

LESSON PLAN

Name of Faculty: HD/SG

Discipline: AUTOMOBILE ENGG

Semester: VI

Subject: EDM

Lesson plan Duration: 15 WEEKS

Work Load (Lecture/Practical) per week: 3 PERIODS

WEEK	THEORY	
	LECTURE NOS	TOPIC
1 ST	1	UNIT-1. Introduction to EDM
	2	Concept /Meaning and its need
	3	Qualities and functions of entrepreneur and barriers in entrepreneurship
2 ND	4	Sole proprietorship and partnership forms of business organisations
	5	Schemes of assistance by entrepreneurial support agencies at National, State
	6	SFC's TCO, KVIB, DIC, Technology Business Incubator (TBI)
3 RD	7	Science and Technology Entrepreneur Parks (STEP).
	8	District level: NSIC, NRDC, DC:MSME, SIDBI
	9	NABARD, Commercial Banks
4 TH	10	Assessment of demand and supply in potential areas of growth
	11	UNIT-2. Market Survey and Opportunity Identification
	12	Scanning of business environment
5 TH	13	Salient features of National and State industrial policies and resultant business opportunities
	14	Considerations in product selection Types and conduct of market survey
	15	Sessional Test-1
6 TH	16	Identifying business opportunity
	17	Types of market survey
	18	Conduct of market survey
7 TH	19	UNIT-3. Preliminary project report
	20	Project report Preparation
	21	Detailed project report including technical, economic and market

		feasibility
8 TH	22	Common errors in project report preparations
	23	Exercises on preparation of project report
	24	UNIT-4. Introduction to Management
9 TH	25	Definitions and importance of management □ Functions of management: Importance and Process of planning, organising, staffing, directing and controlling
	26	Types of industrial organizations: Line organization, Line and staff organization, Functional Organisation
	27	Principles of management (Henri Fayol, F.W. Taylor) Concept and structure of an organisation
10 TH	28	UNIT-5: Leadership and Motivation Leadership: Definition and Need
	29	Qualities and functions of a leader, Motivation: Definitions and characteristics
	30	Sessional Test- 2
11 TH	31	Factors affecting motivation
	32	Manager Vs leader
	33	Types of leadership
12 TH	34	Theories of motivation (Maslow, Herzberg, McGregor)
	35	UNIT-6: Management Scope in Different Areas Human Resource Management : Introduction and objective, Introduction to Man power planning, recruitment and selection Introduction to performance appraisal methods
	36	Material and Store Management: Introduction functions, and objectives,
13 TH	37	ABC Analysis and EOQ
	38	Marketing and sales: Introduction, importance, and its functions
	39	Physical distribution, Introduction to promotion mix, Sales promotion
14 TH	40	Financial Management :Introductions, importance and its functions
	41	Elementary knowledge of income tax, sales tax, excise duty, custom duty and VAT
	42	UNIT-7: Miscellaneous Topics Customer Relation Management (CRM), Definition and need,Types of CRM
15 TH	43	Total Quality Management (TQM) :Statistical process control, Total employees Involvement, Just in time (JIT)
	44	Intellectual Property Right (IPR) :Introductions, definition and its importance, Infringement related to patents, copy right, trade mark
	45	Sessional Test-3

LESSON PLAN

Name of Faculty: Dr. HARIPAL DHARIWAL

Discipline: AUTOMOBILE ENGG. Semester: VI

Subject: MOTOR VEHICLE ACT AND TRANSPORT MANAGEMENT

Lesson plan Duration: 15 WEEKS

Work Load (Lecture/Practical) per week: THEORY-3 PERIODS

WEEK	THEORY	
	LECTURE NO.	TOPIC
1 ST	1	UNIT 1: Garage location, layout and types, and change work procedure and record Location of garage/selection of site of garage
	2	Layout of garage, Types of garage
	3	Inspection of faulty vehicle, Estimation of repair
2 ND	4	Testing and test reports, Costing and billing
	5	Job control system, Work – order or job card
	6	UNIT 2: Garage stores Definition, Purpose of store keeping, Function of store keeping
3 RD	7	Location of store
	8	Layout of store
	9	Bin card, Store organisation
4 TH	10	Procurement of store,
	11	Advantage of good store – keeping and recording
	12	Prevention of pilferage of store
5 TH	13	UNIT 3: Insurance of vehicle
	14	Meaning and necessity of vehicle insurance, Types of vehicle insurance
	15	Sessional Test-1
6 TH	16	Duties of surveyor
	17	Duties of driver in case of accident and injury to a person
	18	Relation between surveyor and insurance cooperation
7 TH	19	Procedure to get accidental claim and compensation

