Yamuna Polytechnic for Engineering, Gadholi

Lesson Plan for Even Semester 2018

Name of Faculty : Sh. Sumit Sharma (Theory & Practical)

Discipline : Mechanical Engineering

Semester : VI

Subject: **Inspection & Quality Control**

Lesson Plan Duration : 15 Weeks w.e.f 09/01/2018

Week	Theory		Practical	
	Lectuer Day	Topic (includingassigment/test)	Practical Day	Topic
I	1	Introduction, units of measurement	1	Use of dial indicator for measuring taper
	2	standards for measurement and interchangeability.		
	3	International, national and company		
	4	standard line and wavelength standards.		
II	5	Planning of inspection: what to inspect? When to inspect?	2	Use of combination set for measuring taper
	6	Who should inspect? Where to inspect?		
	7	Types of inspection: remedial, preventive and operative inspection, incoming, in-process and final inspection		
	8	Study of factors influencing the quality of manufacture		
III	9	Basic principles used in measurement and gauging	9	Use of bevel protector for measuring taper.
	10	Mechanical, optical, electrical and electronic	10	
	11	Study of various measuring instruments like: calipers, micrometers	11	
	12	Dial indicators, surface plate and straight edge	12	
IV	13	Protectors, sine bar, clinometer	13	Use of sine bar for measuring taper
	14	Working and construction of comparators – mechanical	14	

	15	Working and construction of electrical and pneumatic	15	
	16	Slip gauges, tool room microscope	16	
V	17	Working and construction of profile projector	17	Measurement of thread characteristic using vernier.
	18	Limit gauges: plug, ring, snap, taper, thread, height, depth, form, feeler, wire and their applications for linear,	18	
	19	Angular, surface, thread and gear measurements, gauge tolerances	19	
	20	Revision upto L-18	20	
VI	21	Geometrical parameters and errors: Errors & their effect on quality, concept of errors	21	Measurement of thread characteristic using gauges
	22	Measurement of geometrical parameter such as straightness	22	
	23	Measurement of geometrical parameter such as flatness and parallelism	23	
	24	Study of procedure for alignment tests on lathes	24	
VII	25	Study of procedure for alignment tests on drilling	25	Use of slip gauge in measurement of center distance between two pins
	26	Study of procedure for alignment tests on milling machines.	26	
	27	Testing and maintenance of measuring instruments.	27	
	28	Basic statistical concepts, empirical distribution and histograms	28	
VIII	29	Frequency, mean, mode, standard deviation	29	Use of tool maker's microscope.
	30	Normal distribution, binomial and Poisson, Simple- examples	30	
	31	Introduction to control charts	31	
	32	X -Chart and its application,	32	
IX	33	R -Chart and its application,	33	Use of comparator.
	34	P charts and its applications	34	
	35	C- charts and its applications	35	

	36	Comparision of X, R, P and C chart	36	
X	37	Assignment -I on Charts	37	Plot frequency distribution for 50 turned components
	38	Sampling plans	38	
	39	Selection of sample size	39	
	40	Method of taking samples	40	
XI	41	Frequency of samples	41	Plot frequency distribution for 50 turned components
	42	Some Numerical problems on Sampling	42	
	43	Inspection plan format	43	
	44	Inspection test reports	44	
XII	45	Queries related to Sampling	45	With the help of given data, plot X and R charts
	46	Concept of total quality management (TQM)	46	
	47	Continune ...Concept of total quality management (TQM)	47	
	48	National and International Codes.	48	
XIII	49	ISO-9000, concept	49	With the help of given data, plot p and C charts
	50	ISO-9000, evolution & applications	50	
	51	QC tools	51	
	52	QC tools	52	
XIV	53	Introduction to Kaizen	53	To complete backlog (if Any)
	54	Introduction to 5S and its implimentation	54	
	55	Introduction to Instrumentation and principal of Transducer	55	
	56	Measurement of mechanical Quanties Displacement, pressure, Vibration frequency by Resistance Type Transducer	56	
XV	57	Measurement of mechanical Quanties Displacement, pressure, Vibration frequency by Capacitance Type Transducer	57	Viva-Voce
	58	Measurement of mechanical Quanties Displacement, pressure, Vibration frequency Capacitance Type Transducer	58	
	59	Revision of Chapter -5	59	

