Lesson Plan

Name of Faculty : Dr. Rashmi Arya
Discipline : 6th Sem Mechanical Engg.
Subject : MQC
Lesson Plan duration : 15 Weeks
Work load (Lecture/Practical) per week (in hours): 3L and 4P

Week	Theory		Teacher sign	Practical		Teacher sign
	Lecture day	Topic(Including assignment/test)		Practical Day	Topic	
1		**UNIT-I Inspection:**			1. Use of dial indicator for measuring taper	
	1	Introduction to inspection, Planning of inspection: W5H principle				
	2	Types of inspection : Remedial, preventive and operative inspection, incoming, in-process and final inspection				
	3	Standards of Measurement - International, national and company standard, line and wavelength standards				
2	4	Factors influencing the quality of manufacture.				
		Metrology: Measurement and Gauging-I :			2. Use of combination set, bevel protector and sine bar for measuring taper	
	5	Introduction, Definition				
	6	Basic principles used in measurement				
	7	Gauging, mechanical, optical, electrical and electronic			3. Measurement of thread characteristic using vernier and gauges.	
	8	Slip gauges, Sine bar, clinometer				
	9	Comparators – mechanical, electrical and pneumatic				
4		**UNIT-II Metrology: Measurement and Gauging-II :**				
	10	Types of gauges, Limit gauges: plug			4. Use of slip gauge in measurement of center distance between two pins.	
	11	Ring, snap, taper, thread, height,depth				
	12	Form, feeler, wire, applications for linear				
5	13	Angular, surface, thread, gear measurements, gauge tolerances			5. Use of tool maker's microscope and comparator	
	14	Tool room microscope, profile projector				
	15	**Sessional-I**				
6	16	**Errors in Measurement** Geometrical parameters and errors			6. Plot frequency distribution for 50 turned components	
	17	Errors & their effect on quality, concept of errors				
	18	Measurement of geometrical parameter such as straightness				

7		Flatness and parallelism			7. With the help of given data, plot X and R, P and C charts	
	19	**UNIT III Statistical Quality Control - I :** Sampling Plans, Basic statistical concepts				
	20	Empirical distribution and histograms				
	21	Central tendency measures-frequency, mean, mode				
8	22	Standard deviation, normal distribution			Revision	
	23	Binomial and Poisson, Simple-examples			Revision	
	24	**Statistical Quality Control-II :** Introduction to control charts			Revision	
9	25	variable and attribute charts namely, X and R, X bar			Revision	
	26	nP, P, C charts and their applications			Revision	
	27	**2nd Sessional Test**			Revision	
10	28	**UNIT IV Sampling Plans :** Sampling plans, selection of sample size, Method			Revision	
					Revision	
	29	Frequency of samples. Acceptance Sampling			Revision	
	30	Inspection plan format and test reports			Revision	
11	31	**Modern Quality Concepts** : Concept of total quality management (TQM)			Revision	
	32	National and International Codes			Revision	
	33	ISO-9000, concept and its evolution			Revision	
12	34	**UNIT V Quality Control Tools :** QC tools- Fish Bone diagram			Revision	
		Cause and Effect Diagram, scatter Diagram, Histogram			Revision	
	35	Introduction to Kaizen, 5S, Quality Circle			Revision	
	36	**Instrumentation :** Transducers – Its different types, Measurement of mechanical quantities			Revision	
13	37	Displacement, Vibration, frequency, pressure temperature			Revision	
	38	Electro mechanical transducers of resistance, capacitance & inductance type			Revision	
	39	Revision			Revision	
14	40	Revision			Revision	
	41	**3rd Sessional Test**			Revision	
	42	Revision			Revision	
15	43	Revision			Revision	
	44	Revision			Revision	
	45	Revision			Revision	
16	46	Revision			Revision	
	47	Revision			Revision	
	48	Revision			Revision	