

LESSON PLAN: SUMMER 2023

4th

Discipline: Mechanical	Semester: SUMMER 2023	Name of the teaching faculty: Dambarudhar Patel
Subject: Fluid Mechanics	No of days/per week class allotted: 04	Semester From Date: 14/02/23 to 23/05/23 No of weeks: 14
Week:	Class day:	Theory/practical topics:
1 st :	1 ST	Define fluid
	2 ND	Description of fluid properties like Density, Specific weight, specific gravity, specific volume and solve simple problems..
	3 RD	Description of fluid properties like Density, Specific weight, specific gravity, specific volume and solve simple problems..
	4 TH	Description of fluid properties like Density, Specific weight, specific gravity, specific volume and solve simple problems..
2 ND	1 ST	Definitions and Units of Dynamic viscosity, kinematic viscosity, surface tension Capillary phenomenon
	2 ND	Definitions and Units of Dynamic viscosity, kinematic viscosity, surface tension Capillary phenomenon
	3 RD	Definitions and units of fluid pressure, pressure intensity and pressure head
	4 TH	Definitions and units of fluid pressure, pressure intensity and pressure head
3 RD	1 ST	Statement of Pascal's Law
	2 ND	Concept of atmospheric pressure, gauge pressure, vacuum pressure and absolute pressure
	3 RD	Pressure measuring instruments
	4 TH	Manometers (Simple and Differential)
4 TH	1 ST	Bourdon tube pressure gauge(Simple Numerical)
	2 ND	Solve simple problems on Manometer
	3 RD	Solve simple problems on Manometer
	4 TH	Solve simple problems on Manometer
5 th	1 ST	Solve simple problems on Manometer
	2 ND	Definition of hydrostatic pressure
	3 RD	Total pressure and centre of pressure on immersed bodies(Horizontal and Vertical Bodies)
	4 TH	Total pressure and centre of pressure on immersed bodies(Horizontal and Vertical Bodies)
6 th	1 ST	Total pressure and centre of pressure on immersed bodies(Horizontal and Vertical Bodies)
	2 ND	Solve simple problems
	3 RD	Solve simple problems
	4 TH	Solve simple problems
7 th	1 ST	Archimedes principle, concept of buoyancy, meta center and meta centric height (Definition only)
	2 ND	Archimedes principle, concept of buoyancy, meta center and meta centric height (Definition only)
	3 RD	Concept of floatation
	4 TH	Types of fluid flow
8 th	1 ST	Continuity equation(Statement and proof for one dimensional flow)
	2 ND	Continuity equation(Statement and proof for one dimensional flow)

	3 RD	Bernoulli's theorem (Statement and proof) Applications and limitations of Bernoulli's theorem (Venturimeter, pitot tube)
	4 TH	Bernoulli's theorem (Statement and proof) Applications and limitations of Bernoulli's theorem (Venturimeter, pitot tube)
9 th	1 ST	Bernoulli's theorem (Statement and proof) Applications and limitations of Bernoulli's theorem (Venturimeter, pitot tube)
	2 ND	Bernoulli's theorem (Statement and proof) Applications and limitations of Bernoulli's theorem (Venturimeter, pitot tube)
	3 RD	Define orifice
	4 TH	Flow through orifice
10 th	1 ST	Orifices coefficient & the relation between the orifice coefficients
	2 ND	Classifications of notches & weirs
	3 RD	Discharge over a rectangular notch or weir
	4 TH	Discharge over a rectangular notch or weir
11 th	1 ST	Simple problems Solving
	2 ND	Simple problems Solving
	3 RD	Simple problems Solving
	4 TH	Definition of pipe.
12 th	1 ST	Loss of energy in pipes.
	2 ND	Head loss due to friction: Darcy's and Chezy's formula (Expression Only)
	3 RD	Solve Problems using Darcy's and Chezy's formula.
	4 TH	Solve Problems using Darcy's and Chezy's formula.
13 th	1 ST	Hydraulic gradient and total gradient line
	2 ND	Impact of jet on fixed and moving vertical flat plates
	3 RD	Derivation of work done on series of vanes and condition for maximum efficiency.
	4 TH	Derivation of work done on series of vanes and condition for maximum efficiency.
14 th	1 ST	Impact of jet on moving curved vanes, illustration using velocity triangles, derivation of work done, efficiency.
	2 ND	Impact of jet on moving curved vanes, illustration using velocity triangles, derivation of work done, efficiency.
	3 RD	Problem Solving
	4 TH	Problem Solving