	60	Checking of Class work & Assignments	60	

Yamuna Polytechnic for Engineering, Gadholi

Lesson Plan for Even Semester 2018

Name of Faculty : Sh. Kulbhushan Sharma (Theory & Practical)

Discipline : Mechanical Engineering

Semester : VI

Subject: **Automobile Engineering**

Lesson Plan Duration : 15 Weeks w.e.f 09/01/2018

Week	Theory		Practical	
	Lectuer Day	Topic (includingassigment/test)	Practical Day	Topic
I	1	Introduction to Automobile and its development , Defination	1	Fault and their remedies in Battery Ignition system .
	2	Various types of automobiles manufactured in India.		
	3	Layout of Different types of chassis in Automobile		
II	4	Introduction to power system, its requirements & Types	2	Fault and their remedies in magnetic Ignition system.
	5	Fuel systems for petrol and diesel engines		
	6	multi point fuel injection (MPFI)		
III	7	common rail direct injection (CRDI)	3	Demonstration of (i) Head Light Model (ii) Wiper and Indicators
	8	Fuel injectors and nozzles. Comparison of MPFI with carburetor system		
	9	Concept of double overhead cam, single overhead cam		
IV	10	Twin cam 16 valve technology in 4 cylinder engine	4	Demonstration of (i) AC Pump and (ii) SU Pump
	11	Function of Transmission System in a Automobile, variuos Types		
	12	Clutch - Function, Constructional details of single plate and multiplate friction clutches		

V	13	Centrifugal and semi centrifugal clutch, Hydraulic clutch	5	Demonstration of Master Cylinders
	14	Gear Box - Function, Concept of sliding mesh		
	15	Constant mesh		
VI	16	Synchromesh gear box	6	Demonstration of (i) rear axle and (ii) differential.
	17	Torque converter and overdrive,		
	18	Types of drives – Front wheel, Rear wheel, Four Wheel. Function of Propeller shaft,		
VII	19	Universal joint and Differential	7	Demonstration of steering system
	20	Different types of Rear axles and Front Axles		
	21	Wheels and Tyres - Types of wheels, Types and specifications of tyres used in Indian vehicles		
VIII	22	Wheel balancing	8	Fault finding practices on an automobile - four wheelers (petrol/ diesel vehicles).
	23	Function and principle of Ackerman and Davis steering mechanism		
	24	types of steering gear boxes – Worm and nuts		
IX	25	types of steering gear box worm and wheel, worm and roller	9	Tuning of an automobile engine
	26	types of steering gear box rack and opinion, Power steering system		
	27	alignment of wheels – Toe in, toe out, camber, caster, kingpin inclination.		
X	28	Checking of Class Work & Assignment-I	10	Driving practice on a 4-wheeler
	29	Constructional details and working of mechanical Brakes		
	30	Constructional details and working of Hydraulic Brakes		
XI	31	Concept of air and vacuum brake	11	Charging of an automobile battery and measuring cell voltage and specific gravity of
	32	brake adjustment and maintanence		

	33	Introduction to Anti lock brake system its advantages and applications		electrolyte
XII	34	Working and Constructional details of Anti lock brake system	12	Changing of wheels and inflation of tyres, balancing of wheels.
	35	Introduction to suspension system, functions and its types		
	36	Working of coil spring and leaf spring suspension system		
XIII	37	Concept of Air suspension	13	Checking spark gap and valve clearance
	38	Working of Shock absorber		
	39	Constructional details of lead acid cell battery		
XIV	40	Maintenance of batteries, checking of batteries for voltage and specific gravity	14	Cleaning and adjusting a carburetor
	41	Working & constructinal details of Magnato and Battery coil ignition system		
	42	Concept of Dynamo		
XV	43	Alternator - Construction and working	15	Viva-Voce
	44	Charging of battery by Alternator and Regulator		
	45	Checking of Class Work & Assignments		