	20	UNIT 4: Driving And Highway Code Principle of driving, Driving procedure
	21	Driving in abnormal conditions, like hilly area, night, fog, heavy traffic and rain
8TH	22	Driving precautions, Emergency Driving situations
	23	Driving License - purpose, importance and requirements
	24	Procedure to get driving license
9TH	25	Different types of driving license
	26	Highway code – types with sketches with colour code
	27	UNIT 5: Transport Management History of transport with special reference to road transport in India, Modes of Road transport
10TH	28	Accounts and books, Different types of cards and their use in maintaining service station records
	29	Service station and its functions, General layout of modern service station, Spare parts section and dealership service section
	30	Sessional Test-2
11TH	31	Structure of fleet organization, State transport - optimum utilization of fleet
	32	Roadworthiness requirement of vehicle
	33	Analysis of Accident, Economy of replacement
12TH	34	Causes, and prevention of Road Accident
	35	Maintenance of logbook, History sheet,
	36	UNIT 6: Motor Vehicle Act Definitions, Salient features of motor vehicle act
13TH	37	Licensing of drivers and conductors of motor vehicles
	38	Registration of old and new vehicles, Transfer of vehicle – local and state to state
	39	Traffic offences, penalties procedure, Imposition of penalties of violation of rules
14TH	40	Fitness of vehicle – meaning and purpose, provision in the act
	41	Vehicle permit – different types
	42	Different documents required for driving license
15TH	43	Different documents required for transfer of vehicle
	44	Different documents required for registration of vehicle
	45	Sessional Test-3

LESSON PLAN

Name of Faculty: DR. SANJAY GUPTA

Discipline: AUTOMOBILE ENGINEERING

Semester: VI

Subject: TRACTOR AND SPECIAL PURPOSE VEHICLES

Lesson plan Duration: 15 WEEKS

Work Load (Lecture/Practical) per week: THEORY-3

WEEK	THEORY	
	LECTURE NO.	TOPIC
1ST	1	UNIT 1: Tractors Classification of tractors
	2	Main tractor assemblies, types of engine used
	3	Basics trends in tractor design
	4	Human factor in tractor design
2ND	5	Tractor stability, weight performance
	6	Forces acting on a tractor on move, parallel pull and rolling resistance
	7	Applications of tractors
3RD	8	UNIT 2: Tractor Chassis: Types of clutch used in tractors
	9	Transmission system layout
	10	Final drive, reduction gear
4TH	11	Tractor brake system
	12	Operator seat design
	13	Draw bar working

	14	UNIT 3. Supplementary System Power take off shaft
	15	Sessional Test-1
6TH	16	Double clutch system
	17	Belt pulley drive
	18	Traction control unit
7TH	19	Three point linkages
	20	UNIT 4: Tractor Wheels and Tyres Salient features of wheels and tyres
	21	Wheel base/wheel tracks, height of frame, ground clearance
8TH	22	Specifications of wheels and tyres
	23	Dual versus tandem tyres
	24	Effect of tyre inflation
9TH	25	Tread design
	26	Differential lock
	27	Hydraulic system Functions of hydraulic system
10TH	28	UNIT 5: Hydraulic system layout
	29	Various components of hydraulic system and their functions
	30	Sessional Test-2
11TH	31	Methods of attaching implements
	32	Various control systems – depth control, position control
	33	Draft control system – manual
12TH	34	Draft control system – automatic, combination control
	35	Working of hydraulic control levers
	36	Other uses of hydraulic control system

13TH	37	UNIT 6: Special purpose vehicle Description and working principle of Bull Dozer
	38	Description and working principle of Cranes
	39	Description and working principle of Front end loader
14TH	40	Description and working principle of Fire station vehicle
	41	UNIT 7: Repair and Maintenance Faults and their rectification in tractor
	42	Maintenance of tractor
15TH	43	Selection criteria of a tractor
	44	Prominent makes of Indian tractors
	45	Sessional Test-3

