

Lesson Plan

Name of the Faculty : SH. HARSH CHOUDHARY
 Discipline : Mechanical Engg.
 Semester : 3rd
 Subject : Applied Mechanics
 Lesson plan duration : 15 Weeks(July 2018 to Nov 2018)

Week	Theory		Practical	
	Lecture Day	Topic (including assignments /tests)	Practical Day	Topic
Week-1	1 st	Concept of engineering mechanics definition of mechanics, statics, dynamics	1 st	Overview of the subject, Importance in industry & Applications of the subject.
	2 nd	Application of engineering mechanics in practical fields		
	3 rd	Different systems of units (FPS, CGS, MKS and SI)	2 nd	Overview of the subject, Importance in industry & Applications of the subject
	4 th	Their conversion from one to another e.g. density, force, pressure, work, power, velocity, acceleration		
Week 2	1 st	Simple Numerical Problems	1 st	Verification of the polygon law of forces using Gravesand's apparatus.
	2 nd	Fundamental Units and Derived Units.		
	3 rd	Concept of rigid body, scalar and vector quantities	2 nd	Verification of the polygon law of forces using Gravesand's apparatus.
	4 th	Revision		
Week 3	1 st	Mock Test	1 st	To verify the forces in different members of jib crane.
	2 nd	Laws of forces Definition of force, Bow's Notations, types of force		
	3 rd	Point force/concentrated force & Uniformly distributed force, effects of force, characteristics of a force.	2 nd	To verify the forces in different members of jib crane.
	4 th	Different force systems, principle of transmissibility of forces, law of superposition		
	1 st	Composition and resolution of coplanar concurrent forces, resultant force, method of composition of forces		To verify the reaction at the supports of a simply supported

Week4	2 nd	laws of forces, triangle law of forces	1 st	beam.
	3 rd	polygon law of forces - graphically, analytically, resolution of forces	2 nd	To verify the reaction at the supports of a simply supported beam.
	4 th	Free body diagram Equilibrant force and its determination		
Week 5	1 st	Lami's theorem [Simple problems on above topics]	1 st	To find the mechanical advantage, velocity ratio and efficiency in case of an inclined plane.
	2 nd	Moment - Concept of moment Moment of a force and units of moment		
	3 rd	Varignon's theorem (definition only) Principle of moment and its applications	2 nd	To find the mechanical advantage, velocity ratio and efficiency in case of an inclined plane.
	4 th	(Levers – simple and compound, steel yard, safety valve, reaction at support)		
Week 6	1 st	Parallel forces (like and unlike parallel force), calculating their resultant	1 st	To find the mechanical advantage, velocity ratio and efficiency of a screw jack.
	2 nd	Concept of couple, its properties and effects General conditions of equilibrium of bodies under coplanar forces		
	3 rd	Position of resultant force by moment [Simple problems on the above topics]	2 nd	To find the mechanical advantage, velocity ratio and efficiency of a screw jack.
	4 th	Revision of Chapter		
Week 7	1 st	Mock Test	1 st	Practice
	2 nd	Friction - Definition and concept of friction, types of friction, force of friction, Limiting Friction		
	3 rd	Laws of static friction, coefficient of friction, angle of friction, angle of repose.	2 nd	Practice
	4 th	Equilibrium of a body lying on a horizontal plane, equilibrium of a body lying on a rough inclined plane.		

	1 st	Calculation of least force required to maintain equilibrium of a body on a rough inclined plane subjected to a force: a) Acting along the inclined plane	1 st	To find the mechanical advantage, velocity ratio and efficiency of worm and worm wheel.
	2 nd	b) At some angle with the inclined plane		
Week 08	3 rd	Ladder friction Advantages and Disadvantages of friction	2 nd	To find the mechanical advantage, velocity ratio and efficiency of worm and worm wheel.
	4 th	Methods of increasing/decreasing the force of friction.(Simple problems)		
Week 09	1 st	Assignment	1 st	To find mechanical advantage, velocity ratio and efficiency of single purchase crab.
	2 nd	Test		
	3 rd	Centre of Gravity - Concept, definition of centroid of plain figures	2 nd	To find mechanical advantage, velocity ratio and efficiency of single purchase crab.
	4 th	centre of gravity of symmetrical solid bodies, difference between centroid and C.G		
Week 10	1 st	Determination of centroid of plain and composite lamina using moment method only	1 st	Practice
	2 nd	centroid of bodies with removed portion		
	3 rd	Determination of center of gravity of solid bodies - cylinder	2 nd	Practice
	4 th	Determination of center of gravity of solid bodies - cube, cuboid		
Week 11	1 st	Determination of center of gravity of solid bodies- sphere	1 st	To find out center of gravity of regular lamina.
	2 nd	Determination of center of gravity of solid bodies- composite bodies and bodies with portion removed		
	3 rd	Simple problems on the above topics	2 nd	To find out center of gravity of regular lamina.
	4 th	Simple problems on the above topics		

