

**LESSON PLAN**

Name of Teacher :- Pushap Raj Sharma Subject: BTHP Class: 3rd Semester Automobile Engg.

Sr.	Month	Week	Date	Name of Chapter	Contents to be taught	Remarks
1	August	1st and 2nd week	2,3,5,6,7,9	Unit I: Principles of Thermal Engineering	Introduction, Thermodynamics properties – intensive and extensive	
		3rd week	12,13,14,16,17		Property path, process, system, surroundings, Heat and work Enthalpy and internal energy	
		4th week	19,20,21,23,24		Gas Laws Boyle's law, Charles law, Joule's law, Characteristic gas equation, gas constant,	
		5th week	27,28,30,31		universal gas constant, Simple numerical problems, Modes of heat transfer, conduction, convection, radiation, Fourier's Law	
4	September	1st week	2,3,4,6,7	Unit II: Law of Thermodynamics and Air Cycles	Zeroth law of thermodynamics Irreversible process, First law of thermodynamics (concept only)	1st Assignment
5		2nd week	9,10,11,13		Second law of thermodynamics (concept only), Thermal efficiency and heat pump	class test 1
6	September	3rd week	16,17,18,20,21		heat engine and heat sink Concept of entropy, Constant volume	
7		4th week	23,24,25,27,28		constant pressure, isothermal, adiabatic, polytropic throttling and free expansion processes (concept only)	
8	October	1st week	30,1,4,5	Unit III: Air Compressors	Reciprocating air compressor, Centrifugal compressor working of single stage	2nd assignment
9		2nd Week	7,8,9,11		double stage compressor and applications, Rotary air compressor and supercharger.	2nd class test/ PTM
10		3rd week	14,15,16,18,19	Unit IV: Hydraulics	Types of fluid, Properties of fluid, Pascal Law, Components of hydraulic systems.	
11	4th week	21,22,23,25,26	Function of each component in hydraulic circuit			
12	November	1st week	1,2		Oil reservoir, filters, Hydraulic Jack, Hydraulic Press	
13	November & December	2nd Week			<b>House Test</b>	
14		3rd week	11,12,13,16	Unit V: Pneumatics	function, air cylinders – function, single acting	
15		4th week	18,19,20,22,23		double acting, air filter, regulator	
16		5th week & 1st week	25,26,27,29,30,2		different types of control valves, concept of automation.	

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**Lesson Plan**  
**(Labs/Workshop)**

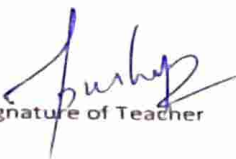
Name of Teacher:-Pushap Raj Sharma		Designation:-Lecturer		Group:- G 1	
Name of Lab/Workshop:-Basics of thermodynamics hydraulics and pneumatics		Class/Branch:- 3rd sem/Automobile Engg.			
Sr. No.	Description of Practical job	Day	Month	Remarks	
1	To find flash point and fire point of given fuel.	3,12	August		
2	To find viscosity of given fuel.	19			
3	To study air compressor.	2,9	September		
4	To analyse exhaust gases by exhaust gas analyzer	16,23,30			
5	To conduct morse test of multicylinder petrol engines.	7,	October		
6	To prepare heat balance sheet of an IC engine	14,21			
7	Identification of components in air conditioning system	11,18	November		
8	To develop hydraulic circuit using different components.	25,			
9	To analyze exhaust gas for diesel engine through smoke meter.	2,	December		

  
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**Lesson Plan**  
**(Labs/Workshop)**

Name of Teacher:-Pushap Raj		Designation:-Lecturer		Group:- G 2	
Name of Lab/Workshop:-Basics of thermodynamics hydraulics and pneumatics		Class/Branch:- 3rd sem/Automobile Engg.			
Sr. No.	Description of Practical job	Day	Month	Remarks	
1	To find flash point and fire point of given fuel.	1,8	August		
2	To find viscosity of given fuel.	22,29			
3	To study air compressor.	5,12,	September		
4	To analyse exhaust gases by exhaust gas analyzer	19,26			
5	To conduct morse test of multicylinder petrol engines.	3	October		
6	To prepare heat balance sheet of an IC engine	10,24			
7	Identification of components in air conditioning system	14,	November		
8	To develop hydraulic circuit using different components.	21,			
9	To analyze exhaust gas for diesel engine through smoke meter.	28			