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**LESSON PLAN: THEORY OF MACHINE
(SUMMER SEMESTER 2023)**

Discipline: Mechanical Engineering	Semester: 4TH SUMMER 2023	Name of the teaching faculty: Mr.Ashish Kumar Pradhan
Subject: TOM	No of days/per week class allotted: 04	Semester From Date: 14/02/2023 To Date: 23/05/2023 No of weeks: 14
Week:	Class day:	Theory/practical topics:
1 st	1 st	Simple Mechanism:- Introduction to Mechanism, Mechanism in a machine, link.
	2 nd	Kinematic Pair, Classification of Kinetic Pair.
	3 rd	Inversion of four bar link mechanism and its inversion Lower pair and Higher pair.
	4 th	Introduction to Nomenclature of Cam Profile, types of cams. Followers, Types of Followers.
2 nd	1 st	Friction: Introduction to Friction, Friction between nut and screw for square thread, Screw jack.
	2 nd	Calculation based on friction, friction in screw thread, screw jack, Bearing and its classification.
	3 rd	Description of roller, needle roller and ball bearings
	4 th	Torque transmission in flat pivot bearings & conical pivot bearings. Calculation based on flat pivot & conical pivot bearings.
3 rd	1 st	Torque transmission for single plate clutch & multiple types, Calculation based on torque transmission clutch and bearing.
	2 nd	Working of simple frictional brakes & Working of absorption type of dynamometer. Calculation based on brakes and dynamometer.
	3 rd	Power transmission: Introduction to power transmission, types of drives, belt, gear and chain drive.
	4 th	Computation of velocity ratio of simple and compound belt drive. Derivation of Length of belts (open and cross) with and without slip.
4 th	1 st	Concept of crowning of pulleys & Calculation based on different pulley
	2 nd	Gear drives & train its terminology, working principle of simple and compound gear train
	3 rd	Working principle of reverted gear train & epicyclic gear train.
	4 th	Calculation based on different gear trains.
5 th	1 st	Introduction to governor, types of governor and working mechanism.
	2 nd	Working of watt governor and porter governor, working of pronel governor.
	3 rd	Working of watt governor
	4 th	Working of portenell governor
6 th	1 st	Working of pronel governor
	2 nd	Working of hartnell governor
	3 rd	Calculation based on different governor. Concept of sensitivity, stability, and isochronisms.

	4 th	Function of flywheel, Comparison between flywheel and governor.
7 th	1 st	Fluctuation of energy and coefficient of fluctuation of speed
	2 nd	Calculations based on Fluctuation of energy.
	3 rd	Calculations related to coefficient of fluctuation of speed
	4 th	Class test
8 th	1 st	Balancing of machine: Concept of static and dynamic balancing
	2 nd	Static balancing of rotating parts
	3 rd	Calculations related to static balancing of rotating parts
	4 th	Principles of balancing of reciprocating parts
9 th	1 st	Causes and effect of unbalance
	2 nd	Causes and effect of unbalance
	3 rd	Difference between static and dynamic balancing
	4 th	Difference between static and dynamic balancing
10 th	1 st	Unit Discussion
	2 nd	Class test
	3 rd	Balancing of machine: Concept of static and dynamic balancing
	4 th	Static balancing of rotating parts
11 th	1 st	Calculations related to static balancing of rotating parts
	2 nd	Principles of balancing of reciprocating parts
	3 rd	Causes and effect of unbalance
	4 th	Difference between static and dynamic balancing
12 th	1 st	Revision and class test.
	2 nd	Vibration of machine parts: Introduction to vibration and related terms(amplitude, time period and frequency, cycle)
	3 rd	Classification of vibration
	4 th	Classification of vibration and principle
13 th	1 st	Basic concept of natural, forced and damped vibration
	2 nd	Calculation based on natural, forced and damped vibration
	3 rd	Torsional & longitudinal vibration
	4 th	Torsional and longitudinal vibration and derivation.
14 th	1 st	Causes and remedies of vibration
	2 nd	Causes and remedies of vibration
	3 rd	Calculation based on Torsional & longitudinal vibration
	4 th	Calculation based on Torsional & longitudinal vibration.Class test.