LESSON PLAN

Name of Faculty: MB / M

Discipline: AUTOMOBIL ENGINEERING

Semester: VI

Subject: INDUSTRIAL ENGINEERING

Lesson plan Duration: 15 WEEKS

Work Load (Lecture/Practical) per week: 4 periods

WEEK	THEORY	
	LECTURE NO.	TOPIC
1 ST	1	UNIT 1: Productivity
	2	Measurement of productivity
	3	Introduction to productivity, factors affecting productivity,
	4	Causes of low productivity
2 ND	5	Methods to improve productivity
	6	Revision, Checking of class work and home assignment
	7	UNIT 2: Work Study: Definition and scope of work study;
	8	Human aspects of work study
3 RD	9	Method study
	10	Role of work study in improving productivity
	11	Revision, Checking of class work and home assignment
	12	Work measurement
4 TH	13	UNIT 3: Objectives of Method Analysis
	14	Procedure for Method analysis
	15	Recording techniques.
	16	Information collection
5 TH	17	Sessional Test-1
	18	UNIT 4 :Motion Analysis
	19	Principles of Motion analysis
	20	Therbligs and SIMO charts
6 TH	21	Ergonomics
	22	Revision, Checking of class work and home assignment
	23	Normal work area and design of work places.
	24	UNIT 5 : Work measurement
7 TH	25	Objectives; work measurement techniques,
	26	Stop watch, time study; principle

	27	Equipment used and procedure;
	28	Systems of performance rating
8 TH	29	Calculation of basic times
	30	Various allowances
	31	Calculation of standard time,
	32	Data and its usage.
9 TH	33	Work sampling,
	34	Revision, Checking of class work and home assignment
	35	UNIT 6 : Introduction to wages
	36	Wages and Incentive Schemes
10 TH	37	Sessional Test-2
	38	Wage payment for direct and indirect labour,
	39	Wage payment plans and incentives,
	40	Various incentive plans,
11 TH	41	Incentives for indirect labour continued
	42	Incentives for indirect labour.
	43	Revision, Checking of class work and home assignment
	44	UNIT 7 : Production Planning and Control
12 TH	45	Introduction,
	46	Objectives and components (functions) of P.P.C,
	47	Objectives and components (functions) of P.P.C. contd..
	48	Advantages of production planning Production Control,
13 TH	49	Advantages of production planning Production Control contd..
	50	Stages of P.P.C,
	51	Stages of P.P.C. contd..
	52	Process planning,
14 TH	53	Scheduling,
	54	Routing,
	55	Route Sheets
	56	Routing purpose,
15 TH	57	Dispatching and follow up,
	58	Revision, Checking of class work and home assignment
	59	Revision, Checking of class work and home assignment
	60	Sessional Test-3

LESSON PLAN

Name of Faculty: PAWAN CHAWLA

Discipline: AUTOMOBILE ENGINEERING

Semester: VI

Subject: EMPLOYABILITY SKILLS - II

Lesson plan Duration: 15 WEEKS

Work Load (Lecture/Practical) per week: 2

WEEK	PRACTICAL	
	PRACTICAL DAY	TOPIC
1 ST	1	Mock Interview concept, benefits
2 nd	2	Holding Mock interview
3 RD	3	How to face interview
4 TH	4	Preparing for meeting, agenda preparation
5 TH	5	Holding meeting, preparing minute of meeting
6 TH	6	Preparation for group discussion, Taking turns
7 TH	7	Group discussion – concept, types of group discussion
8 TH	8	Holding group discussion
9 TH	9	Seminar preparation
10 TH	10	Holding seminars
11 TH	11	Presentation : Elements of good presentation
12 TH	12	Structure and tools of presentation
13 TH	13	Paper reading
14 TH	14	Power point presentation
15 TH	15	Viva voce and evaluation

LESSON PLAN

Name of Faculty: RAJENDER SINGH

Discipline: AUTOMOBILE ENGG.