Week12	1 st	Assignment on Chapter Centre of Gravity	1 st	To find out center of gravity of irregular lamina.
	2 nd	Mock Test		
	3 rd	Simple Machines- Definition of Simple and compound machine (Examples)	2 nd	To find out center of gravity of irregular lamina.
	4 th	Definition of load, effort, velocity ratio, mechanical advantage and efficiency of a machine		
Week 13	1 st	load, effort, velocity ratio, mechanical advantage their relationship, law of machines and efficiency of a machine	1 st	Practice
	2 nd	Definition of ideal machine, reversible and self locking machine		
	3 rd	Effort lost in friction, Load lost in friction	2 nd	Practice
	4 th	Determination of maximum mechanical advantage and maximum efficiency		
Week 14	1 st	System of pulleys (first, second)	1 st	To determine coefficient of friction between three pairs of given surface.
	2 nd	Third system of pulleys		
	3 rd	Determination of velocity ratio, mechanical advantage and efficiency	2 nd	To determine coefficient of friction between three pairs of given surface.
	4 th	Working principle and application of wheel and axle, Weston's Differential Pulley Block		
Week 15	1 st	simple screw jack, worm and worm wheel	1 st	Practice
	2 nd	single and double winch crab.		
	3 rd	Expression for their velocity ratio and field of their application [Simple problems on the above topics]	2 nd	Practice
	4 th	Mock Test		

Lesson Plan

Name of the Faculty : SH. H.K.DHINGRA
 Discipline : Mechanical Engg.
 Semester : 3rd
 Subject : BEEE
 Lesson plan duration : 15 weeks (from July, 2018 to November, 2018)

Week	Theory		Practical	
	Lecture Day	Topic (including assignments /tests)	Practical Day	Topic
Week 1	1 st	Application and Advantage of Electricity: Difference between ac and dc,	1 st	Connection of a three-phase motor and starter with fuses and reversing of direction of rotation / Theory Work
	2 nd	various applications of electricity	2 nd	Connection of a three-phase motor and starter with fuses and reversing of direction of rotation / Practical Work
	3 rd	Advantages of electrical energy over other types of energy		
Week 2	1 st	Basic Electrical Quantities: Definition of voltage, current, power and energy	1 st	Connection of a three-phase motor and starter with fuses and reversing of direction of rotation / Theory Work
	2 nd	Name of instruments used for measuring above quantities	2 nd	Connection of a three-phase motor and starter with fuses and reversing of direction of rotation / Practical Work
	3 rd	Assignment & Revision		
Week 3	1 st	Electromagnetic Induction : Production of e.m.f.,	1 st	To test a battery for its charged and discharged condition. /Theory Work
	2 nd	Idea of a transformer and its working principle		
	3 rd	Transmission and Distribution System: Key diagram of 3 phase transmission and distribution system	2 nd	To test a battery for its charged and discharged condition. / Practical Work
Week 4	1 st	Brief functions of accessories of transmission line.	1 st	Identify the different faults in a domestic wiring system / Theory Work
	2 nd	Difference between high and low voltage distribution system		
	3 rd	Identification of three-phase wires, neutral wire and earth wire in a low	2 nd	Identify the different faults in a domestic wiring system / Practical