  
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**LESSON PLAN**

Name of Teacher > **Gaurav Puri** Subject: **Automotive Materials** Class: **3rd Semester Automobile Engg**

S. No.	Month	Week	Date	Name of Chapter	Contents to be taught	Remarks
	August	1st and 2nd week	5, 6	Unit I: Properties of Materials:	Classification: Metals and non-metals, Ferrous and non-ferrous metals and their alloys, Names of common metals, their alloys and nonmetals used in Automobile Industry.	
1		3rd week	12, 12, 13		Properties of metals and alloys, Physical properties - Appearance, luster, color, density and melting point, Mechanical Properties: Strength, stiffness, elasticity, plasticity, toughness, ductility, malleability, brittleness, hardness, fatigue and creep. Thermal and electrical conductivity and corrosion resistance.	
2		4th week	19, 19, 20		Unit II: Ferrous Metals and Alloys:	Effect of alloying elements such as Aluminum, chromium, Nickel, Cobalt, Manganese, Molybdenum, tungsten, Vanadium, Silicon, Sulphur and Phosphorus.
3		5th week	27	Composition, properties, grades and uses of alloy steels such as High speed steel, Stainless steel, Silicon steel, Heat resistant steel, spring steel.		Assignment 1
4		September	1st week	2, 2, 3	Heat Treatment:	Iron- carbon diagram, objectives and practical aspects of heat treatment. Description and uses of principal heat treatment processes: Annealing, Normalizing, Tempering, Hardening, and Carburizing, Nitriding and Cyaniding and applications.
5	2nd week		9, 9, 10	Case hardening and surface hardening, Hardenability of steels, Examples in heat treating automobile engineering components.		Class Test 1
6	September	3rd week	16, 16, 17	Unit III: Non-ferrous Metals and Alloys:	Copper: Properties and uses, Composition, properties and uses of copper alloys: Brass, Cartridge brass, Nickel silver, Bronze.	
7		4th week	23, 23, 24			Phosphor bronze, Al-bronze, Mn-bronze, and Gunmetal. Properties and uses of Aluminum and their grades. Composition, properties and uses of Al- alloys e.g. Duralumin, Yellow metal.
8	October	1st week	30, 30, 1		Magnesium and Invar: Properties and uses of alloys of lead, tin and magnesium. Bearing Metal: Requisite qualities, Composition, properties and uses of white metal bearing. Copper based bearing metals. Aluminum based bearing metals. Use of nylon, PTFE for bushes/bearings, bi-metallic and tri-metallic bushes.	
9		2nd Week	7, 7, 8	Unit IV: Identification and Examination of Metals and Alloys:	Identification tests -Appearance, sound, filing, weight, magnetic, spark, bend and microstructure.	Class Test 2
10		3rd week	14, 14, 15			
11		4th week	21, 21, 22	Unit V: Other Important Materials:	Plastics: Definition, classification of plastics, fiberglass, reinforced plastics. Major applications of various plastics with specific mention of their uses and grades. Heat insulating materials: Properties and uses of asbestos, glass wool, Thermocol, cork, mica.	
12	November & December	1st week		Unit V: Other Important Materials:	House Test Sound insulating materials: Cork, fiberboards. Fabrication materials: Wood, plywood, Rubber - natural and synthetic. Glasses - plate glass, toughened glass, safety glass. Electrical insulating materials, properties and uses of china, clay, leather Bakelite, ebonite, glass wool. Refractory materials: General characteristics and uses of dolomite, ceramics. Protective coating materials: Auto paints, primers, varnishes, enamels, pum, electroplating materials. Adhesive requirements types and advantages, thread locking special solution, anti-rust solution.	
13		2nd week				
14		3rd week	11, 11, 12			
15		4th week	18, 18, 19			
16		5th week & 1st week	25, 25, 26, 2, 2			

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**LESSON PLAN**

Name of Teacher :- Jitender Kumar Subject: ACBT-I Class: 3rd Semester Automobile Engg.