Semester: VI

Subject: FAULT DIAGNOSIS AND TESTING LAB

Lesson plan Duration: 15 WEEKS

Work Load (Lecture/Practical) per week: 5 PERIODS (3+2)

WEEK	PRACTICAL	
	PRACTICAL DAY	TOPIC
1 ST	1	Practical 1: Basic electrical checks:- Battery connections, electrical bulbs and units, circuit protection devices and wiring connections (Theory, demonstration, groupwise practice and observation)
	2	Practical 1: Checking of practical file, viva and evaluation
2 ND	3	Practical 2: Testing of battery:- Specific gravity test, high rate discharge test, open circuit voltage test; charging of battery (Theory, demonstration, groupwise practice and observation)
	4	Practical 2: Checking of practical file, viva and evaluation
3 RD	5	Practical 3: Testing and setting of ignition timing, cam angle (Theory, demonstration, groupwise practice and observation)
	6	Practical 3: Checking of practical file, viva and evaluation
4 TH	7	Practical 4: Testing of field winding of alternator and armature of starter motor for open circuit, short circuit and earthing (Theory, demonstration, groupwise practice and observation)
	8	Practical 4: Checking of practical file, viva and evaluation
5 TH	9	Practical 5: Engine testing and finding out fuel consumption (Theory, demonstration, groupwise practice and observation)
	10	Practical 5: Checking of practical file, viva and evaluation
6 TH	11	Practical 6: Diagnosing battery ignition system (Theory, demonstration, groupwise practice and observation)
	12	Practical 6: Checking of practical file, viva and evaluation
7 TH	13	Practical 7: Diagnosing and rectifying high oil consumption (Theory, demonstration, groupwise practice and observation)
	14	Practical 7: Checking of practical file, viva and evaluation
8 TH	15	Practical 8: Diagnosing and rectifying high fuel consumption (Theory, demonstration, groupwise practice and observation)

	16	Practical 8: Checking of practical file, viva and evaluation
9TH	17	Practical 9: Diagnosing and rectifying engine noises and knocks (Theory, demonstration, groupwise practice and observation)
	18	Practical 9: Checking of practical file, viva and evaluation
10TH	19	Practical 10: Diagnosing and rectifying engine starting troubles (Theory, demonstration, groupwise practice and observation)
	20	Practical 10: Checking of practical file, viva and evaluation
11TH	21	Practical 11: Diagnosing and rectifying engine running faults (Theory, demonstration, groupwise practice and observation)
	22	Practical 11: Checking of practical file, viva and evaluation
12TH	23	Practical 12: Diagnosing and rectifying engine overheating (Theory, demonstration, groupwise practice and observation)
	24	Practical 12: Checking of practical file, viva and evaluation
13TH	25	Practical 13: Measuring of bore for wear, ovality and taperness (Theory, demonstration, groupwise practice and observation)
	26	Practical 13: Checking of practical file, viva and evaluation
14TH	27	Practical 14: Inspection of crankshaft - bearing replacement and setting of journal bearings, crank pin bearings and crank shaft bearings, measuring bearing clearances by gauges (Theory, demonstration, groupwise practice and observation)
	28	Practical 14: Checking of practical file, viva and evaluation
15TH	29	Practical 15: Demonstration of body repair techniques (Theory, demonstration, groupwise practice and observation)
	30	Practical 15: Checking of practical file, viva and evaluation

LESSON PLAN

Name of Faculty: RS/PC/M

Discipline: AUTOMOBILE ENGG.

Semester: 6TH

Subject: DRIVING PRACTICE

Lesson plan Duration: 15 WEEKS

Work Load (Lecture/Practical) per week: PRACTICAL-5 (3+2)

WEEK	PRACTICAL	
	PRACTICAL DAY	TOPIC
1 ST	1	Driving practice on road to gain proficiency
	2	Driving practice on road to gain proficiency
2 ND	3	Driving practice on road to gain proficiency
	4	Driving practice on road to gain proficiency
3 RD	5	Driving practice on road to gain proficiency
	6	Driving practice on road to gain proficiency
4 TH	7	EVALUATION
	8	EVALUATION
5 TH	9	Maneuver in: Passing, Merging, Diverging,
	10	Maneuver in: Passing, Merging, Diverging,
6 TH	11	Maneuver in: Passing, Merging, Diverging
	12	Maneuver in: Passing, Merging, Diverging
7 TH	13	EVALUATION
	14	EVALUATION

