GATEWAY INSTITUE OF ENGINEERING & TECHNOLOGY,SONEPAT

Name of the Faculty :Mr. NAVNEET RAJ (Theory + Practical)

Discipline : MECHANICAL ENGINEERING

Semester :6TH

Subject : AUTOMOBILE ENGINEERING

Lesson Plan Duration:16 WEEKS(JAN TO APRIL)

Work Load (L/P) per Week (in hours): L-03, P-02

WEEK	THEORY		PRACTICAL	
	LECTURE DAY	TOPIC (INCLUDING ASSIGNMENT,TEST)	PRACTICAL DAY	TOPIC
1st	1	Introduction,	1st	Fault and their remedies in (i) Battery Ignition system (ii) magnetic Ignition system.
	2	Automobile and its development		
	3	Various types of automobiles manufactured in India.		
2nd	4	Layout of chassis	2nd	Demonstration of (i) Head Light Model (ii) Wiper and Indicators
	5	Fuel systems for petrol		
	6	Diesel engines including multi point fuel injection (MPFI),		
3rd	7	Common rail direct injection (CRDI),	3rd	Revision
	8	Fuel injectors and nozzles.(test)		
	9	Comparison of MPFI with carburetor system.		
4th	10	Concept of double overhead cam,	4th	Demonstration of (i) AC Pump (ii) SU Pump (iii) Master Cylinders.
		single overhead cam,(Assignment)		
	11	Twin cam 16 valve technology in 4 cylinder engine.		
5th	16	Clutch - Function, Constructional details of single plate and multiplate friction clutches,	5th	Demonstration of (i) AC Pump (ii) SU Pump (iii) Master Cylinders.
	17	Centrifugal and semi centrifugal clutch,		
	18	Hydraulic clutch (Test)		
6th	19	Gear Box - Function, Concept of sliding mesh,	6th	Revision
	20	constant mesh(Assignment)		
	21	Synchromesh gear box, Torque converter and overdrive		
7th	23	Types of drives – Front wheel, Rear wheel, Four Wheel.	7th	Fault finding practices on an automobile - four wheelers (petrol/ diesel vehicles)
	24	Function of Propeller shaft,		
	25	Universal joint,		
8th	27	Differential (Test)	8th	Tuning of an automobile engine.
	28	Different types of Rear axles and Front Axles.		
	29	Wheels and Tyres - Types of wheels, Types		
9th	31	Specifications of tyres used in Indian vehicles,	9th	Revision
	32	Wheel balancing (Assignment)		
	33	Function and principle of Ackerman		
10th	35	Davis steering mechanism	9th	Driving practice on a 4-wheeler.
	36	Types of steering gear boxes – Worm and nut		
	37	Worm and wheel, worm and roller, rackand		

11th	39	Power steering system	11th	Charging of an automobile battery and measuring cell voltage and specific gravity of electrolyte
	40	Alignment of wheels – Toe in, toe out		
	41	Camber , caster, kingpin inclination		
12th	42	Constructional details and working of mechanical,	12th	Changing of wheels and inflation of tyres, balancing of wheels.
	43	Hydraulic brake. Concept of air and vacuum brake		
	44	Brake adjustment		
13th	45	Introduction to Anti (Test)	13th	Revision
	46	Lock brake systemAnti lock its working.		
	47	Suspension System Function		
14th	48	Suspension System Types	14th	Checking spark gap and valve clearance
	49	Working of coil spring		
	50	Leaf spring.(Test)		
15th	51	Concept of Air suspensionShock absorber.	15th	Cleaning and adjusting a carburetor.
	52	Constructional details of lead acid cell battery		
	53	Maintenance of batteries		
16th	54	Checking of batteries for voltage Specific gravity	16th	Revision
	55	Magnato and Battery coil ignition system Concept of Dynamo		
	56	Alternator - Construction and working		

