LESSON PLAN

Name of Teacher :- Gaurav Puwari Subject: EDMOV Class: 5th Semester Automobile Engg.

S. No.	Month	Week	Date	Name of Chapter	Contents to be taught	Remarks
		Week 2	4,5,8	Unit–I: Introduction	Design considerations, design procedure, Basic requirements	
		Week 3	11,12		classifications of design and principles of good economic design	
		Week 4	18,19,22,23		Standardization, interchangeability of Automobile parts with reference to ISspecifications,	
	August	Week 5	25,26,29,30		Limits, fits and tolerances.	
		week 1	1,2,5,6	Unit-II: Design of keys, couplings and Engine Parts	Concept of Sunk Keys, Rectangular Keys, Square, Parallel, Crosshead,	
		week 2	8,9,12		Woodruff Key Design of rectangular key, Coupling: Flange coupling, Muff coupling,	
		week 3	15,16,19,20		Clamp coupling, Engine Parts: Cylinder liner and cylinder head, Piston, Connecting Rod, Clutch- Single Plate and Multi plate Clutch, Brakes- Internal Expanding shoe brake.	
	September	week 4	22,23,26,27	Unit-III Simple Mechanism	Definition of link, kinematic pair, kinematic chain, Mechanism, inversions and machines	
		Week 1	3,4,		Simple examples of mechanism with: Lower pairs, Four bar chain, Slider crank chain	
		Week 2	6,10		Double slider crank chain, Higher pairs	
		Week 3	13,14	Unit-IV: Motion and Turning Moment	Displacement, velocity and acceleration of piston Angular velocity and angular acceleration of connecting rod	
		Week 4	21,24,25		Calculations of piston effort and crank effort at different angles, Fly wheel: types, weight and moment of inertia,	
	October	Week 5	27,28,31		Fluctuation of energy for fly wheel, Turning moment diagrams with reference to internal combustion engines.	
		Week 1	1	Unit-V: Power Transmission	Flat belt, V-belt and chain drives,	
		Week 2			**House Test**	
		Week 3	10,11,14,15		Horse power transmitted and condition for maximum horse power transmitted Ratio of tension of two sides of the belt with and without centrifugal tension	
		Week 4	17,18,21,22		Velocity ratios transmitted by Belts, Simple, compound and Epicyclic gear box.	
	November	Week 5	24,25		Revision	

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LESSON PLAN

Name of Teacher :- Rishu Dhiman Subject: AEEE Class: 5th Semester Automobile Engg.

S. No.	Month	Week	Date	Name of Chapter	Contents to be taught	Remarks
	August	Week 2	4,5,7,8	Unit-I: Introduction & Batteries	Various Electrical components/systems in Automobile. Their functions and demands,earths return system, types of earthing, 6V, 12V & 24V system.	
		Week 3	11,12,14		Construction, working, elements, types, materials used,electrolyte and its strength, effect of added plate area and temperature, rating, capacity, efficiency, temperature characteristics, terminal voltages, charging and discharging	
		Week 4	18,19,21,23		Battery Testing: Electrolyte testing by hydrometer, voltage test, high discharge and cadmium test (voltage), Battery Charging: Constant potential and constant current, initial charging, normal charging, trickle charging, intermittent charging, boost charging, Battery	
		Week 5	25,26,28,30		Defects: Sulphation, plates decay, working, erosion, cracking, sedimentation, separator defects, short circuits, overcharging	
	September	Week 1	1,2,4,5	Unit-II: Charging System & Starting system	Circuits, function and various components of alternator, types, construction	
		Week 2	8,9,11,12		working, advantages and disadvantages of alternators, drives, cut out relay.	
		Week 3	15,16,18,19		Function of various components, torque terms, principle and constructional details of starter motor, switches,types, starter to engine drive and their types, Starter alternators	
		Week 4	22,23,25,26	Unit-III: Ignition System	Constructional details of coil, distributor, condenser, meaning of cam angle, ignition timing, ignition advancing mechanisms,	
	October	Week 1	3,4		centrifugal and vacuum type, transistorized ignition system, construction and working details of magneto ignition system.	
		Week 2	6,9		Constructional details of spark plugs, classification as per reach, heat range, diameter, and effect of leaded fuels, care and maintenance of spark plug	
		Week 3	13,14	Unit- IV: Lighting System	Various lighting circuits, head lamp, type and constructional details, sealed beam, double filaments, fog light, side light, brake light, instrument light, indicator lights, reversing light	
		Week 4	21,23,25		HT and LT, their specifications, cable colour codes, wiring Harness, Wiring diagrams of cars and two wheeler, Fuses, faults and rectification.	
		Week 5	27,28,30		Fuel gauges:- bimetallic and balancing coil type, Air pressure gauges, temperature gauges, warning light, wind screen wipers, horns, horn relay, electric fuel pump, Faults and rectification.	
	November	weeK 2		Unit-V: Electrical Accessorie	HOUSE TEST	
		weeK 3	10,11,13,14		Impulse Speedometer, tachometer, heaters, defrosters and Electric door locks, window actuation.	
		weeK 4	17,18,20,21		Principle and application of sensor in engine management: Air flow sensor, manifold pressure sensor, speed sensor, throttle position sensor, oxygen sensor, temperature sensor.	
		weeK 5	24,25		Revision	