S. No.	Month	Week	Date	Name of Chapter	Contents to be taught	Remarks
1	August	1st week & 2nd week	1,2,3,6,7,8,9	Unit I : Chassis and Body	Classification of vehicles, types of chassis, layout of conventional type of chassis	
		3rd week	13,14,16,17		function and arrangement of major assemblies Alternating arrangement used such as engine position	
		4th week	20,21,22,23, 24		drive types, their merits and demerits, types of frame and body streamlining	
		5th week	27,28,29,30, 31		cross members, brackets, materials of frame and body upholstery	
4	September	1st week	3,4,5,6,7	Unit II: Clutch	hydraulic power assisted and wet and dry plate clutch, clutch plate and lining material	1st Assignment
5		2nd week	10,11,12,13		Necessity, function and requirements of clutch, types of clutch - single plate clutch, multi plate clutch	class test 1
6	September	3rd week	17,18,19,20,21		material Constructional details and working of centrifugal	
7		4th week	24,25,26,27, 28		semi centrifugal clutch, diaphragm clutch and fluid coupling	
8	October	1st week	1,3,4,5	Unit III: Transmission	Necessity, function and types of manual transmission- Sliding, constant mesh and synchromesh Over drive, over running clutch, description and operation of transfer gear box Common faults and remedies, trans axle construction Types of automatic transmission and their main components	2nd assignment
9		2nd Week	8,9,10,11		Epicyclic gearbox-construction, working and determination of speed ratio Torque converter Construction, principle of working Continuously variable transmission, Automated Manual Transmission, hydrostatic transmission systems, direct shift gear box (DSG)	2nd class test/ PTM
10		3rd week	15,16,18,19	Unit IV: Final Drive	Propeller shaft-function, construction details Universal joints- functions and types	
11	4th week	22,23,24,25,26	Types of final drive - hotchkiss drive, torque tube drive Differential - principle, functions and working			
12	November	1st week	1,2		Rear axles- semi floating, three quarter floating, Fully floating Common faults and remedies	
13	November & December	2nd Week			<b>House Test</b>	
14		3rd week	12,13,14,16	Unit V: Front Axle & Steering	Types - Stub double drop, fully dropped, load distribution, effect of braking on axle shape, steering head	
15		4th week	19,20,21,22, 23		Elliot and reverse elliot steering knuckle Steering mechanism, function steering axis inclination, toe in and toe out Cornering force, cornering power and self-righting torque Over steering and understeering, Traction control system, Power steering- necessity, types,	
16		5th week & 1st week	26,27,28,29, 30		Ackerman's Principle of steering Working and constructional details of steering gear steering linkages Front wheel geometry-caster, camber Construction features and working of hydraulic and electronic power	

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**LESSON PLAN**

Name of Teacher :- Dheeraj Gupta Subject: Garage Equipment Class: 3rd Semester Automobile Engg.

S. No.	Month	Week	Date	Name of Chapter	Contents to be taught	Remarks
1	August	1st week & 2nd week	1,3,7,8	Unit I: General Equipment Specifications and applications	Drilling machine (portable) along with set of drills Bench grinder Air compressor and pneumatic gun Hydraulic and electric hoists	
		3rd week	14,17		High pressure washing equipment (Car washer, Car vacuum cleaner, Buffing tool)	
		4th week	21,22,24		Oil sprayers Grease Guns-manual and bucket type, pneumatic Tyre inflation gauge (Manual and Digital type automatic)	
		5th week	28,29,31		Tyre Changer (Manual and Automatic) Creepers Fire extinguisher First aid box	
4	September	1st week	4,5,7	Unit II: Tuning and Testing Equipment Specifications and applications	Vacuum Gauge, Compression Gauge (Pressure Gauge)	1st Assignment
5	2nd week	11,12	Distributor Tester, Cam (dwell) angle tester, r p m tester		class test 1	
6	September	3rd week	18,19,21	Unit III: Engine Repair Tools/Measuring and Testing Equipment Specifications and applications	Battery Tester Spark plug cleaner	
7		4th week	25,26,28		tester Ignition timing light Fuel injector tester Fuel consumption tester.	
8	October	1st week	3,5	Unit IV: Electrical Repair Equipment Specifications and uses	Torque wrench, pneumatic wrench Piston ring compressor	2nd assignment
9		2nd Week	9,10		Piston ring files, groove cleaner Scrappers Piston ring remover Cylinder Dial gauge Smoke meter Engine Analyser/Scanner Part degreasing tank.	2nd class test/ PTM
10		3rd week	16,19		Electrical Test Bench	
11	4th week	23,24,26	Battery Charger Head Lights Beam Aligner			
12	November	1st week	2,	House Test	Tester (Electronic and Digital type) Growler	
13	2nd Week					
14	November	3rd week	13,14,16	Unit V: Reconditioning/Testing Equipment for Chassis and Body Use	Brake Efficiency Tester (Chassis Dynamometer) or brake testing equipment Clutch Fixtures and Brake Line Rivetters, pop riveting gun Crane and Chain Pulley Block	
15		4th week	20,21,23		Jacks mechanical, hydraulic, trolley type Paint chamber Paint Spray Gun Paint Drying Equipment Tools for tyres, automatic tyre remover	
16		5th week	27,28,30		Computerized wheel balancer-static and dynamic Computerized wheel alignment equipment, Valve Refacer, Valve Seat Cutting and Grinding, Radiator Tester, Cylinder head leakage testing fixture Fuel injector tester, Nozzle cleaning equipment	