Yamuna Polytechnic for Engineering, Gadholi

Lesson Plan for Even Semester 2018

Name of Faculty : Sh. Yogesh Bhardwaj

Discipline : Mechanical Engineering

Semester : VI

Subject: **Industrial Engineering**

Lesson Plan Duration : 15 Weeks w.e.f 09/01/2018

Week	Theory		Practical	
	Lectuer Day	Topic (includingassigment/test)	Practical Day	Topic
I	1	1.Introduction to Industrial Engg., Concept of productivity		
	2	Factors Affecting Pproductivity		
	3	Measurement of Productivity		
	4	Causes of Low Productivity		
II	5	Methods to improve productivity		
	6	Methods to improve productivity		
	7	Introduction to Work Study, Definition, Improtance of Work Study		
	8	Scope ans Applications of work study		
III	9	Introduction to Method Study		
	10	Concept of Work measurement		
	11	Inter-relation between method study and work measurement		
	12	Human aspects of work study		
IV	13	Work Study and Ergonomics		
	14	Historical Developments, The Work of Taylor		
	15	The Work of Gilbreths		
	16	Role of work study in improving productivity		
V	17	Review of Work Study		
	18	Introduction to Method Study,Definition		
	19	Objectives of Method Study		
	20	Procedure for Method analysis		
VI	21	Select the job – on which method study is to be applied		
	22	Obtain information and record		
	23	Examine the Information Critically		
	24	Develop the most practical, economical and effective method by considering real limitations of the situation		
VII	25	Install the new method as standard practice		
	26	Maintain the Standard Practice by Regular Follow Up		
	27	Principles of Motion analysis		
	28	Therbligs		
VIII	29	SIMO charts		
	30	Use of SIMO charts & Draw SIMO Chart		
	31	Normal Work Area and Design of Work Places		
	32	Ergonomics		

IX	33	Checking of Class work & Assignment -I
	34	Introduction to Work Measurement, Defination & its Objectives
	35	Work measurement techniques, stop watch time study
	36	Procedure of Time Study, Equpments used, Selction of Job & Selction of Worker for time Study
X	37	Systems of performance rating, Normal Performance
	38	Calculation of basic times and various allowances
	39	Calculation of standard time(Numericals)
	40	Numerical problems on Caluation of Standard time and Normal Time
XI	41	Work sampling, standard data and its usage, Advantage and Disadvantages
	42	Introduction to wages, Wage payment for direct and indirect labour
	43	Various Wage payment plans
	44	Incentives and various incentive plans
XII	45	incentives for indirect labour, Numericals on Wage Payments
	46	Production Planning and Control,ntroduction, objectives and components (functions) of P.P.C
	47	Advantages of production planning and Production Control, stages of P.P.C
	48	process planning, routing, scheduling
XIII	49	scheduling – purpose, machine loading chart, Gantt chart,
	50	dispatching and follow up, routing purpose, route sheets
	51	Dispatching – purpose, and procedure, follow up – purpose and procedure.
	52	Introduction to CPM/PERT technique, Objectives and Applications of CPM/PERT
XIV	53	Drawing of simple networks and critical time calculation
	54	Production Control in job order, batch type and continuous type of productions
	55	Introduction, purpose/functions of estimating, costing concept
	56	Ledger and elements of cost,difference between estimation and costing
XV	57	Overheads and their types
	58	Estimation of material cost & Cost for Machining processes
	59	Some numericals on Estimation & Costing of Mechanical Components
	60	Checking of Class Work & Assignment-II

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Lesson Plan for Even Semester 2018