LESSON PLAN

Name of Teacher :- Rishu Dhiman Subject: Two and Three Wheeler Class: 5th Semester Automobile

S. No.	Month	Week	Date	Name of Chapter	Contents to be taught	Remarks
	August	Week 2	6,7	Unit-I: Power Unit	Two stroke and four stroke SI engine, merits and demerits. Symmetrical and unsymmetrical port timing diagrams.	
		Week 3	13,14		Types of scavenging process merits and demerits, scavenging efficiency. Scavenging pumps. Rotary valve engine.	
		Week 4	20,21,23	Unit-II: Various System	Fuel system. Lubrication system. Magneto coil and battery	
		Week 5	27,28,30		Electronic Ignition system. Starting system. Kick starter system.	
	September	week 1	3,11,6	Unit-III: Chassis and Sub-Systems	Mainframe, its types. Chassis and shaft drive	
		week 2	10,11		Single, multiple plates and centrifugal clutches	
		week 3	17,18,20		Gear box and gear controls. Front and rear suspension- systems.	
		week 4	24,25,27		Shock absorbers. Panel meters and controls on handle bar.	
	October	Week 1	1	Unit-IV: Brake and Wheels	Drum brakes, Disc brakes,	
		Week 2	8,9		front and rear brake links layouts.	
		Week 3	15		Spoked wheel, Cast wheel. Disc wheel. Disc types. Tyres & tubes	
		Week 4	22,23,25	Unit-V: Two Wheelers	Case study of Major Indian models of motorcycles,	
		Week 5	29,30		Bajaj, Vespa, Lambretta scooters. Enfield, TVSSuzuki, Hero-Honda, Yamaha RX100	
	November	Week 1	1		Kawasaki Bajaj Motor cycle. Kinetic Spark,	
		Week 2			**House Test**	
		Week 3	12,13,15		Hero Majestic, TVS mopeds. Servicing and maintenance.	
		Week 4 & 5	19,20,22,26		Three Wheelers: Case study of Indian Models. Front engine and rear engine. Auto rickshaws. Pickup van , Delivery Van and Trailer.	

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Jitendar kumar

LESSON PLAN

Name of Teacher :- **Subject:** Mechatronics & Microprocessors **Class:** 5th Semester Automobile

S. No.	Month	Week	Date	Name of Chapter	Contents to be taught	Remarks
		Week 2	4,7,8	**Unit-I: Introduction**	Introduction to Mechatronics, Mechatronic system, Measurement systems, Control system- open	
	August	Week 3	11,14		Loop, Close loop and sequential, Microprocessor based controllers, The Mechatronics approach..	
		Week 4	18,21,23	**Unit-II: Sensors and Transducers**	Sensors and transducers, Performance terminology, Displacement, position and motion sensors	
		Week 5	25,28,30		Electromechanical sensors and transducers, Force sensors, Liquid flow sensors,	
	September	Week 1	1,4,5		Temperature sensors, Light sensors, Selection of sensors, Simple problems.	
		Week 2	8,11,12		Displays, Data presentation elements, Magnetic recording, Data acquisition systems,	
		Week 3	15,18,19	**Unit-III: Data Presentation Systems**	Measurement systems, Testing and calibration, Simple problems.	
		Week 4	22,25,26		Actuation systems, Pneumatic and hydraulic systems, Directional control valves,	
	October	Week 1	3		Pressure control valves, Cylinders, Process control valves, Rotary actuators	
		Week 2	6,9	**Unit- IV: Mechanical Actuation Systems**	Mechanical systems, Cams, Gear trains,	
		Week 3	13		Ratchet and pawl, Belt and chain drive	
		Week 4	23,25		Electrical systems, Mechanical switches	
		Week 5	27,30		switches, Solenoids, D.C. motors, A.C. motors, Stepper motors.	
	November	Week 2			HOUSE TEST	
		Week 3	10,13,14	**Unit-V: Microprocessors & PLC**	Microcomputer structure, Microcontrollers	
		Week 4	17,20,21		Applications, Programmable logic control.	
		Week 5	24		applications, Basic structure, input/output processing	

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Jitender Kumar

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Distt. Kangra H.P. 176096

LESSON PLAN

Name of Teacher :- Parveen Kumari **Subject:** Life Skills for Professional and Personal Life (LSPPL) **Class:** 5th Semester Auto. Engg.