Ashish K. Pradhan
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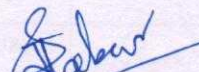

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**LESSON PLAN: AUTOMOBILE ENGINEERING
(SUMMER SEMESTER 2023)**

Discipline: Mechanical Engineering	Semester: SUMMER 2023	Name of the teaching faculty: Mr.Ashish Kumar Pradhan
Subject: AE	No of days/per week class allotted: 04	Semester From Date: 14/02/2023 To Date: 23/05/2023 No of weeks:14
Week:	Class day:	Theory/practical topics:
1 st	1 st	Automobiles: Definition, need and classification: Layout of automobile chassis with major components (Line diagram).
	2 nd	Clutch System: Need, Types (Single & Multiple) and Working principle with sketch.
	3 rd	Clutch System: Need, Types (Single & Multiple) and Working principle with sketch
	4 th	Gear Box: Purpose of gear box, Construction and working of a 4 speed gear box.
2 nd	1 st	Constant mesh gear box.
	2 nd	Sliding mesh gear box.
	3 rd	Synchromesh type gear box.
	4 th	Concept of automatic gear changing mechanisms.
3 rd	1 st	Propeller shaft: Constructional features.
	2 nd	Differential: Need, Types and Working principle.
	3 rd	Revision with Class test.
	4 th	Braking systems in automobiles: Need and types.
4 th	1 st	Mechanical Brake.
	2 nd	Mechanism of Mechanical Breake and Working Principle.
	3 rd	Hydraulic Brake.
	4 th	Air Brake.
5 th	1 st	Air assisted Hydraulic Brake.
	2 nd	Vacuum Brake.
	3 rd	Describe the Battery ignition and Magnet ignition system.
	4 th	Spark plugs: Purpose, construction and specifications.
6 th	1 st	State the common ignition troubles and its remedies.
	2 nd	Different types of suspensystem.
	3 rd	Working mechanism of suspension system.
	4 th	Description of the conventional suspension system for Rear and Front axle.
	1 st	Description of independent suspension system used in cars (coil spring and tension bars).

7 th	2 nd	Description of independent suspension system used in cars (coil spring and tension bars).
	3 rd	Constructional features and working of a telescopic shock absorber.
	4 th	Constructional features and working of a telescopic shock absorber.
8 th	1 st	Engine cooling: Need and classification.
	2 nd	Mechanism of Cooling.
	3 rd	Describe defects of cooling and their remedial measures.
	4 th	Describe the Function of lubrication.
9 th	1 st	Types of Lubrication.
	2 nd	Describe the lubrication System of I.C. engine.
	3 rd	Revision with class test.
	4 th	Describe the air fuel ratio.
10 th	1 st	Describe Carburetion process for Petrol Engine.
	2 nd	Describe the fuel injection system.
	3 rd	Describe the fuel injection system in petrol engine.
	4 th	Describe the types of fuel injection and their mechanism.
11 th	1 st	Describe Multipoint fuel injection system for Petrol Engine.
	2 nd	Describe the working principle of fuel injection system for multi cylinder Engine
	3 rd	Describe the working principle of fuel injection system for multi cylinder Engine Filter for Diesel engine.
	4 th	Describe the working principle of Fuel feed pump and Fuel Injector for Diesel engine.
12 th	1 st	Introduction, Social and Environmental importance of Hybrid and Electric Vehicles.
	2 nd	Importance of Hybrid vehicle.
	3 rd	Description of Electric Vehicles
	4 th	Operational advantages, present performance and applications of Electric Vehicles.
13 th	1 st	Battery for Electric Vehicles.
	2 nd	Battery types and fuel cells.
	3 rd	Hybrid vehicles.
	4 th	Hybrid Vehicle Mechanism..
14 th	1 st	Types of Hybrid and Electric Vehicles: Parallel, Series, Parallel and Series configurations.
	2 nd	Drive train.
	3 rd	Solar powered vehicles.
	4 th	Revision with Class test.

