Lesson Plan

Name of the faculty: - Mr. Jitender

Discipline: Mechanical

Semester: 6th

Subject: Industrial Engineering

Lesson Plan Duration: 15 weeks (From January, 2018 to April, 2018)

Work load (lecture / practical) per week (in hours) :- 3 lectures.

	Theory	
Week	Lecture Day	Topic
1st	1st	**Unit – 1**Introduction to productivity, factors affecting productivity,
	2nd	Measurement of productivity causes of low productivity and methods to improve productivity.
	3rd	Revision of unit 1.
2nd	1st	**Unit -2**Definition and scope of work study;
	2nd	Inter-relation between method study andwork measurement;
	3rd	Human aspects of work study; Role of work study in improving productivity.
3rd	1st	Test of 1st and 2nd unit.
	2nd	**Unit-3**Objectives and procedure for Method analysis
	3rd	Objectives and procedure for Method analysis contd….
4th	1st	Information collection
	2nd	Recording techniques.
	3rd	Assignment of unit-3
5th	1st	**Unit-4** Principles of Motion analysis;
	2nd	Therbligs and SIMO charts;
	3rd	Normal work area and design of work places. ergonomics
6th	1st	Test of Unit-4.
	2nd	**Unit-5** Objectives; work measurement techniques
	3rd	stop watch time study; principle,equipment used and procedure

7th	1st	systems of performance rating; calculation of basic times;
	2nd	calculation of standard time, work sampling,
	3rd	various allowances;
8th	1st	Standard data and its usage.
	2nd	Revision - 5
	3rd	**Unit-6** Introduction to wages, Wage payment for direct and indirect labour
9th	1st	Wage payment plans and incentives,
	2nd	various incentive plans, incentives for indirect labour.
	3rd	Assignment of unit-6.
10th	1st	**Unit-7** Introduction, objectives and components (functions) of P.P.C
	2nd	Advantages of production planning and Production Control, stages of P.P.C
	3rd	process planning
11th	1st	routing, scheduling, dispatching and follow up, routing purpose,
	2nd	route sheets, scheduling – purpose, machine loading chart, Gantt chart, dispatching
	3rd	purpose, and procedure, follow up – purpose and procedure.
12th	1st	CPM/PERT technique,
	2nd	drawing of simple networks and critical time calculation.Production Control in job order,
	3rd	batch type and continuous type of productions.
13th	1st	Difference between these controls.
	2nd	Test of unit – 7.
	3rd	**Unit-8** Introduction, purpose/functions of estimating
14th	1st	costing concept, ladder and elements of cost,
	2nd	difference between estimation and costing.
	3rd	Overheads and their types, estimation of material cost,
15th	1st	Estimation of cost for machining processes, numerical problems.
	2nd	Test of unit – 8.
	3rd	Overall Revision of the Syllabus.

Lesson Plan

Name of the faculty: - Mr. Rahul

Discipline: Mechanical

Semester: 6th

Subject: **INSPECTION AND QUALITY CONTROL**

Lesson Plan Duration: 15 weeks (From January, 2018 to April, 2018)

Work load (lecture / practical) per week (in hours) :- 4 lectures.

	Theory	
Week	Lecture Day	Topic
1st	1st	Unit-1 Introduction, units of measurement, standards for measurement and interchangeability.
	2nd	International, national and company standard
	3rd	line and wavelength standards.
	4st	Planning of inspection: what to inspect? When to inspect?
2nd	5th	Who should inspect? Where to inspect?
	6th	Types of inspection: remedialpreventive and operative inspection,
	7th	incoming, in-process and final inspection
	8th	Study of factors influencing the quality of manufacture.
3rd	9th	Study of factors influencing the quality of manufacture.Contd…
	10th	Revision of unit-1
	11th	Test of unit-1
	12th	Unit-2 Basic principles used in measurement and gauging, mechanical, optical, electrical and electronic.
4th	13th	Study of various measuring instruments like: calipers, micrometers
	14th	Dial indicators, surface plate
	15th	straight edge, try square
	16th	protectors, sine bar
5th	17th	clinometer
	18th	comparators – mechanical
	19th	electrical and pneumatic.
	20th	Slip gauges, tool room microscope
6th	21st	profile projector.
	22nd	Limit gauges: plug, ring
	23rd	snap, taper, thread, height, depth, form
	24th	feeler, wire and their applications for linear

7th	25th	angular, surface, thread and gear measurements
	26th	gauge tolerances.
	27th	Geometrical parameters and errors: Errors & their effect on quality.
	28th	concept of errors, measurement of geometrical parameter such as straightness, flatness and parallelism.
8th	29th	Study of procedure for alignment tests on lathes, drilling and milling machines.
	30th	Testing and maintenance of measuring instruments.
	31st	**Revision of unit-2**
	32nd	Test of unit-2.
9th	33rd	Unit-3 Basic statistical concepts, empirical distribution and histograms
	34th	frequency,mean, mode, standard deviation,
	35th	normal distribution, binomial and Poisson, Simple- examples.
	36th	Introduction to control charts, namely X, R, P and C charts and their applications.
10th	37th	Introduction to control charts, namely X, R, P and C charts and their Applications contd……
	38th	Sampling plans, selection of sample size
	39th	method of taking samples,frequency of samples
	40th	Inspection plan format and test reports
11th	41st	Revision of unit-3
	42nd	Test of unit-3
	43rd	Unit-4 Concept of total quality management (TQM)
	44th	National and International Codes.
12th	45th	ISO-9000, concept and its evolution
	46th	ISO-9000, concept and its evolutioncontd….
	47th	QC tools
	48th	Introduction to Kaizen, 5S
13th	49th	Revision of unit-4
	50th	Test of unit-4
	51st	Unit-5 Measurement of mechanical quantities
	52nd	displacement, vibration
14th	53rd	frequency, pressure
	54th	frequency, pressurecontd…
	55th	temperature by electro mechanical transducers ofresistance
	56th	temperature by electro mechanical transducers of capacitance
15th	57th	temperature by electro mechanical transducers of inductance type.
	58th	Revision of unit-5
	59th	Test of unit-5
	60th	Overall Revision of the Syllabus.