

Govt. Polytechnic Talwar
Department of Automobile Engineering
LESSON PLAN

Name of Teacher :- Rishu Dhiman Subject: Electric & Hybrid Vehicle Class: 6th Semester

S. No.	Month	Week	Date	Name of Chapter	Contents to be taught	Remarks
1	January	5th week	27,28,29	UNIT-I: Electric Vehicles:	Introduction; History of Hybrid and Electric Vehicles; Social and Environmental importance of Hybrid and Electric Vehicles;	
2	February	1st week	1,3,4,5		Components, Vehicle mechanics: Roadway fundamentals,	
3		2nd week	10,11,15		Vehicle kinetics, Dynamics of vehicle motion; Propulsion System Design.	
4		3rd week	17,18,19,22	Unit-II: Battery:	Basics: Types; Parameters: Capacity, Discharge rate, State of charge,	1st Assignment
5		4th week	24,25		State of Discharge, Depth of Discharge; Technical characteristics, Battery pack Design, Properties of Batteries.	
6	March	1st week	1,3,4,5			
7		2nd week	10,11,12,15	Unit-III: DC & AC Electrical Machines:	Motor and Engine rating; Requirements; DC machines;	2nd assignment
8		3rd week	17,18,19,22		Three phase A/c machines; Induction machines;	class test 1
9		4th week	24,25,26,29		Permanent magnet machines; Switched reluctance machines.	
10	April	1st week	1,2,5	Unit-IV: Electric Vehicle Drive Train:	Transmission configuration; Components: Gears,	
11		2nd week	7,8,9		Differential, Clutch, Brakes; Regenerative braking, Motor sizing;	
12		3rd week	16,19		Fuel efficiency analysis.	2nd class test
13		4th week	21,22,23,26	Unit-V: Hybrid Electric Vehicles	: Types: Parallel, Series, Parallel and Series	
14		5th week	28,30		configurations; Drive train;	3rd Assignment
15	May	1st week	3,		Sizing of components;	PTM
16		2nd week		House Test		
17		3rd week	13,14,17,19,20	Unit-V: Hybrid Electric Vehicles	Basics of Micro, Mild, Mini, Plug in and Fully hybrid.	
18		4th week	21,24,26,27,28		Revision	

Signature of HOD

Signature of Teacher

Govt. Polytechnic Talwar
Department of Automobile Engineering
LESSON PLAN

Name of Teacher :- Dhiraj Gupta Subject: Industrial Engineering Class: 6th Semester

S. No.	Month	Week	Date	Name of Chapter	Contents to be taught	Remarks
1	January	5th week	27,28,29,30	UNIT-I: Plant Engineering:	Plant; Selection of site of industry; Plant layout; Principles of a good layout; Types; Process; Product and Fixed position; Techniques to improve Layout;	
2	February	1st week	3,4,5,6		Principles of Material handling equipment; Plant maintenance; Importance; Break down maintenance; Preventive maintenance and Scheduled maintenance	
3		2nd week	10,11,13		Plant Safety: Importance; Accident: Causes and Cost of an Accident, Accident Proneness, Prevention of Accidents; Industrial disputes; Settlement of Industrial disputes; Collective bargaining; Conciliation; Mediation: Arbitration	
4		3rd week	17,18,19,20		; Indian Factories Act 1948 and its provisions related to health, welfare and safety.	1st Assignment
5		4th week	24,25,27		Productivity; Methods of improving Productivity, Importance of good working conditions. Method Study: Definition; Objectives; Selection of a job for method study;	
6	March	1st week	3,4,5,6	UNIT-II: Work Study:	Basic procedure for conduct of Method study; Tools used; Operation process chart; Flow process chart; Two handed process chart; Man Machine chart; String diagram and flow diagram. Work Measurement:	
7		2nd week	10,11,12,13		Definition; Basic procedure in making a time study; Employees rating factor; Application of time allowances: Rest, Personal, Process, Special and Policy allowances; Calculation of standard time; Numerical Problems; Basic concept of production study;	2nd assignment
8		3rd week	17,18,19,20		Techniques of Work Measurement; Ratio delay study; Synthesis from standard data; Analytical estimating and Pre determined Motion Time System (PMTS).	class test 1
9		4th week	24,25,26,27		: Introduction; Major functions of Production Planning and Control; Pre planning; Methods of forecasting; Routing and Scheduling; Dispatching and Controlling; Concept of Critical Path Method (CPM);	
10	April	1st week	1,2,3	UNIT-III: Production Planning and Control	Types of Production: Mass Production, and Job Order Production; Characteristics; Economic Batch Quantity (EBQ); Principles of Product and Process Planning; Make or Buy decision; Numerical problems	
11		2nd week	7,8,9,10		Quality Control: Definition; Objectives; Types of Inspection: First piece, Floor and Centralized Inspection; Advantages and Disadvantages; Statistical Quality Control; Types of Measurements; Method of Variables;	