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LESSON PLAN: SUMMER-2023

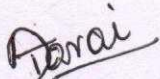
Discipline: Mechanical Engineering	Semester : 4TH Semester	Name of the Teaching Faculty: Dambarudhar Patel
Subject: ME LAB-2 Practical	No. of Days/week Class Allotted: 90	No of weeks: 14; <i>14/02/23 to 23/05/23</i>
week	Class Day	Practical Topics
1st	1st	Introduction;
	2nd	Study of 2-Stroke petrol engine model
2nd	1st	Study of 2-Stroke petrol engine model
	2nd	Study of 4-Stroke petrol engine model
3rd	1st	Study of 4-Stroke petrol engine model
	2nd	Study of 2-Stroke diesel engine model
4th	1st	Study of 2-Stroke diesel engine model
	2nd	Study of 4-Stroke diesel engine model
5th	1st	Determine the brake thermal efficiency of single cylinder petrol engine
	2nd	Determine the brake thermal efficiency of single cylinder petrol engine
6th	1st	Determine the brake thermal efficiency of single cylinder diesel engine
	2nd	Determine the brake thermal efficiency of single cylinder diesel engine
7th	1st	Determine the B.H.P of a multi cylinder engine by Morse test
	2nd	Determine the B.H.P of a multi cylinder engine by Morse test
8th	1st	Determine the I.H.P of a multi cylinder engine by Morse test
	2nd	Determine the I.H.P of a multi cylinder engine by Morse test
9th	1st	Determine the BSFC of a multi cylinder engine by Morse test
	2nd	Determine the BSFC of a multi cylinder engine by Morse test
10th	1st	Determine the mechanical efficiency of an air Compressor
	2nd	Determine the mechanical efficiency of an air Compressor
11th	1st	Study of pressure measuring devices: manometer
	2nd	Study of pressure measuring devices: Bourdon tube pressure gauge
12th	1st	Verification of Bernoulli's theorem
	2nd	Verification of Bernoulli's theorem
13th	1st	Determination of Cd from venturimeter
	2nd	Determination of Cc, Cv, Cd from orifice meter
14th	1st	Determine of Darcy's coefficient from flow through pipe
	2nd	Determine of Darcy's coefficient from flow through pipe