Name of Faculty : Sh. Nirmal Jeet Singh

Discipline : Mechanical Engineering

Semester : VI

Subject: **EDM**

Lesson Plan Duration : 15 Weeks w.e.f 09/01/2018

Week	Theory		Practical	
	Lectuer Day	Topic (includingassigment/test)	Practical Day	Topic
I	1	Concept /Meaning and its need Qualities and functions of entrepreneur and barriers in entrepreneurship		
	2	Sole proprietorship and partnership forms of business organisations		
	3	ASSIGNMENT : Schemes of assistance by entrepreneurial support agencies at National, State, District level: NSIC, NRDC, DC:MSME, SIDBI, NABARD, Commercial Banks, SFC's TCO, KVIB, DIC, Technology Business Incubator (TBI) and Science and Technology Entrepreneur Parks (STEP).		
II	4	Market Survey and Opportunity Identification (10 hrs): Scanning of business environment		
	5	Salient features of National and State industrial policies and resultant business opportunities		
	6	Types and conduct of market survey		
III	7	Assessment of demand and supply in potential areas of growth		
	8	Identifying business opportunity		
	9	Considerations in product selection		
IV	10	Project report Preparation: Preliminary project report		
	11	Detailed project report including technical, economic and market feasibility		
	12	Common errors in project report preparations: Exercises on preparation of project report		
V	13	Introduction to Management : Definitions and importance of management		
	14	Functions of management: Importance and Process of planning, organising, staffing, directing and controlling		
	15	Principles of management (Henri Fayol, F.W. Taylor) Concept and structure of an organisation		
VI	16	Types of industrial organisations a)Line organisation b)Line and staff organisation c)Functional Organisation		
	17	FEEDBACK of previous chapter/ test		

VII	18	Leadership and Motivation a) Leadership: Definition and Need
	19	Qualities and functions of a leader
	20	Manager Vs leader
	21	Types of leadership
VIII	22	Motivation : Definitions and characteristics
	23	Factors affecting motivation
	24	Theories of motivation (Maslow, Herzberg, McGregor)
IX	25	FEEDBACK of previous chapter/ test
	26	Management Scope in Different Areas a) Human Resource Management Introduction and objective
	27	Introduction to Man power planning, recruitment and selection
X	28	Introduction to performance appraisal methods
	29	Material and Store Management Introduction functions, and objectives
	30	ABC Analysis and EOQ
XI	31	Marketing and sales: Introduction, importance, and its functions
	32	Physical distribution
	33	Introduction to promotion mix
XII	34	Sales promotion
	35	Financial Management: Introductions, importance and its functions
	36	Elementary knowledge of income tax, sales tax, excise duty, custom duty and VAT
XIII	37	Miscellaneous Topics : Customer Relation Management (CRM): Definition and need
	38	Types of CRM
	39	Total Quality Management (TQM): Statistical process control
XIV	40	Total employees Involvement
	41	Just in time (JIT)
	42	Intellectual Property Right (IPR) Introductions, definition and its importance
XV	43	Infringement related to patents, copy right, trade mark
	44	FEEDBACK of previous chapter/ test
	45	FEEDBACK of previous chapter/ test

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Lesson Plan for Even Semester 2018

Name of Faculty : Sh. O.P.Gera

Discipline : Mechanical Engineering

Semester : VI

Subject: **EMPLOYABILITY SKILLS – II**

Lesson Plan Duration : 15 Weeks w.e.f 09/01/2018

Week	Theory		Practical	
	Lectuer Day	Topic (includingassigment/test)	Practical Day	Topic
I	1		1	How to prepare a resume and Covering Letter,How to Face Interview Do's and Don't During Interviews
	2			
	3			
II	4		2	Mock Interview practice
	5			
	6			
III	7		3	Make a Checck list to attend a meeting with Senior, peer & subordinate
	8			
	9			
IV	10		4	Mock meeting
	11			
	12			
V	13		5	Group discussion rules, points to be remember during GD
	14			
	15			
VI	16		6	Group Discussion
	17			
	18			
VII	19		7	Group Discussion
	20			
	21			
VIII	22		8	How to make a power point Presentation, Elements of Good Presentation, Various Tools used to make a presentation.
	23			
	24			
IX	25		9	Power Point Presentation (10 Minutes only)
	26			
	27			
X	28		10	Power Point Presentation

	29			(10 Minutes only)
	30			
XI	31		11	Paper Reading Exercies
	32			
	33			
XII	34		12	Paper Reading Exercies
	35			
	36			
XIII	37		13	To Give Seminar on any topic of Mech Engg. With report
	38			
	39			
XIV	40		14	To Give Seminar on any topic of Current Affair With report
	41			
	42			
XV	43		15	Viva-Voce
	44			
	45			