8TH	15	Maneuver in: Overtaking, Crossing, Turning,
	16	Maneuver in: Overtaking, Crossing, Turning,
9TH	17	Maneuver in: Overtaking, Crossing, Turning,
	18	Maneuver in: Overtaking, Crossing, Turning,
10TH	19	EVALUATION
	20	EVALUATION
11TH	21	Maneuver in: Cornering, Reversing and Emergency stopping
	22	Maneuver in: Cornering, Reversing and Emergency stopping
12TH	23	Maneuver in: Cornering, Reversing and Emergency stopping
	24	Maneuver in: Cornering, Reversing and Emergency stopping
13TH	25	EVALUATION
	26	EVALUATION
14TH	27	Driving on gradient
	28	Driving on gradient
15TH	29	Driving during abnormal conditions like rain and fog
	30	EVALUATION

LESSON PLAN

Name of Faculty: RAJENDER SINGH

Discipline: AUTOMOBILE ENGG.

Semester: VI

Subject: OVERHAULING LAB

Lesson plan Duration: 15 WEEKS

Work Load (Lecture/Practical) per week: 5 PERIODS (3+2)

WEEK	PRACTICAL	
	PRACTICAL DAY	TOPIC
1ST	1	Practical 1: Diagnosing the engine for overhauling (Theory, demonstration, groupwise practice and observation)
	2	Practical 1: Checking of practical file, viva and evaluation
2ND	3	Practical 2: Removal of engine from vehicle (Theory, demonstration, groupwise practice and observation)
	4	Practical 2: Checking of practical file, viva and evaluation
3RD	5	Practical 3: Dismantling of engine. (Theory, demonstration, groupwise practice and observation)
	6	Practical 3: Checking of practical file, viva and evaluation
4TH	7	Practical 4: Overhauling of petrol engine (Theory, demonstration, groupwise practice and observation)
	8	Practical 4: Checking of practical file, viva and evaluation
5TH	9	Practical 5: Overhauling of diesel engine (Theory, demonstration, groupwise practice and observation)
	10	Practical 5: Checking of practical file, viva and evaluation
6TH	11	Practical 6: Decarbonising of engine blocks, combustion chamber, piston crown and valve parts (Theory, demonstration, groupwise practice and observation)
	12	Practical 6: Checking of practical file, viva and evaluation
7TH	13	Practical 7: Surfacing of cylinder heads, cylinder blocks and manifolds on cylinder head refacing machine (Theory, demonstration, groupwise practice and observation)
	14	Practical 7: Checking of practical file, viva and evaluation
8TH	15	Practical 8: Replacing of piston and piston rings – removal and refitting (Theory, demonstration, groupwise practice and observation, Checking of practical file, viva and evaluation)

	16	Practical 9: Practice on cylinder boring machine (Theory, demonstration, groupwise practice and observation, Checking of practical file, viva and evaluation)
9TH	17	Practical 10: Practice in fitting cylinder liners- sleeving and desleeving. (Theory, demonstration, groupwise practice and observation)
	18	Practical 10: Checking of practical file, viva and evaluation
10TH	19	Practical 11: Testing and aligning of connecting rod (Theory, demonstration, groupwise practice and observation)
	20	Practical 11: Checking of practical file, viva and evaluation
11TH	21	Practical 12: Overhauling of valves and valve mechanism (Theory, demonstration, groupwise practice and observation)
	22	Practical 12: Checking of practical file, viva and evaluation
12TH	23	Practical 13: Overhauling of gear box (Theory, demonstration, groupwise practice and observation)
	24	Practical 13: Checking of practical file, viva and evaluation
13TH	25	Practical 14 Overhauling of differential and propeller shaft (Theory, demonstration, groupwise practice and observation)
	26	Practical 14: Checking of practical file, viva and evaluation
14TH	27	Practical 15: Overhauling of wheels and axles (Theory, demonstration, groupwise practice and observation)
	28	Practical 16: Overhauling of brakes (Theory, demonstration, groupwise practice and observation)
15TH	29	Practical 17: Overhauling of clutch (Theory, demonstration, groupwise practice and observation)
	30	Checking of practical file, viva and evaluation