12	April	3rd week	16,17	UNIT-III: Production Planning and Control	Method of Attributes; Uses of X, R, p and c charts; Operating Characteristics curve (O.C curve); Sampling Inspection; Single and Double Sampling plan; Concept of ISO 9001:2008 Quality Management System Registration/Certification procedure; Benefits of ISO to the organization.	2nd class test
13		4th week	21,22,23,24	UNIT-IV: Principles of Management:	Definition of Management; Administration; Organization; F.W. Taylor's and Henry Fayol's Principles of Management; Functions of Manager; Types of Organization: Line, Staff, Taylor's Pure functional types; Line and staff and committee type; Directing; Leadership; Styles of Leadership; Qualities of a good leader; Motivation; Positive and Negative Motivation; Modern Management Techniques; Just In Time;	
14		5th week	28,30		Total Quality Management (TQM); Quality circle; Zero defect concept; 5S Concept; Management Information Systems. Personnel Management: Responsibility of Human Resource Management; Selection Procedure; Training of Workers; Apprentice Training; On the Job training and Vestibule School Training; Job Evaluation and Merit Rating; Objectives	3rd Assignment
15	May	1st week	1,		Importance; Wages and Salary Administration; Components of Wages; Wage Fixation; Type of Wage Payment: Halsey's 50% Plan, Rowan's Plan and Emerson's efficiency plan; Numerical Problems.	PTM
16		2nd week		House Test		
17		3rd week	13,14,15,19,20,	UNIT-V: Financial Management:	Fixed and Working Capital; Resources of Capital; Shares Preference and Equity Shares; Debentures; Type of debentures; Public Deposits; Factory Costing: Direct Cost; Indirect Cost; Factory Overhead; Selling Price of a product; Profit; Numerical Problems; Depreciation; Causes; Methods: Straight line, sinking fund and percentage on Diminishing Value Method;	
18	4th week	21,22,26,27,28	Numerical Problems. Material Management: Objectives of good stock control system; ABC analysis of Inventory; Procurement and Consumption cycle; Minimum Stock, Lead Time, Reorder Level-Economic Order Quantity problems; Supply Chain			

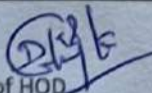
Signature of HOD

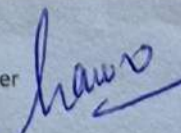
Signature of Teacher

Govt. Polytechnic Talwar
Department of Automobile Engineering
LESSON PLAN

Name of Teacher :- Gaurav Puwari Subject: Entrepreneurship & Start Ups Class: 6th Semester

