 26.04.2024 No. of Weesks: 15
Week	Class Day	Topics
	1st	Introduction – comparison with traditional machining.
	2nd	Ultrasonic Machining: principle, Description of equipment, applications.
16.01 - 20.01	3rd	Ultrasonic Machining: principle, Description of equipment, applications.
	4th	Electric Discharge Machining: Principle, Description of equipment, Dielectric fluid, tools (electrodes), Process parameters, Output characteristics, applications.
	1st	Electric Discharge Machining: Process parameters, Output characteristics, applications.
	2nd	Wire cut EDM: Principle, Description of equipment, controlling parameters; applications.
22.01 - 27.01	3rd	Wire cut EDM: controlling parameters; applications.
	4th	DISCAUSS ABOUT INDUSTRIAL USES
	1st	Abrasive Jet Machining: principle, description of equipment, Material removal rate, application.
	2nd	Abrasive Jet Machining: Material removal rate, application.
29.01- 03.02	3rd	DISCAUSS ABOUT INDUSTRIAL USES
	4th	MRR CALCULATION
	1st	Laser Beam Machining: principle, description of equipment, Material removal rate, application.
	2nd	Laser Beam Machining: Material removal rate, application.
05.02 - 10.02		Electro Chemical Machining: principle, description of equipment, Material removal rate,
	3rd	application.
	4th	Electro Chemical Machining: Material removal rate, application.
	1st	Plasma Arc Machining – principle, description of equipment, Material removal rate, Proces
12.02 - 17.02	2nd	Plasma Arc Machining – performance characterization, Applications.
	3rd	MRR CALCULATION
	4th	DISCAUSS ABOUT INDUSTRIAL USES
	1st	INTRO TO Processing of plastics.
	2nd	Processing of plastics.
19.02 - 24.02	3rd	Moulding processes: Injection moulding, Compression moulding, Transfer moulding.
	4th	Moulding processes: Transfer moulding.
	1st	Extruding; Casting; Calendering.
26.02 - 02.03	2nd	Fabrication methods-Sheet forming, Blow moulding,
	3rd	Fabrication methods-sheet forming, blow moduling, Fabrication methods-Laminating plastics (sheets, rods & tubes), Reinforcing.
	4th	DISCAUSS ABOUT INDUSTRIAL USES
	1st	Applications of Plastics.
04.03 - 09.03	2nd	Introduction, Need for Additive Manufacturing
-	3rd	Fundamentals of Additive Manufacturing, AM Process Chain
	4th	Advantages and Limitations of AM, Commonly used Terms
		Classification of AM process, Fundamental Automated Processes, Distinction between AN
	1st	and CNC other related technologies
11.03- 16.03	1st 2nd	and CNC, other related technologies.  Application – Application in Design, Aerospace Industry, Automotive Industry, Jewelry Industry, Arts and Architecture. RP Medical and Bioengineering Applications.
11.03- 16.03		