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LESSON PLAN

Discipline: Mechanical Engg.	Semester: 4 th	Name of the Teaching Faculty: Sri Anirudha Tarai
Subject: Workshop Practice - III	No. of days/Week class allotted: 6	Semester From date: 14-02-2023 To Date: 23-05-2023 No. of Weeks: 15
Week	Class Day	Practical/Term work Topics
1st	1st,2nd,3rd	Safety precautions used in workshop
	4th,5th,6th	Introduction,objective & safety in the Machine shop
2nd	1st,2nd,3rd	Demonstrate a Job in evolving drilling
	4th,5th,6th	Practice a job
3rd	1st,2nd,3rd	Demonstrate a Job in boring
	4th,5th,6th	Practice a job
4th	1st,2nd,3rd	Internal/External threading on Turning jobs
	4th,5th,6th	Practice a job
5th	1st,2nd,3rd	Job in evolving use of Capstan and turret lathe (Taper Turning)
	4th,5th,6th	Practice a job
6th	1st,2nd,3rd	Job in evolving use of Capstan and turret lathe (Chamfering)
	4th,5th,6th	Practice a job.
7th	1st,2nd,3rd	All gear lathe, CNC Lathe Trainer Practice
	4th,5th,6th	Job involving all turning process on MS Rod & aluminum rod for jobs using CNC Lathe trainer.
8th	1st,2nd,3rd	Practice a job.
	4th,5th,6th	2.Metal Machining
9th	1st,2nd,3rd	Shaper
	4th,5th,6th	Preparation of V Block on CI or MS Blocks
10th	1st,2nd,3rd	Practice a job.
	4th,5th,6th	Milling Machine
11th	1st,2nd,3rd	Preparation of Spur gear on CI or MS round
	4th,5th,6th	Practice a job
12th	1st,2nd,3rd	Record Submission & Viva voce
	4th,5th,6th	Grand Viva


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LESSON PLAN

DEPARTMENT OF MECHANICAL ENGINEERING

SUBJECT: Pr.1 Theory of Machine and Measurement lab SEMESTER:4th NAME OF

FACULTY: Ashish Kumar Pradhan

No. of weeks: 15

Week	Class Day	Theory / Practical Topics
1st	1 st	Determination of centrifugal force of a governor (Hart Nell / Watt/Porter).
	2 nd	Determination of centrifugal force of a governor (Hart Nell / Watt/Porter).
2 nd	1 st	Determination of centrifugal force of a governor (Hart Nell / Watt/Porter).
	2 nd	Study & demonstration of static balancing apparatus.
3 rd	1 st	Study & demonstration of static balancing apparatus.
	2 nd	Study & demonstration of static balancing apparatus.
4 th	1 st	Study & demonstration of journal bearing apparatus.
	2 nd	Study & demonstration of journal bearing apparatus.
5 th	1 st	Study & demonstration of journal bearing apparatus.
	2 nd	Study of different types of Cam and followers.
6 th	1 st	Study of different types of Cam and followers.
	2 nd	Study of different types of Cam and followers.
7 th	1 st	Study & demonstration of epicyclic gear train.
	2 nd	Study & demonstration of epicyclic gear train.
8 th	1 st	Study & demonstration of epicyclic gear train.
	2 nd	Determination of the thickness of ground M.S flat to an accuracy of 0.02mm using Vernier Caliper.
9 th	1 st	Determination of the thickness of ground M.S flat to an accuracy of 0.02mm using Vernier Caliper.
	2 nd	Determination of the thickness of ground M.S flat to an accuracy of 0.02mm using Vernier Caliper.
10 th	1 st	Determination of diameter of a cylindrical component to an accuracy of 0.01mm using micrometer.
	2 nd	Determination of diameter of a cylindrical component to an accuracy of 0.01mm using micrometer.
11 th	1 st	Determination of diameter of a cylindrical component to an accuracy of 0.01mm using micrometer.
	2 nd	Determine the heights of gauge blocks or parallel bars to accuracy of 0.02mm using Vernier height gauge.
12 th	1 st	Determine the heights of gauge blocks or parallel bars to accuracy of 0.02mm using Vernier height gauge.
	2 nd	Determine the heights of gauge blocks or parallel bars to accuracy of 0.02mm using Vernier height gauge.
13 th	1 st	Determine the thickness of ground MS plates using slip gauges.
	2 nd	Determine the thickness of ground MS plates using slip gauges.
14 th	1 st	Determine the thickness of ground MS plates using slip gauges.
	2 nd	Determination of angel of Machined surfaces of components using sin bar with slip gauges
15 th	1 st	Determination of angel of Machined surfaces of components using sin bar with slip gauges
	2 nd	Determination of angel of Machined surfaces of components using sin bar with slip gauges