S. No.	Month	Week	Date	Name of Chapter	Contents to be taught	Remarks
1	January	5th week	27,29,31	UNIT 1 - Introduction to Entrepreneurship and Start-Ups	Definitions, Traits of an entrepreneur, Intrapreneurship, Motivation.	
2	February	1st week	1,3,5,7		Types of Business Structures, Similarities/differences between entrepreneurs and managers.	
3		2nd week	10,14,15	UNIT 2 - Business Ideas and their implementation	Discovering ideas and visualizing the business	
4		3rd week	17,19,21,22		Activity map Business Plan	1st Assignment
5		4th week	24,28	UNIT 3 - Idea to Start-up	Market Analysis-Identifying the target market,	
6		1st week	1,3,5,7		Competition evaluation and Strategy Development,	
7	2nd week	10,12,15	Marketing and accounting,		2nd assignment	
8	3rd week	17,19,21,22	Risk analysis		class test 1	
9	April	4th week	24,26,28,29	UNIT 4 -Management	Company's Organization Structure,	
10		1st week	2,4,5		Recruitment and management of talent.	
11		2nd week	7,9,11		Financial organization and management	
12		3rd week	16,19	UNIT 5-Financing and Protection of Ideas	Financing methods available for start-ups in India	2nd class test
13		4th week	21,23,25,26		Communication of Ideas to potential investors-Investor Pitch	
14	5th week	28,30	Patenting and Licenses	3rd Assignment		
15	May	1st week	2,3	UNIT 6 -Exit strategies for entrepreneurs,	bankruptcy,	PTM
16		2nd week		House Test		
17		3rd week	14,16,17,19,21	UNIT 6 -Exit strategies for entrepreneurs,	succession	
18		4th week	23,24,26,28		harvesting strategy.	

Signature of HOD 

Signature of Teacher 

Govt. Polytechnic Talwar
Department of Automobile Engineering
LESSON PLAN

Name of Teacher :- Meenakshi Saini Subject: Technical Communication (OE) Class: 6th Semester

S. No.	Month	Week	Date	Name of Chapter	Contents to be taught	Remarks	
1	January	5th week	27,30,31	Unit 1: Fundamentals of Technical Communication	1. Language as a tool of Communication 2. Features of Technical Communication		
2	February	1st week	1,3,6,7		3. Distinction between General and Technical Communication		
3		2nd week	10,13,14,15		4. Channels of Communication at workplace: Downward, Upward, Lateral or Horizontal, Diagonal, Grapevine, Consensus 5. Barriers to Communication and overcoming barriers		
4		3rd week	17,20,21,22		1. Types of Technical writing	1st Assignment	
5		4th week	24,27,28		2. Drafting skills: Agenda and Minutes of Meetings, Official and Business Correspondence		
6	March	1st week	1,3,6,7	Unit 2. Technical Writing	3. Different formats of Report writing		
7		2nd week	10,13,15		4. Basics of Grammar: Spotting errors in sentences (Noun, Pronoun, Verb, Adverb, Adjective, Preposition, Conjunction, Article, Modals, Tenses, Punctuation)	2nd assignment	
8		3rd week	17,20,21,22		5. Resume Writing and Covering letter	class test 1	
9		4th week	24,27,28,29		1. Concept and Significance of Presentation skills		
10	April	1st week	3,4,5	Unit 3. Presentation Skills	2. Steps of a Effective Presentation 3. Elements of Effective Presentation skills, including public speaking Clarity of substance; Emotion, Humour, Overcoming Fear, Confident speaking, Audience Analysis and Retention of audience interest		
11		2nd week	7,10,11		4. How to improve Presentation Skills	2nd class test	
12		3rd week	17,19		1. What are Speaking Skills and Characteristics of a Good Speech 2. What is Panel Discussion and its procedure		
13		4th week	21,24,25		3. Job Interview Skills: What to do Before, After and During Interview	3rd Assignment	
14	May	5th week	26,28	Unit 4. Speaking skills	4. Body Language Examples and their Meanings-Positive and Negative. Body language for Interviews	PTM	
15		1st week	1,2,3		House Test		
16		2nd week			Unit 4. Speaking skills	5. Difference between Etiquettes and Manners, Table Etiquettes, Business Etiquettes, Telephone Etiquettes, Dressing Etiquettes and Workplace Etiquettes, How to get along with opposite Gender	
17		3rd week	15,16,17,19			6. What are the elements of Voice	
18		4th week	22,23,24,26				

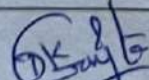
DK Saini
Signature of HOD

Meenakshi Saini
Signature of Teacher

Govt. Polytechnic Talwar
Department of Automobile Engineering
LESSON PLAN

Name of Teacher :- Nidhi Katoch Subject: Composites, Sciences & Technology (OE) Class: 6th Semester