Session: August 2025-December 2025

S. No.	Month	Week	Date	Name of Chapter	Contents to be taught	Remarks
1	August	2nd Week	4,7,8	Unit 1: Life Skills, Soft Skills & Interpersonal Skills:	1. Definition of Life Skills and Soft Skills 2. Significance of Life Skills and Soft Skills in Personal and Professional life	
2		3rd Week	11,14		3. Types of Soft skills and Life skills, Ways to develop Soft Skills and Life Skills.	
3		4th Week	18,21,22,23		4. Concept of Interpersonal Skills and tips to improve Interpersonal Skills 5. Meaning of Team dynamics and Tips for improving Team dynamics	
4		5th Week	25,28,29,30	Unit 2. Communication Skills	1. Meaning of Communication Skills 2. Significance and Characteristics of Assertive Communication,	
5	September	1st Week	1,4,5,6		Significance and Characteristics of Assertive Comm. 3. Techniques of Assertive Communication 4. Tips to develop Assertive Communication	
6		2nd Week	8,11,12		(A) Self Awareness: 1. Self Introspection (a) Meaning of Self awareness :Introspection, Self Reflection and Insight (b) Strategies to improve self awareness	Class test-I
7	September	3rd Week	15,18,19,20		(c) Importance of counseling and coaching 2. Stress Management (a) Meaning of Stress b) Factors causing positive and negative types of stress (c) Effects of Stress on mind and body (d) Stress Management techniques	
8		4th Week	22,25,26,27		3. Emotional Intelligence: (a) Meaning and Significance of EI (b)Strategies to develop and enhance Emotional Intelligence 4.Self-Esteem (a) Concept,Meaning and Significance of Self-Esteem	

9		5th Week	29	Unit 3.Life Skills	4. Self-Esteem (a) Concept, Meaning and Significance of Self-Esteem	
10	October	1st Week	3,4		(b) Types of Self-Esteem (c) Characteristics of people with High and Low Self -Esteem (d) and Tips for Improving Self-Esteem (B) Social Awareness: 1. Meaning and Techniques of social awareness and social skills 2. Empathy: (a) Meaning and types of Empathy (b) Benefits of Empathy (c) Steps for developing Empathy	
11		2nd Week	6,9,10		to practice Compassion. 4. Body Language: (a) Elements of Body Language (b) Develop Positive Body language that helps in building positive relationships (c) Avoiding Negative Body Language	
12		3rd Week	13			Class test-II Diwali Vacation
13		4th Week	23,24,25		(C) Thinking Skills: 1. Positive Thinking,(a) Meaning and Benefits of Positive Thinking (b) Tips to develop attitude and Practice Positive Thinking 2. Listening Skills: (a) Concept, Significance and Process of Listening Skills (b) Kinds of Listening (c) Factors hindering effective Listening (d) Tips for Active and Empathetic Listening 3.Resilience	
14		5th Week	27,30,31	Unit 4. Time Management Skills	3. Resilience: (a) Meaning and Types of Resilience (b) Case studies of Resilience 1. Concept and Significance of Time Management.	
15	November	1st Week	1		2. Benefits of Time Management,	
15		1st Week	3,6,7		3. Tools and techniques of Time Management	
16		2nd Week				House Test
17		3rd Week	17,20		4. How to overcome procrastination and avoid time-wasters	
			21,22	Unit 5. Human Values and Ethics	1. Meaning of Human values, Morals and Ethics 2. What is Value and types of values 3. Human Dignity and Humility: Meaning of Human Dignity	
18		4th Week	24		Fundamental rights of a person, Meaning of Humility, Significance of humility, Developing and cultivating humility	

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Govt. Polytechnic Talwar
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Lesson Plan
(Labs/Workshop)

Name of Teacher:- RAKESH KUMAR		Designation:-WSI	Group:- G 1 & G 2	
Name of Lab/Workshop:-SCA		Class/Branch:- 5th sem/Automobile		
Sr. No.	Description of Practical job		Date	Remarks
1	Group discussion about Job Opportunities, careers in Technical			
2	Knowledge of websites e-Pass, DTE, HPTSB, HPPSC, HPSSC.			
3	Poster making competition (Road safety rules)			
4	G.K. about H.P.			
5	Lecture on Use of mobile, Ragging etc.			
6	Practices regarding Athletics/Cultural			
7	G.K. about INDIA			
8	Poster making competition (Drugs)			
9	Declamation contest			
10	Educational field visits or Cultural Activities and Photography			