Ashish K. Pradhan

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LESSON PLAN

Discipline: Mechanical Engg.	Semester: 4th	Name of the Teaching Faculty: Sri Anirudha Tarai
Subject: Manufacturing Technology	No. of days/Week class allotted: 4	Semester From date: 14-02-2023 To Date: 23-05-2023 No. of Weeks: 15
Week	Class Day	Theory Topics
1st	1st	Set induction about the subject, objectives, question pattern
	2nd	Unit-1 (Tool Materials): Introduction & Definition of Tool Materials, Chalk board summary
	3rd	Composition of various tool materials
	4th	Physical properties & uses of such tool materials
2nd	1st	Video presentation, Assignments, Questions and Answers session
	2nd	Unit-2 (Cutting Tools): Introduction of Cutting Tools, Chalk board summary
	3rd	Cutting action of various tools such as Chisel, hacksaw blade, dies and reamer
	4th	
3rd	1st	Turning tool geometry and purpose of tool angle
	2nd	Machining process parameters (Speed, feed and depth of cut)
	3rd	Coolants and lubricants in machining and purpose
	4th	Video presentation, Assignments, Questions and Answers session
4th	1st	Unit-3 (Lathe Machine): Introduction of Lathe Machine, Chalk board summary
	2nd	Construction and working of lathe and CNC lathe, Major components of a lathe and their function
	3rd	
	4th	Operations carried out in a lathe (Turning, thread cutting, taper turning, internal machining, parting off, facing, knurling)
5th	1st	
	2nd	Safety measures during machining, Chalk board summary
	3rd	Capstan lathe, Difference with respect to engine lathe
	4th	Major components and their function, Define multiple tool holders
6th	1st	Turret Lathe, Difference with respect to capstan lathe
	2nd	Major components and their function
	3rd	Draw the tooling layout for preparation of a hexagonal bolt & bush
	4th	Unit-4 (Shaper Machine): Introduction, application of Shaper Machine, Chalk board summary
7th	1st	Major components and their function
	2nd	Explain the automatic feed mechanism
	3rd	Explain the construction & working of tool head
	4th	Explain the quick return mechanism through sketch
8th	1st	State the specification of a shaping machine
	2nd	Unit-5 (Planer Machine): Introduction, application of Planer Machine and its difference with respect to shaper, Chalk board summary
	3rd	Major components and their functions
	4th	The table drive mechanism
9th	1st	Working of tool and tool support, Clamping of work through sketch
	2nd	Unit-6 (Milling Machine): Introduction, application of Milling Machine, Chalk board summary
	3rd	Types of milling machine and operations performed by them and also same for CNC milling machine
	4th	Explain work holding attachment
10th	1st	Construction & working of simple dividing head, universal dividing head
	2nd	Procedure of simple and compound indexing
	3rd	Illustration of different indexing methods

	4th	Unit-7(Slotter Machine):Introduction,application of Slotter Machine,Chalk board summary
11th	1st	Major components and their function
	2nd	Construction and working of slotter machine
	3rd	Tools used in slotter
	4th	Unit-8(Grinding):Introduction,application of Grinding,Chalk board summary
12th	1st	Significance of grinding operations
	2nd	Manufacturing of grinding wheels
	3rd	Criteria for selecting of grinding wheels
	4th	Specification of grinding wheels with example Working of Cylindrical Grinder
13th	1st	Specification of grinding wheels with example Working of Surface Grinder
	2nd	Specification of grinding wheels with example Working of Centreless Grinder
	3rd	Unit-9(Internal Machining operations):Introduction,application of Internal Machining operations,Chalk board summary
	4th	Classification of drilling machines,Working of Bench drilling machine
14th	1st	Working of Pillar drilling machine,Radial drilling machine
	2nd	Boring,Basic Principle of Boring
	3rd	Different between Boring and drilling
	4th	Broaching
15th	1st	Types of Broaching(pull type, push type)
	2nd	Unit-10(Surface finish, lapping):Introduction,Defination,application of Surface finish, lapping Chalk board summary
	3rd	Description of lapping & explain their specific cutting
	4th	MILEY,Video presentation,Assignments,Questions and Answers session