GATEWAY INSTITUTE OF ENGINEERING AND TECHNOLOGY,SONIPAT

LESSON PLAN

Name of Faculty: Ms Surbhi Gupta

Discipline:- DIPLOMA MECHANICAL

Semester: 6TH

Subjects: ENTREPRENEURSHIP DEVELOPMENT AND MANAGEMENT

Lession Plan Duration: 15 Weeks (from January,2018 to April,2018

Workload(Lecture/Practical) per week (in hours) : Lecture-03

Week	Theory	
	Lecture Day	**Topic (including assignment/test)**
1st	1st	**Introduction:-Concept /Meaning and its need,Qualities and functions of entrepreneur and barriers in entrepreneurship**
	2nd	**Sole proprietorship and partnership forms of business organisations**
	3rd	**Schemes of assistance by entrepreneurial support agencies at National,State, District –level, organisation: NSIC, NRDC, DC, MSME, SIDBI,NABARD, Commercial Banks, SFC's TCO, KVIB, DIC, Technology**
2nd	4th	**Market Survey and Opportunity Identification:-Scanning of the business environment,Salient features of National and State industrial policies and resultant**
	5th	**Types and conduct of market survey**
	6th	**Assessment of demand and supply in potential areas of growth,Identifying business opportunity,Considerations in product selection**
3rd	7th	**TEST**
	8th	**Project report Preparation:-Preliminary project report,Detailed project report including technical, economic and market feasibility**
	9th	**Common errors in project report preparations,Common errors in project report preparations**
4th	10th	**Test**
	11th	**SECTION –B Introduction to Management,Definitions and importance of management**
	12th	**Functions of management: Importance and process of planning, organising,staffing, directing and controlling and Principles of management (Henri Fayol, F.W. Taylor)**
5th	13th	**Concept and structure of an organisation**
	14th	**Types of industrial organisations:-a) Line organisation b) Line and staff organisation c) Functional Organisation**
	15th	**Leadership and Motivation:-a) Leadership- Definition and Need,Qualities and functions of a leader**
6th	16th	**Manager Vs leader, Types of leadership**
	17th	**TEST**
	18th	**b) Motivation-Definitions and characteristics.**
7th	19th	**Factors affecting motivation**
	20th	**Theories of motivation (Maslow, Herzberg, Douglas, McGregor)**
	21st	**Management Scope in Different Areas:- a)Human Resource Management**
8th	22nd	**Introduction and objective of hrm**
	23rd	**Introduction to Man power planning, recruitment and selection**
	24th	**Introduction to performance appraisal methods**
9th	25th	**TEST**
	26th	**b) Material and Store Management:-Introduction functions, and objectives**
	27th	**ABC Analysis and EOQ**
10th	28th	**c) Marketing and sales:-Introduction, importance, and its functions**
	29th	**Physical distribution**
	30th	**Introduction to promotion mix**
11th	31st	**Sales promotion**
	32nd	**d) Financial Management:Introductions, importance and its functions**
	33rd	**Elementary knowledge of income tax, sales tax, excise duty, custom duty and VAT**
12th	34th	**Miscellaneous Topics:-a) Customer Relation Management (CRM)**
	35th	**Definition and need**
	36th	**Types of CRM**
13th	37th	**TEST**
	38th	**b) Total Quality Management (TQM)**
	39th	**Statistical process control**
14th	40th	**Total employees Involvement**
	41st	**Just in time (JIT**
	42nd	**c) Intellectual Property Right (IPR)**
15th	43rd	**Introductions, definition and its importance**
	44th	**Infringement related to patents, copy right, trade mark**
	45th	**TEST**

GATEWAY INSTITUE OF ENGINEERING & TECHNOLOGY,SONEPAT

LESSON PLAN

Name of the Faculty :Mr. Kuldeep Dahiya (Theory)

Discipline : Mechanical engineering

Semester :6th

Subject : Industrial Engineering

Lesson Plan Duration:16 WEEKS(JANUARY TO APRIL)

Work Load (L/P) per Week (in hours): L-04, P-0

WEEK	THEORY	
	LECTURE DAY	TOPIC (INCLUDING ASSIGNMENT,TEST)
1st	1	Introduction to productivity
	2	factors affecting productivity
	3	Measurement of productivity
	4	causes of low productivity and methods to improve productivity
2nd	5	Revision of unit 1
	6	Test of unit 1
	7	Definition and scope of work study
	8	Inter-relation between method study and
3rd	9	Human aspects of work study
	10	Role of work study in improving productivity
	11	Assignment
	12	Revision of unit 2
4th	13	Test of unit 2
	14	Objectives of method analysis
	15	Procedure for method analysis
	16	Information collection technique
5th	17	Recording technique
	18	Revision of unit 3
	19	Test of unit 3
	20	Introduction to motion analysis
6th	21	Principles of Motion analysis
	22	Therbligs and SIMO charts
	23	Normal work areaand design of work places
	24	ergonomics
7th	25	Test of unit 4
	26	Introduction to work measurement
	27	Objectives of work measurement
	28	work measurement techniques
8th	29	stop watch time study
	30	principle of work measurement
	31	equipment used and procedure; systems of performance rating
	32	calculation of basic times
9th	33	various allowances; calculation of standard time
	34	work sampling, standard data and its usage
	35	Test of unit 5
	36	Introduction to wages, Wage payment for direct and indirect labour
	37	wage payment plans and incentives