		voltage distribution system.		Work
Week 5	1 st	Identification of voltages between phases and between one phase and neutral.	1 st	Connection and reading of an electric energy meter with supply and load using ammeter / Theory Work
	2 nd	Difference between three-phase and single-phase supply.		
	3 rd	Arrangement of supply system from pole to the distribution board	2 nd	Connection and reading of an electric energy meter with supply and load using ammeter / Practical Work
Week 6	1 st	Function of service line, energy meter, main switch, distribution board	1 st	Connection and reading of an electric energy meter with supply and load using voltmeter / Theory Work
	2 nd	Domestic Installation: Various types of domestic circuits		
	3 rd	Various accessories and parts of domestic electrical installation	2 nd	Connection and reading of an electric energy meter with supply and load using voltmeter, wattmeter / Practical Work
Week 7	1 st	Identification of wiring systems,	1 st	Connection and reading of an electric energy meter with supply and load using wattmeter / Theory Work
	2 nd	Staircase installation		
	3 rd	Assignment & Revision	2 nd	Connection and reading of an electric energy meter with supply and load using wattmeter / Practical Work
Week 8	1 st	Electric Motors and Pumps: Definition and various applications of single-phase and three-phase motors	1 st	Study of a distribution board for domestic installation / Theory Work
	2 nd	Connection and starting of three-phase induction motors by star-delta starter		
	3 rd	Conversion of horse power in watts or kilowatts	2 nd	Study of a distribution board for domestic installation / Practical Work
Week 9	1 st	Type of pumps and their applications,	1 st	Ohm's law verification / Theory Work
	2 nd	Difference between direct online starter and star delta starter		
	3 rd	Characteristics and applications of servo motors.	2 nd	Ohm's law verification / Practical Work
Week10	1 st	Assignment	1 st	Verification of law of resistance in series / Theory Work
	2 nd	Electrical Safety: Electrical shock and precautions against shock		
	3 rd	Treatment of electric shock	2 nd	Verification of law of resistance in series / Practical Work
Week11	1 st	Concept of fuses and their classification	1 st	Verification of law of resistance in parallel / Theory Work
	2 nd	Selection and application of Fuses		

	3 rd	Concept of earthing and various types of earthing,	2 nd	Verification of law of resistance in parallel / Practical Work
Week12	1 st	Concept of earthing and various types of earthing,	1 st	Draw V-I characteristics of P-N junction diode / Theory Work
	2 nd	Basic Electronics: Basic idea of semiconductors		
	3 rd	P and N type; diodes	2 nd	Draw V-I characteristics of P-N junction diode / Practical Work
Week13	1 st	Zener diodes and their applications	1 st	Draw input and output characters of a transistor / Theory Work
	2 nd	Transistor – PNP and NPN, symbols		
	3 rd	Identification of terminals of transistor	2 nd	Draw input and output characters of a transistor / Practical Work
Week14	1 st	Current flowing in a transistor	1 st	Draw input and output characters of a transistor / Theory Work
	2 nd	Characteristics and uses		
	3 rd	Characteristics and applications of a thyristor	2 nd	Draw input and output characters of a transistor / Practical Work
Week15	1 st	Revision	1 st	VIVA VOCE
	2 nd	Revision & assignment		
	3 rd	Test	2 nd	VIVA VOCE

Lesson Plan

Name of the Faculty : SH. R.K.RAWAT & SH. VIPIN KUMAR
 Discipline : Mechanical Engg
 Semester : 3rd
 Subject : Mechanical Engg. Drawing
 Lesson plan duration : 15 weeks (from July, 2018 to Nov, 2018)

Week	Practical	
	Practical Lect.	Topic (including assignments /tests)
Week 1	1 st	Limit, fits and tolerance -Need of limit, fits and tolerance, Maximum limit of size, minimum limit of size, tolerance, allowance, deviation, upper deviation, lower deviation, fundamental deviation, clearance, maximum clearance, minimum clearance
	2 nd	
	3 rd	
	4 th	Fits – clearance fit, interference fit and transition fit. Hole basis system, shaft basis system, tolerance grades
	5 th	
	6 th	
Week 2	1 st	calculating values of clearance, interference, hole tolerance, shaft tolerance with given basic size for common assemblies like H ₇ /g ₆ , H ₇ /m ₆ , H ₈ /p ₆
	2 nd	
	3 rd	
	4 th	Basic terminology and symbols of geometrical dimensioning and tolerances
	5 th	
	6 th	
Week 3	1 st	Drawing of the following with complete dimensions, tolerances, bill of material and surface finish representation A) Universal coupling and Oldham coupling (Assembly) 1 sheet
	2 nd	
	3 rd	
	4 th	Bushed Bearing (Assembly Drawing)
	5 th	
	6 th	
Week 4	1 st	Ball Bearing and Roller Bearing (Assembled Drawing)
	2 nd	
	3 rd	
	4 th	Plummer Block (Detail and Assembly Drawing)
	5 th	
	6 th	
Week 5	1 st	Foot step Bearing (Assembled Drawing)
	2 nd	
	3 rd	
	4 th	Pulleys - Pulleys, Function of pulley, Types and materials of Pulley. Free hand Sketch of Various types of pulleys.
	5 th	