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Lesson Plan
(Labs/Workshop) (AWP-III)

Name of Teacher:- Jitender Kumar	Designation:- ~~Driver~~ Lecturer/Workshop Suptdt.
Name of Lab/Workshop:- ~~Driving Practice~~ II	Class/Branch:- 5th sem/Automobile

Sr. No.	Description of Practical job	Date	Month	Remarks
1	Study of safety equipment's for electrical vehicles.	7	August	
2	Study of electric vehicle components (Drive chain, PDU, On board charger, BCM) and fault findings	8		
3	Study of Electric Vehicle battery system, rating and drive train system in Electric Vehicle.	14		
4	Job on making the electric vehicle voltage free on two wheeler and electric vehicle.	21		
5	Job on measurement and diagnosis on electric drive motor in electric vehicle on trainer.	23		
6	Job on Removal of windows, replacement of window glass, fender and window motor mechanism.	28		
7	Diagnosis and installation of center locking connected car system and standard accessories.	30		
8	Job on removal of complete dashboard and installation	4	September	
9	Decarburizing of Engines: removing carbon deposits from engine combustion chamber, piston crown, and valve parts manually and by using engine de-	5		
10	Overhauling of Diesel engine.	11		
11	Surfacing of cylinder heads, cylinder blocks and manifolds with cylinder head re-facing machine.	12		
12	Practice in cylinder boring machine, measuring ovality and taperness of cylinder bore, using cylinder dial gauge, inside micrometer, telescopic gauge, and use of direct reading micrometer.	18		
13	Practice in honing cylinder blocks, keeping allowance of cylinder clearances.	19		
14	Inspection and practice of crankshaft, crankpin, journal grinding, main journal grinding on crankshaft grinding machine.	25		
15	Practice of cam shaft journals on line boring machine.	26		
16	Servicing of valve and valve mechanism, replacement of valves.	9,23	October	
17	Testing of fuel injector in fuel injection tester.	25		
18	Calibrations of fuel injection pump on fuel calibration machine.	30		
19	Practice on brake drum lathe, measuring ovality, skimming the brake drum.	13,14	November	
20	Practice in nozzle grinding and lapping, setting of injection pressure and nature of spray.	20,21		

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Lesson Plan
(Labs/Workshop)

Name of Teacher:- Gaurav Kumar	Designation:-~~Driver~~ Lecturer			
Name of Lab/Workshop:-Driving Practice II	Class/Branch:- 5th sem/Automobile			
Sr. No.	Description of Practical job	Date	Month	Remarks
1	Driving Techniques	5,6	August	
2	Revision	12,13		
3	Maneuver in: Passing, Merging, Diverging, Overtaking, Crossing, Turning,	19,20		
4	Use of bye pass, sub way, over bridge and fly over	26,27		
5	Difficult driving- Night driving, Hill driving, Driving under special	2,3	September	
6	Driving on highways: lane selection & lane discipline	9,10		
7	Public relations and dealing with police	16,17		
8	Fire Hazards	23,24		
9	First Aid	4,8	October	
10	Vehicle Repair & Maintenance: Break down recovery	14,21		
11	Recovery from police: accident cases	22,28,29		
12	Record keeping	11,12	November	
13	Accounting	18,19		
14	Practice on road up to 60 K.M. during the semester for each student.	25,26		

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Lesson Plan
(Labs/Workshop)

Name of Teacher:-Vikram Chand		Designation:-WSI			
Name of Lab/Workshop:-Auto Electrical		Class/Branch:- 5th sem/Automobile			
Sr. No.	**Description of Practical job**		**Day**	**Month**	**Remarks**
1	Testing of Battery with hydrometer and high rate discharge tester, charging of Batteries.		7	August	
2	Testing and measurement of ignition timing and dwell angle with timing light and cam angle tester.		14		
3	Testing, cleaning and setting of spark plug on spark plug cleaning and testing machine.		21		
4	Testing of alternator rotor and stator winding for short circuit, ground and broken circuit using alternator test bench.		28		
5	Testing and setting of horn and relay.		4	September	
6	Testing and fault tracing of field winding, armature and magnetic switch for short circuit, grounding of a starter using starter test bench.		11		
7	Identification of colour codes for continuity test in a wiring harness.		18		
8	Study and sketching of complete wiring circuit of an Indian vehicle.		25		
9	Fault tracing and diagnosis of electronic ignition system through engine car scanner.		9	October	
10	Study and demonstration of MPFI and CRDI system.		16		
11	Layout of temperature sensor circuit.		23,30		
12	Study and layout circuit of D.C. Shunt motor and stepper motor		6	November	
13	PLC basic circuits and control		13		

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