LESSON PLAN

Name of the Faculty : Gaurav Raghav
Discipline   Mechanical engineering
Semester   6th
Subject   IQC
Lesson Plan duration :   15 weeks (from January , 2018 to April , 2018)
Work load (Lecture/ Practical) per week (in hours) : Lecture -04   practical-02

WEEK	THEORY		PRACTICAL	
	Lecture day	Topic (including assignment and test)	Practical Day	Topic
1	1	▪ Introduction, units of measurement, standards for measurement and	1	Use of dial indicator for measuring taper.
	2	Interchangeability	2	Use of combination set, bevel protector and sine bar for measuring taper.
	3	International, national and company standard,	3	Measurement of thread characteristic using vernier and gauges.
	4	line and wavelength standards.	4	Use of slip gauge in measurement of center distance between two pins
2	5	Planning of inspection: what to inspect? When to inspect?	5	Use of tool maker's microscope and comparator
	6	Who should inspect?	6	Plot frequency distribution for 50 turned components.
	7	Where to inspect?	7	With the help of given data, plot X, R, P and C charts
	8	Types of inspection: remedial, preventive		
3	9	operative inspection,incoming, in-process and final inspection.		
	10	Study of factors influencing the quality of manufacture.		
	11	Basic principles used in measurement and gauging,		
	12	mechanical,		
4	13	optical,		
	14	electrical and electronic.		
	15	Study of various measuring instruments like: calipers,		
	16	micrometers,		
5	17	indicators, surface plate		
	18	straight edge, try square, protectors, sine bar,		
	19	clinometer,		
	20	comparators – mechanical, electrical and pneumatic. Slipgauges, tool room microscope, profile projector.		
6	21	Limit gauges: plug, ring, snap, taper, thread,		
	22	height, depth, form, feeler, wire		
	23	their applications for linear, angular, surface, thread and gear		
	24	measurements, gauge tolerances		
7	25	Geometrical parameters and errors:		
	26	Errors & their effect on quality		
	27	concept of errors, measurement of		
	28	geometrical parameter such as straightness, flatness and parallelism.		
	29	Study of procedure for alignment tests on lathes, drilling and milling machines.		

	30	Testing and maintenance of measuring instruments.		
8	31	Basic statistical concepts, empirical distribution and histograms, frequency,		
	32	mean, mode		
	33	standard deviation, normal distribution, binomial and Poisson, Simple- examples.		
	34	Introduction to control charts		
9	35	namely X, R, P and C charts and their applications.		
	36	Sampling plans,		
	37	method of taking samples,		
	38	selection of sample size,		
	39	frequency of samples		
10	40	Inspection plan format and test reports		
	41	Concept of total quality management (TQM)		
	42	National and International Codes.		
	43	ISO-9000, concept and its evolution		
11	44	QC tools		
	45	Introduction to Kaizen,		
	46	5S		
	47	Measurement of mechanical quantities such as displacement,		
12	48	vibration,		
	49	frequency,		
	50	pressure temperature by electro mechanical		
	51	transducers of		
13	52	resistance,		
	53	capacitance		
	54	inductance type.		
	55	Revision		
14	56	Revision		
	57	Revision		
	58	Revision		
	59	Revision		
15	60	Revision		