	6 th	
Week 6	1 st	Fast and loose pulley (Assembly Drawing)
	2 nd	
	3 rd	
	4 th	Pipe Joints - Types of pipe Joints, Symbol and line layout of pipe lines
	5 th	
	6 th	
Week 7	1 st	Expansion pipe joint (Assembly drawing)
	2 nd	
	3 rd	
	4 th	Flanged pipe and right angled bend joint (Assembly Drawing)
	5 th	
	6 th	
Week 8	1 st	Lathe Tool Holder (Assembly Drawing) (01 sheets)
	2 nd	
	3 rd	
	4 th	Reading and interpretation of mechanical components and assembly drawings
	5 th	
	6 th	
Week 9	1 st	Sketching practice of bearings and bracket. (01 sheet)
	2 nd	
	3 rd	
	4 th	Drilling Jig (Assembly Drawing) (01 sheets)
	5 th	
	6 th	
Week 10	1 st	Machine vices (Assembly Drawing) (02sheets)
	2 nd	
	3 rd	
	4 th	I.C. Engine Parts (03 sheets)
	5 th	
	6 th	
Week 11	1 st	Connecting rod (Assembly Drawing)
	2 nd	
	3 rd	
	4 th	Crankshaft and flywheel (Assembly Drawing)
	5 th	
	6 th	
Week 12	1 st	Boiler Parts (02 sheets)
	2 nd	
	3 rd	Steam Stop Valve (Assembly Drawing)
	4 th	

	5 th	Blow off cock. (Assembly Drawing)
	6 th	
Week 13	1 st	Mechanical Screw Jack (Assembled Drawing) (01 sheet)
	2 nd	
	3 rd	
	4 th	Gears - (2 Sheet) Gear, Types of gears, Nomenclature of gears and conventional representation
	5 th	
	6 th	
Week 14	1 st	Draw the actual profile of involute teeth of spur gear by different methods.
	2 nd	
	3 rd	
	4 th	Revision
	5 th	
	6 th	
Week 15	1 st	Revision
	2 nd	
	3 rd	
	4 th	Test
	5 th	
	6 th	

Lesson Plan

Name of the Faculty : SH. RAJESH KUMAR
 Discipline : Mechanical Engg.
 Semester : 3rd
 Subject : WT- I
 Lesson plan duration : 15 weeks (from JULY, 2018 to NOVEMBER, 2018)

Week	Theory	
	Lecture Day	Topic (including assignments /tests)
Week 1	1 st	Welding: Principle of welding, Classification of welding processes
	2 nd	Advantages and limitations of welding
	3 rd	Industrial applications of welding, Welding positions and techniques,
	4 th	Welding symbols.
Week 2	1 st	Gas Welding: Principle of operation
	2 nd	Types of gas welding flames and their applications
	3 rd	Gas welding equipment - Gas welding torch, Oxy acetylene cutting torch
	4 th	Blow pipe, Pressure regulators, Filler rods and fluxes
Week 3	1 st	Arc Welding: Principle of operation, Arc welding machines and equipment
	2 nd	A.C. and D.C. arc welding,
	3 rd	Effect of polarity
	4 th	Current regulation and voltage regulation
Week 4	1 st	Other Welding Processes: Resistance welding
	2 nd	Introduction to spot and seam welding
	3 rd	Modern welding methods – TIG,
	4 th	Modern welding methods – MIG
Week 5	1 st	Ultrasonic welding, laser beam welding, robotic welding
	2 nd	Welding Defects: Types of welding defects, methods of controlling Welding defects,
	3 rd	Inspection of welding defects
	4 th	Revision & Assignment
Week 6	1 st	Pattern Making: Types of pattern, Pattern material, Pattern allowances, Pattern codes as per B.I.S.,
	2 nd	Introduction to cores, core boxes and core materials
	3 rd	Core making procedure
	4 th	Core prints, positioning of cores
	1 st	Moulding and Casting: Moulding Sand: Properties of moulding sand, their impact and control of properties