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**LESSON PLAN**

Name of Teacher :- Rishu Dhiman Subject: Production Process-I Class: 3rd Semester Automobile Engg.

No.	Month	Week	Date	Name of Chapter	Contents to be taught	Remarks
1	August	1st week & 2nd week	3,5,6,7	Unit I: Cutting Fluids & Lubricant	Introduction, Types of cutting fluids, Fluids and coolants required in turning, drilling, shaping, sawing & broaching	
		3rd week	12,13,14,17		Selection of cutting fluids, methods of application of cutting fluid, Classification of lubricants (solid, liquid, gaseous), Properties and applications of lubricants	
		4th week	19,20,21,24		Lathe Operations cutting parameters, tool signature, Types of lathes – light duty, Medium duty and heavy duty geared lathe, CNC lathe, Specifications, Basic parts and their functions,	
		5th week	27,28,31		Operations and tools – Turning, Knurling, facing, Boring, drilling, threading, step turning, taper turning	
		1st week	2,3,4,7		Unit II: Foundry Practice	Pattern Making, Types of Pattern, Pattern Materials, Pattern Allowances Introduction to Core
2nd week	9,10,11	Moulding Introduction to Moulding, Types of Moulding Sand and their properties	class test 1			
3rd week	16,17,18,21	Melting and pouring, Defect in castings				
7	September	4th week	23,24,25,28		Metal forming processes Die stamping, Metal Drawing, Spinning, Rolling, Extruding, Forging, and Tube Drawing	
8	October	1st week	30,1,5	Unit III: Modern Machining Processes	Processes, Procedures, Advantages, Limitations and Applications of Electro discharge machining	2nd assignment
9		2nd Week	7,8,9		Electro chemical Machining, USM, AJM and LBM	2nd class test/ PTM
10		3rd week	14,15,16,19	Unit IV: Welding	Classification, Gas welding techniques, Types of welding flames, Arc Welding – Principle, Equipment, Applications, Shielded metal arc welding, Submerged arc welding, TIG / MIG welding	
11	4th week	21,22,23,26	Resistance welding - Spot welding, Seam welding, Projection welding, Welding defects, Brazing and soldering Types, Principles, Applications Milling Introduction, Types of milling machines plain, Universal, vertical, constructional details – specifications			
12	November	1st week	2		Milling operations simple, compound and differential indexing, Milling cutters – types, Nomenclature of teeth, Teeth materials, Tool signature of milling cutter, Tool & work holding devices	
13	November & December	2nd Week			<b>House Test</b>	
14		3rd week	11,12,13,16	Unit V: Part Programming	NC part programming – methods – manual programming – conversational programming – APT programming - Format sequential and word address formats	
15		4th week	18,19,20,23		sequence number – coordinate system – types of motion control point-to-point, paraxial and contouring – Datum points machine zero, work zero, tool zero NC dimensioning – reference points	
16		5th week and 1st week	25,26,27,30,2		Tool material – tool inserts - tool offsets and compensation - NC dimensioning Preparatory functions and G codes, miscellaneous functions and M codes – interpolation linear interpolation and circular interpolation - CNC program procedure	

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**Lesson Plan  
(Labs/Workshop)**