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LESSON PLAN: THERMAL ENGINEERING-2

(SUMMER SEMESTER 2023)

Discipline: Mechanical Engineering	Semester: 4TH Summer 2023	Name of the teaching faculty: Mr. Aurobinda Biswas
Subject: TE-2	No of days/per week class allotted: 04	Semester From Date: 14/02/2023 To Date: 23/05/2023 No of weeks: 14
Week:	Class day:	Theory/practical topics:
1st	1st	Introduction of Performance of I.C engine.
	2nd	Define mechanical efficiency, Indicated thermal efficiency
	3rd	Relative Efficiency, brake thermal efficiency overall efficiency.
	4th	Solve Simple Problems
2nd	1st	Mean effective pressure & specific fuel consumption.
	2nd	Define air-fuel ratio & calorific value of fuel.
	3rd	Solve Simple Problems
	4th	Work out problems to determine efficiencies & specific fuel consumption.
3rd	1st	Introduction and functions of Air compressor.
	2nd	Explanation industrial use of compressor air.
	3rd	Classify air compressor & principle of operation.
	4th	Describe the parts of reciprocating Air compressor.
4th	1st	Describe the working principle of reciprocating Air compressor.
	2nd	Explain the terminology of reciprocating compressor such as bore, stroke, pressure ratio free air delivered & Volumetric efficiency.
	3rd	Solve Simple Problems.
	4th	Derive the work done of single stage compressor with and without clearance.
5th	1st	Derive the work done of two stage compressor with and without clearance.
	2nd	Solve simple problems (without clearance only)
	3rd	Introduction of Properties of Steam.
	4th	Difference between gas & vapour.
	1st	Formation of steam.
	2nd	Representation on P-V, T-S, H-S, & T-H diagram.

6 th	3 rd	Definition & Properties of Steam.
	4 th	Solve Simple Problems.
7 th	1 st	Use of steam table & Mollier chart for finding unknown properties.
	2 nd	Non flow & flow process of vapour.
	3 rd	P-V, T-S & H-S, diagram.
	4 th	Determine the changes in properties
8 th	1 st	Solve Simple Problems.
	2 nd	Introduction of Steam Generator
	3 rd	Classification & types of Boiler.
	4 th	Important terms for Boiler.
9 th	1 st	Comparison between fire tube & Water tube Boiler.
	2 nd	Description & working of common boilers (Cochran, Lancashire)
	3 rd	Description & working of common boilers (Babcock & Wilcox Boiler)
	4 th	Boiler Draught (Forced)
10 th	1 st	Boiler Draught (induced & balanced)
	2 nd	Boiler mountings & accessories.
	3 rd	Introduction of Steam Power Cycles
	4 th	Carnot cycle with vapour.
11 th	1 st	Derive work & efficiency of the cycle.
	2 nd	Introduction of Rankine cycle.
	3 rd	Rankine cycle: Representation in P-V, T-S & h-s diagram.
	4 th	Rankine cycle: Derive Work & Efficiency
12 th	1 st	Effect of Various end conditions in Rankine cycle.
	2 nd	Solve Simple Problems.
	3 rd	Reheat & Regenerative in Rankine cycle.
	4 th	Solve Simple Problems based on reheat and regenerative.
13 th	1 st	Introduction of Heat Transfer & Modes of Heat Transfer (Conduction)
	2 nd	Modes of Heat Transfer (Convection, Radiation).
	3 rd	Fourier law of heat conduction and thermal conductivity (k).
	4 th	Newton's laws of cooling.

14th	1 st	Radiation heat transfer (Stefan, Boltzmann & Kirchhoff's law)
	2 nd	Black body Radiation
	3 rd	Definition of Emissivity, absorptivity & transmissibility.
	4 th	Solve Simple Problems based on conduction, convection and radiation

Arunbinda Biswas

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