10th	38	various incentive plans, incentives for indirectlabour.
	39	Test of unit 6
	40	Introduction, objectives and components (functions) of P.P.C
11th	41	Advantages of PPC
	42	stages of P.P.C, process planning
	43	routing, scheduling, dispatching and follow up
	44	routing purpose, route sheets
12th	45	scheduling – purpose, machine loading chart, Gantt chart
	46	dispatching –purpose, and procedure, follow up – purpose and procedure.
	47	CPM/PERT
	48	Production Control in job order, batch type and continuous type of productions.
13th	49	Difference between these controls
	50	Revision of unit 7
	51	Test of unit 7
	52	Introduction, purpose/functions of estimating
14th	53	costing concept, ladder and elments of cost
	54	difference between estimation and costing
	55	Overheads and their types
	56	estimation of material cost, estimation of cost for machining processes
15th	57	Numerical problems
	58	Test of unit 8
	59	Assignment
	60	Revision of unit 1 to 4
16th	61	Revision of unit 4 to 8
	62	Doubt clearence
	63	Test of unit 1 to 4
	64	Test of unit 4 to 8

GATEWAY INSTITUE OF ENGINEERING & TECHNOLOGY,SONEPAT

Name of the Faculty :Mr. AJAY KUMAR (Theory + Practical)

Discipline : MECHANICAL

Semester :6TH

Subject : INSPECTION AND QUALITY CONTROL

Lesson Plan Duration:13 WEEKS(JANUARY TO APRIL)

Work Load (L/P) per Week (in hours): L-04, P-02

	THEORY		PRACTICAL	
WEEK	LECTURE DAY	TOPIC (INCLUDING ASSIGNMENT,TEST	PRACTICAL DAY	TOPIC
1st	1	Introduction, units of measurement		Use of dial indicator for
	2	standards for measurement and interchangeability	1	measuring taper
2nd	3	International, national and company standard, line and wavelength standards		Revision
	4	Planning of inspection: what to inspect? When to inspect? Who should inspect? Where to inspect?	1	
	5	Types of inspection: remedial, preventive and operative inspection		
	6	incoming, in-process and final inspection	1	
3rd	7	Study of factors influencing the quality of manufacture		Use of combination set,
	8	Revision	1	bevel protector for
	9	Test		measuring taper
	10	Basic principles used in measurement and gauging, mechanical	1	
4th	11	Basic principles used in optical, electrical and electronic.		Use of sine bar for
	12	Study of various measuring instruments like: calipers	1	measuring taper
	13	Micrometers, dial indicators, surface plate		
	14	Straight edge, try square, protectors, sine bar, clinometer	1	
5th	15	Comparators mechanical	1	Measurement of thread
	16	Comparators electrical		characteristic using
	17	Comparators pnemumatic		vernier and gauges
	18	Slip gauges, tool room microscope, profile projector		
6th	19	Limit gauges: plug, ring, snap, taper		Use of slip gauge in
	20	thread, height, depth, form, feeler		measurement of center
	21	Wire and their applications for linear, angular,		distance between two pins.
	22	surface, thread and gear measurements	1	
7th	23	Gauge tolerances		
	24	Errors & their effect on quality		
	25	concept of errors		
	26	Measurement of geometrical parameter	1	Revision
8th	27	flatness and parallelism		Use of tool maker's
	28	Study of procedure for alignment tests on lathes		microscope and
	29	Study of procedure for alignment tests on drilling		comparator
	30	Study of procedure for alignment tests on milling	1	
9th	31	Testing and maintenance of measuring instruments	1	Revision
	32	Basic statistical concepts		
	33	Empirical distribution and histograms		
	35	Frequency, mean, mode, standard deviation		
10th	36	Normal distribution, binomial and Poisson		Plot frequency distribution
	37	Introduction to control charts, namely X		for 50 turned components
	38	R, P and C charts and their applications		
	39	Sampling plans, selection of sample size	1	
11th	40	Method of taking samples		
	41	Frequency of samples.		
	42	Inspection plan format and test reports		
	43	Concept of total quality management (TQM)	1	Revision
12th	44	impotance of TQM		
	45	National Codes		
	46	International Codes		
	47	concept of ISO-9000	1	Test
13th	48	ISO-9000 evolution		With the help of given data,
	49	QC tools		plot X, R, P and C charts
	50	Introduction to Kaizen		
	51	Introduction to Kaizen	1	
	52	Introduction to 5S		
	53	Measurement of mechanical quantities		
	54	Displacement, vibration, frequency		

14th	55	Pressure temperature by electro mechanical Transducers of resistance	1	Revision
	56	capacitance		
	57	Inductance type.		
	58	Revision		
15th	59	Test	1	Revision