Name of Teacher - Rishu Dhiman

Name of Lab/Workshop - Autoshop Workshop Practice I

Designation - Lecturer

Group:- G 1

Class/Branch:- 3rd sem/Automobile

Sr. No.	Description of Practical Job	Day	Month	Remarks
1	• Identification and sketching of special tools and gauges such as cylinder dial gauge, inside & outside micrometer, telescopic gauge, compression gauge, Vernier caliper, height gauge of automobile workshop and practice to use them.	1,2,8	AUGUST	
2	• Identify and servicing of the components of single plate clutch and Multiplate clutch, removal of worn out parts, adjustment of clutch pedal free play and release lever adjustment	9,16		
3	• Servicing and overhauling of gear boxes: sliding mesh, constant mesh and synchromesh gear box.	22,23		
4	• Servicing and overhauling of rear axle, differential units and adjustment of backlash	29,30		
5	• Servicing and Replacement of brakes - mechanical, hydraulic brakes and power brakes adjustments - bleeding of brakes.	5,6	SEPTEMBER	
6	• Servicing and Replacement of brakes - mechanical, hydraulic brakes and power brakes adjustments - bleeding of brakes.	12,		
7	• Overhauling of wheels, tyres and suspension system of car/jeep.	13,		
8	• Identification of various denting and painting tools	19,20		
9	• Cleaning, greasing, checking as per maintenance schedule, washing, wiping and polishing of jeep/car and two wheeler	26,27	OCTOBER	
10	• Removing dents on body and minor body repairs - body trimming and painting. Dismantling and assembly of water pump	3,4		
11	• Servicing of Lubrication system: Flushing, crank case cleaning and replacing oil, filter element	10,11		
12	• Servicing of fuel system: petrol feed system, cleaning and flushing fuel tank.	18		
13	• Removal and fitting of wheels and tyres of a two wheelers and repairing of punctures and rotation of tyres pressure, use of gauges.	24,25	NOVEMBER	
14	• Job on bodypaneling using spot welding/riveting	1,		
15	• Inside and outside inspection/checking of vehicle, checking of engine oil, horn, starter, cooling water before starting of engine.	14,		
16	• Identification dismantling and assembling of AC fuel pump	21,		
17	• Soldering of defective radiator and brazing of a fuel tank	22,		
18	• Flushing out water jackets, cleaning of radiator and refitting in vehicle, adjustment of fan belt tension by self-adjusting and automatic adjusting.	28,29		

  
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**Lesson Plan  
(Labs/Workshop)**

Name of Teacher:-Rishu Dhiman		Designation:-Lecturer	Group:- G 2		
Name of Lab/Workshop:-Autoshop Workshop Practice I		Class/Branch:- 3rd			
Sr. No.	Description of Practical Job	Day	Month	Remarks	
1	• Identification and sketching of special tools and gauges such as cylinder dial gauge, inside & outside micrometer, telescopic gauge, compression gauge, Vernier caliper, height gauge of automobile workshop and practice to use them.	2,5	AUGUST		
2	• Identify and servicing of the components of single plate clutch and Multiplate clutch, removal of worn out parts, adjustment of clutch pedal free play and release lever adjustment	9,12			
3	• Servicing and overhauling of gear boxes: sliding mesh, constant mesh and synchromesh gear box.	16,19,23			
4	• Servicing and overhauling of rear axle, differential units and adjustment of backlash.	30,			
5	• Servicing and Replacement of brakes - mechanical, hydraulic brakes and power brakes adjustments - bleeding of brakes.	2,6	SEPTEMBER		
6	• Servicing and Replacement of brakes - mechanical, hydraulic brakes and power brakes adjustments - bleeding of brakes.	9,13			
7	• Overhauling of wheels, tyres and suspension system of car/jeep.	16,			
8	• Identification of various denting and painting tools	20,23			
9	• Cleaning, greasing, checking as per maintenance schedule, washing, wiping and polishing of jeep/car and two wheeler.	27,30	OCTOBER		
10	• Removing dents on body and minor body repairs - body trimming and painting. Dismantling and assembly of water pump	4,7			
11	• Servicing of Lubrication system: Flushing, crank case cleaning and replacing oil, filter element	11,			
12	• Servicing of fuel system: petrol feed system, cleaning and flushing fuel tank.	14,18			
13	• Removal and fitting of wheels and tyres of a two wheelers and repairing of punctures and rotation of tyres pressure, use of gauges.	21,25	NOVEMBER		
14	• Job on bodypaneling using spot welding/riveting.	1,11			
15	• Inside and outside inspection/checking of vehicle, checking of engine oil, horn, starter, cooling water before starting of engine.	18,			
16	• Identification dismantling and assembling of AC fuel pump	22,			
17	• Soldering of defective radiator and brazing of a fuel tank	25,29	DECEMBER		
18	• Flushing out water jackets, cleaning of radiator and refitting in vehicle, adjustment of fan belt tension by self-adjusting and automatic adjusting.	2			

