Name of Faculty : Mr. Rohtash
Discipline : Mechanical Engineering
Semester : IV
Subject : Inspection & Quality Control
Lesson Plan Duration : 15 Weeks (9 January onwards)

Week	Theory		Practical Day	
	Lecture Day	Topic (Including assignment/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 standard		
	4	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	3	Use of bevel protector for measuring taper.
	10	Mechanical, optical, electrical and electronic		
	11	Study of various measuring instruments like: calipers, micrometers		
	12	Dial indicators, surface plate and straight edge		
IV	13	Protectors, sine bar, clinometer	4	Use of sine bar for measuring taper
	14	Working and construction of comparators – mechanical		
	15	Working and construction of electrical and pneumatic		
	16	Slip gauges, tool room microscope		
V	17	Working and construction of profile projector	5	Measurement of thread characteristic using vernier.
	18	Limit gauges: plug, ring, snap, taper, thread, height, depth, form, feeler, wire and their applications for linear,		
	19	Angular, surface, thread and gear measurements, gauge tolerances		
	20	Revision upto L-18		

VI	21	Geometrical parameters and errors: Errors & their effect on quality, concept of errors	6	Measurement of thread characteristic using gauges
	22	Measurement of geometrical parameter such as straightness		
	23	Measurement of geometrical parameter such as flatness and parallelism		
	24	Study of procedure for alignment tests on lathes		
VII	25	Study of procedure for alignment tests on drilling	7	Use of slip gauge in measurement of center distance between two pins
	26	Study of procedure for alignment tests on milling machines.		
	27	Testing and maintenance of measuring instruments.		
	28	Basic statistical concepts, empirical distribution and histograms		
VIII	29	Frequency, mean, mode, standard deviation	8	Use of tool maker's microscope.
	30	Normal distribution, binomial and Poisson, Simple- examples		
	31	Introduction to control charts		
	32	X -Chart and its application,		
IX	33	R -Chart and its application,	9	Use of comparator.
	34	P charts and its applications		
	35	C- charts and its applications		
	36	Comparision of X, R, P and C chart		
X	37	Assignment -I on Charts	10	Plot frequency distribution for 50 turned components
	38	Sampling plans		
	39	Selection of sample size		
	40	Method of taking samples		
XI	41	Frequency of samples	11	Plot frequency distribution for 50 turned components
	42	Some Numerical problems on Sampling		
	43	Inspection plan format		
	44	Inspection test reports		
XII	45	Queries related to Sampling	12	With the help of given data, plot X and R charts
	46	Concept of total quality management (TQM)		
	47	Continune ...Concept of total quality management (TQM)		
	48	National and International Codes.		
XIII	49	ISO-9000, concept	13	With the help of given data,

	50	ISO-9000, evolution & applications		plot p and C charts
	51	QC tools		
	52	QC tools		
XIV	53	Introduction to Kaizen	14	To complete backlog (if Any)
	54	Introduction to 5S and its implimentation		
	55	Introduction to Instrumentation and principal of Transducer		
	56	Measurement of mechanical Quanties Displacement, pressure, Vibration frequency by Resistance Type Transducer		
XV	57	Measurement of mechanical Quanties Displacement, pressure, Vibration frequency by Capacitance Type Transducer	15	Viva-Voce
	58	Measurement of mechanical Quanties Displacement, pressure, Vibration frequency by Induction Type Transducer		
	59	Revision of Chapter -5		
	60	Checking of Class work & Assignments		