S. No.	Month	Week	Date	Name of Chapter	Contents to be taught	Remarks
1	January	5th week	29,30,31	1. Introduction:	Definition – Classification and characteristics of Composite materials. terminology used in fiber science,	
2	February	1st week	1,5,6,7		Advantages and application of composites. Introduction to composite materials:	
3		2nd week	13,14,15		General characteristics of reinforcement-classification.	
4		3rd week	19,20,21,22	Thermoplastic and thermosetting resins; Commonly used matrix reinforcement system;	1st Assignment	
5		4th week	27,28	Fibre, Flake and particulate reinforced composites,		
6	March	1st week	1,5,6,7	2 Polymer matrix composites:	Reinforcements used in PMC's glass, carbon, aramids, boron,	
7		2nd week	12,13,15	Roving's, yarns, fabrics, etc.; Thermoset matrices for aerospace components-polyesters,	2nd assignment	
8		3rd week	19,20,21,22	epoxies, phenolics, vinyl esters, cyanate esters, etc.;	class test 1	
9		4th week	26,27,28,29	Composites for satellites and advanced launch vehicles,		
10	April	1st week	2,3,4,5	3 Specialty composites:	Design considerations PMC for structural composites, Silicon carbide composites, design, processing and properties	
11		2nd week	9,10,11	Carbon-Carbon composites: Matrix precursors, Manufacturing considerations, Nanocomposites: Nano particle dispersion in polymer matrix,		
12		3rd week	16,17,19	Polymer- nanoclay composites and polymer-carbon nanotubes composites.	2nd class test	
13		4th week	23,24,25	4 Manufacturing techniques:	Hand lay-up, Filament winding, Pultrusion, Resin transfer molding,	
14	5th week	26,30	Processing science of reactive polymer composites, Process steps for production, Selection of processing conditions toolings,		3rd Assignment	
15	May	1st week	1,2,3	Equipments, Carbon-carbon composites, Processing, Thermal and mechanical properties, Quality control.	PTM	
16		2nd week		House Test		
17		3rd week	14,15,16,17	5 Testing of composites:	Raw material testing. Property evaluation at laminate level,	
18		4th week	21,22,23,24,28		NDT techniques.	


Signature of HOD


Signature of Teacher

Govt. Polytechnic Talwar
Department of Automobile Engineering
LESSON PLAN

Name of Teacher :- Kharatti Lal

Subject: Indian Constitution

Class: 6th Semester

S. No.	Month	Week	Date	Name of Chapter	Contents to be taught	Remarks
1	January	5th week	27,28	Unit 1 Introduction to Constitution:	History of making of the Indian Constitution. Meaning and Importance of the Constitution.	
2	February	1st week	3,4		Salient features and Preamble of Indian Constitution.	
3		2nd week	10,11		Fundamental rights- meaning and limitations. Directive principles of state policy and Fundamental duties -their enforcement and their relevance.	
4		3rd week	17,18	Unit 2 Union Government:	Structure of Union Government. Union Executive- President, Vice-president, Prime Minister, Council of Ministers.	1st Assignment
5	4th week	24,25	Union Legislature- Parliament and Parliamentary proceedings.			
6	March	1st week	3,4,	Unit 3 State and Local Governments:	Union Judiciary-Supreme Court of India – composition and powers and function.	
7		2nd week	10,11		Structure of State Government. state Executive- Governor, Chief Minister, Council of Ministers.	2nd assignment
8		3rd week	17,18		State Legislature-State Legislative Assembly and State Legislative Council.	class test 1
9		4th week	24,25		State Judiciary-High court.	
10	April	1st week	1,	Unit 4 Election provisions, Emergency provisions, Amendment of the constitution	Local Government-Panchayat raj system with special reference to 73rd and Urban Local Self Govt. with special reference to 74th Amendment.	
11		2nd week	7,8		Election Commission of India-composition, powers and functions and electoral process.	2nd class test
12		3rd week	21,22		Types of emergency-grounds, procedure, duration and effects.	3rd Assignment
13	May	4th week	24,	Amendment of the constitution	Amendment of the constitution- meaning,	PTM
14		5th week	28,		House Test	
15		1st week	2,			procedure and limitations.
16		2nd week			Revision	
17	3rd week	13,19				
18	4th week	20,26,27				

Signature of HOD

Signature of Teacher