Week 7	2 nd	Various types of moulding sand.
	3 rd	Mould Making: Types of moulds, molding boxes,
	4 th	Hand tools used for mould making,
Week 8	1 st	Molding processes
	2 nd	Molding machines: squeeze machine, jolt squeeze machine and sand slinger.
	3 rd	Casting Processes:Charging a furnace,
	4 th	Melting and pouring both ferrous and non ferrous metals,
Week 9	1 st	Cleaning of castings
	2 nd	Principle, working and applications of Die casting
	3 rd	Gating and Riser System: Elements of gating system
	4 th	Pouring basin, sprue, runner, gates
Week 10	1 st	Types of risers, location of risers, Directional solidification
	2 nd	Melting Furnaces: Construction and working of Pit furnace
	3 rd	Cupola furnace
	4 th	Crucible furnace – tilting type, Electric furnace
Week 11	1 st	Casting Defects:Different types of casting defects
	2 nd	Testing of defects through magnetic particle inspection.
	3 rd	Metal Forming Processes: Press Working: Types of presses, type of dies,
	4 th	Selection of press die, die material. Press
Week 12	1 st	Operations-Shearing, piercing, trimming, punching, notching, shaving, gearing, embossing, stamping
	2 nd	Forging - Open die forging, closed die forging, Press forging, upset forging,
	3 rd	Swaging, up setters, roll forging,
	4 th	Cold and hot forging
Week 13	1 st	Rolling - Elementary theory of rolling, Types of rolling mills,
	2 nd	Thread rolling, roll passes, Rolling defects and remedies
	3 rd	Extrusion and Drawing - Type of extrusion- Hot and Cold,
	4 th	Direct and indirect Extrusion
Week 14	1 st	Pipe drawing, tube drawing, wire drawing
	2 nd	Plastic Processing: Industrial use of plastics, situation where used.
	3 rd	Injection moulding-principle,
	4 th	Working of injection moulding machine
Week 15	1 st	Compression moulding-principle, and working of compression moulding machine.
	2 nd	Potential and limitations in the use of plastics

	3 rd	Assignment & Revision
	4 th	Revision

Lesson Plan

Name of the Faculty : SH. SARTAJ SINGH
 Discipline : Mechanical Engg.
 Semester : 3rd
 Subject : M.M.
 Lesson plan duration : 15 weeks (from July, 2018 to November, 2018)

Week	Theory		Practical	
	Lecture Day	Topic (including assignments /tests)	Practical Day	Topic
Week 1	1 st	Introduction: Material, History of Material Origin,	1 st	Classification of about 25 specimens of materials/machine parts into(i) Metals and non metals (ii) Metals and alloys Classification of about 25 specimens of materials/machine parts into(i) Metals and non metals (ii) Metals and alloys / Practical Work
	2 nd	Scope of Material Science, different engineering materials and applications	2 nd	
	3 rd	Classification of materials,Thermal, Chemical, Electrical, Mechanical properties		
	4 th	Present and future needs of materials, Overview of Biomaterials and semiconducting materials		
Week 2	1 st	Various issues of Material Usage- Economical, Environment and Social.	1 st	Given a set of specimen of metals and alloys (copper, brass, aluminum, cast iron, HSS, Gun metal); identify and indicate the various properties possessed by them. / Theory Work Given a set of specimen of metals and alloys (copper, brass, aluminium, cast iron, HSS, Gun metal); identify and indicate the various properties possessed by them. / Practical Work
	2 nd	Assignment	2 nd	
	3 rd	Crystallography: Fundamentals: Crystal, Unit Cell, Space Lattice		
	4 th	Arrangement of atoms in Simple Cubic Crystals		
Week 3	1 st	Arrangement of atoms in BCC	1 st	Study of heat treatment furnace. / Theory Work
	2 nd	FCC and HCP Crystals		
	3 rd	Number of atoms per unit Cell, Atomic Packing Factor	2 nd	Study of heat treatment furnace. / Practical Work
	4 th	Revision		