  
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Lesson  
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Name of Teacher:-Rakesh Kumar		Designation:-WSI		Group:- G 1	
Name of Lab/Workshop:-Mechanical		Class/Branch:- 3rd			
Sr. No.	Description of Practical job	Day	Month	Remarks	
1	One exercise on lap and butt joint each with arc welding	1,8	August		
2	One exercise of vertical and overhead arc welding	22,29			
3	One exercise of welding and cutting	5,	September		
4	One exercise of spot welding	12,			
5	One exercise of TIG welding	19,			
6	One utility article	26,			
7	Shaping machine: simple exercise of shaping machine.	3,	October		
8	Milling machine: simple exercise as gear cutting and rack cutting.	10,24			
9	Drilling: Simple exercise of drilling machine.	14,	November		
10	Grinding: Face grinding and surface grinding.	21,			
11	One utility job in each machine and develop a part programming in	28			

  
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Lesson  
(Labs/Work


Name of Teacher:-Rakesh Kumar		Designation:-WSI		Group:- G 2	
Name of Lab/Workshop:-Mechanical		Class/Branch:- 3rd			
Sr. No.	Description of Practical job	Day	Month	Remarks	
1	One exercise on lap and butt joint each with arc welding	3,17	August		
2	One exercise of vertical and overhead arc welding	24,			
3	One exercise of welding and cutting	31,			
4	One exercise of spot welding	7,	September		
5	One exercise of TIG welding	21,			
6	One utility article	28,			
7	Shaping machine: simple exercise of shaping machine.	5,	October		
8	Milling machine: simple exercise as gear cutting and rack cutting.	19,26			
9	Drilling: Simple exercise of drilling machine.	2,	November		
10	Grinding: Face grinding and surface grinding.	16,			
11	One utility job in each machine and develop a part programming in	23,30			

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**Govt. Polytechnic Talwar**  
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**Lesson Plan**  
**(Labs/Workshop)**

Name of Teacher:-Pushap Raj Sharma		Designation:-Lecturer	Group:- G 1		
Name of Lab/Workshop:-CAD		Class/Branch:- 3rd			
Sr. No.	Description of Practical job	Day	Month	Remarks	
1	<ul style="list-style-type: none"> <li>Advantages and applications, setting the drawing environment: Limits, Grid, Snap, Axis, Units, Ortho, Coordinates ON, OFF Units and Color.</li> <li>2D Drawing entities - Point - Line - Arc - circle, Ellipse, Polygon, and Trace. Object Selection using Object Snap (OSNAP).</li> </ul>	2,3	AUGUST		
2	<ul style="list-style-type: none"> <li>Editing commands: Selection of entities by different methods - copy, Move, Scale, Rotate, Fillet, Chamfer, Mirror, Array-Polar, Rectangular. Measure, Divide, and Erase.</li> <li>Drawing Display Methods: Zoom, Pan, and View.</li> <li>Adding Texts and Dimensions: Text, Dimension-linear, continued, angular</li> </ul>	9,16,17			
3	<ul style="list-style-type: none"> <li>Edit commands. Working on multiple layers Layer concepts in CAD</li> <li>-Various options with layer command - Hatch command - Creating line types library and user made library.</li> </ul>	23,24			
4	<ul style="list-style-type: none"> <li>Preparing the schematic drawing of a workshop building in one layer, the blocks of machines in another Layer and Electrical connection on another layer.</li> </ul>	30,31			
5	<ul style="list-style-type: none"> <li>Drawing 2D figure of complex shape</li> <li>Extruding it into a 3Ddrawing</li> </ul>	6,7	SEPTEMBER		
6	<ul style="list-style-type: none"> <li>Understanding 3D Co-ordinate values, Creating and viewing a drawing in3D.</li> <li>Rotating the drawings- Meshing 3Ddrawing.</li> </ul>	13,			
7	<ul style="list-style-type: none"> <li>Turning 3D into 2D Ortho Graphic projection.</li> </ul>	20,			
8	<ul style="list-style-type: none"> <li>Understanding model space and paper space.</li> </ul>	21,27			
9	<ul style="list-style-type: none"> <li>Drawing and working in UCS</li> </ul>	28,	OCTOBER		
10	<ul style="list-style-type: none"> <li>UCS icon, 3D editing- Union, Subtraction, 3D Orbit.</li> </ul>	4,5			
11	<ul style="list-style-type: none"> <li>Basic 3D entities command, Box, Cylinder, Cone, Chamfer, Revolve.</li> </ul>	11,			
12	<ul style="list-style-type: none"> <li>Four Stroke Petrol Engine Piston</li> </ul>	18,19			
13	<ul style="list-style-type: none"> <li>Diesel Engine Piston</li> </ul>	25,26	NOVEMBER		
14	<ul style="list-style-type: none"> <li>Connecting rod</li> </ul>	1,2			
15	<ul style="list-style-type: none"> <li>Fuel injector</li> </ul>	16,			
16	<ul style="list-style-type: none"> <li>Crank shaft -4 cylinder Engine</li> </ul>	22,23			
17	<ul style="list-style-type: none"> <li>Connecting rod</li> </ul>	29,			
18	Revision and Practice Session	30,			