Week 4	1 st	Overview of deformation behaviour and its mechanisms,	1 st	Study of a metallurgical microscope / Theory Work		
	2 nd	Behavior of material under load and stress-strain				
	3 rd	Failure Mechanisms: Overview of failure modes,				
	4 th	Fracture			2 nd	Study of a metallurgical microscope / Practical work
Week 5	1 st	fatigue and creep.	1 st	Study of Specimen polishing Machine / Theory Work		
	2 nd	Assignment				
	3 rd	Metals And Alloys: Introduction: History and development of iron				
	4 th	History and development of steel, Different iron ores,			2 nd	Study of Specimen polishing Machine / Practical Work
Week 6	1 st	Introduction: History and development of iron and steel, Different iron ores,	1 st	To prepare specimens of following materials for microscopic examination and to Examine the microstructure of the specimens of following materials :i) Brass ii)Copper iii)Grey iv)Malleable / Theory work		
	2 nd	Basic Process of iron-making and steel-making,				
	3 rd	Classification of iron			2 nd	To prepare specimens of following materials for microscopic examination and to Examine the microstructure of the specimens of following materials :i) Brass ii)Copper iii)Grey iv)Malleable / Practical work
	4 th	Classification of steel				
Week 7	1 st	Cast Iron: Different types of Cast Iron, manufacture and their usage.	1 st	To prepare specimens of following materials for microscopic examination and to Examine the microstructure of the specimens of following materials: v)Low carbon steel vi)High carbon steel vii) HSS / Theory Work		
	2 nd	Steels: Steels and alloy steel,				
	3 rd	Classification of plain carbon steels			2 nd	To prepare specimens of following materials for microscopic examination and to Examine the microstructure of the specimens of following materials: v)Low carbon steel vi)High carbon steel vii) HSS / Practical Work
	4 th	Availability, Properties and usage of different types of Plain Carbon Steels				
	1 st	Effect of various alloys on properties of steel,	1 st	To anneal a given specimen and find out difference in hardness as a result of annealing. / Theory Work		
	2 nd	Uses of alloy steels (high speed steel,				

Week 8		stainless steel,)		
	3 rd	Uses of alloy steels (spring steel, silicon steel)	2 nd	To anneal a given specimen and find out difference in hardness as a result of annealing. / Practical Work
	4 th	Non Ferrous Materials: Properties and uses of Light Metals and their alloys		
Week9	1 st	Properties and uses of White Metals and their alloys	1 st	To normalize a given specimen and to find out the difference in hardness as a result of normalizing / Theory Work
	2 nd	Assignment		
	3 rd	Test	2 nd	To normalize a given specimen and to find out the difference in hardness as a result of normalizing / Practical Work
	4 th	Revision		
Week10	1 st	Theory of Heat Treatment: Purpose of heat treatment	1 st	Classification of about 25 specimens of materials/machine parts into (iii) Ferrous and non ferrous metals (iv) Ferrous and non ferrous alloys / Theory Work
	2 nd	Solid solutions and its types,		
	3 rd	Iron Carbon diagram,	2 nd	Classification of about 25 specimens of materials/machine parts into (iii) Ferrous and non ferrous metals (iv) Ferrous and non ferrous alloys / Practical Work
	4 th	Formation and decomposition of Austenite, Martensitic Transformation		
Week 11	1 st	Simplified Transformation Cooling Curves	1 st	To harden and temper a specimen and to find out the difference in hardness due to tempering. / Theory Work
	2 nd	Processes hardening, tempering,		
	3 rd	Annealing	2 nd	To harden and temper a specimen and to find out the difference in hardness due to tempering. / Practical
	4 th	Normalizing		
Week 12	1 st	Case hardening	1 st	Practice And VIVA VOCE
	2 nd	Surface hardening		
	3 rd	Types of heat treatment furnaces required for above operations	2 nd	Practice And VIVA VOCE
	4 th	Revision & Assignment		
Week 13	1 st	Engineering Plastics: Important sources of plastics	1 st	Practice And VIVA VOCE
	2 nd	thermoplastic and thermo set and their uses,		
	3 rd	Various Trade names of engg. Plastics,	2 nd	Practice And VIVA VOCE
	4 th	Plastic Coatings		

Week 14	1 st	Advanced Materials: Composites- Classification, properties, applications	1 st	Practice And VIVA VOCE
	2 nd	Ceramics-Classification, properties, applications, Heat insulating materials		
	3 rd	Miscellaneous Materials: Properties and uses of Asbestos, Glass wool	2 nd	Practice And VIVA VOCE
	4 th	Thermocole cork, mica		
Week 15	1 st	Overview of tool and die materials, Materials for bearing metals,	1 st	Practice And VIVA VOCE
	2 nd	Spring materials		
	3 rd	Materials for Nuclear Energy, Refractory materials.	2 nd	Practice And VIVA VOCE
	4 th	Revision		