  
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Lesson Plan

(Labs/Workshop)

Name of Teacher:-Gaurav Puwari		Designation:-Lecturer	Group:- G 2		
Name of Lab/Workshop:-CAD		Class/Branch:- 3rd			
Sr. No.	Description of Practical job	Day	Month	Remarks	
1	<ul style="list-style-type: none"><li>Advantages and applications, setting the drawing environment: Limits, Grid, Snap, Axis, Units, Ortho, Coordinates ON, OFF Units and Color.</li><li>2D Drawing entities - Point - Line - Arc - circle, Ellipse, Polygon, and Trace. Object</li></ul>	1,2,8	AUGUST		
2	<ul style="list-style-type: none"><li>Editing commands: Selection of entities by different methods - copy, Move, Scale, Rotate, Fillet, Chamfer, Mirror, Array-Polar, Rectangular. Measure, Divide, and Erase.</li></ul>	9,16			
3	<ul style="list-style-type: none"><li>Edit commands. Working on multiple layers Layer concepts in CAD</li><li>-Various options with layer command - Hatch command - Creating line types library and user made library.</li></ul>	22,23			
4	<ul style="list-style-type: none"><li>Preparing the schematic drawing of a workshop building in one layer, the blocks of machines in another Layer and Electrical connection on another layer.</li></ul>	29,30			
5	<ul style="list-style-type: none"><li>Drawing 2D figure of complex shape</li><li>Extruding it into a 3Ddrawing</li></ul>	5,6	SEPTEMBER		
6	<ul style="list-style-type: none"><li>Understanding 3D Co-ordinate values, Creating and viewing a drawing in3D.</li><li>Rotating the drawings- Meshing 3Ddrawing.</li></ul>	12,			
7	<ul style="list-style-type: none"><li>Turning 3D into 2D Ortho Graphic projection.</li></ul>	13,			
8	<ul style="list-style-type: none"><li>Understanding model space and paper space.</li></ul>	19,20			
9	<ul style="list-style-type: none"><li>Drawing and working in UCS</li></ul>	26,27	OCTOBER		
10	<ul style="list-style-type: none"><li>UCS icon, 3D editing-Union, Subtraction, 3D Orbit.</li></ul>	3,4			
11	<ul style="list-style-type: none"><li>Basic 3D entities command, Box, Cylinder, Cone, Chamfer, Revolve.</li></ul>	10,11			
12	<ul style="list-style-type: none"><li>Four Stroke Petrol Engine Piston</li></ul>	18			
13	<ul style="list-style-type: none"><li>Diesel Engine Piston</li></ul>	24,25	NOVEMBER		
14	<ul style="list-style-type: none"><li>Connecting rod</li></ul>	1,			
15	<ul style="list-style-type: none"><li>Fuel injector</li></ul>	14,			
16	<ul style="list-style-type: none"><li>Crank shaft -4 cylinder Engine</li></ul>	21,			
17	<ul style="list-style-type: none"><li>Connecting rod</li></ul>	22,			
18	Revision and Practice Session	28,29			

Signature of Teacher 

Signature of HOD 