



National Institute of Technology Jamshedpur
Jamshedpur - 831 014, JHARKHAND
Department of Manufacturing Engineering

Course Handout

Autumn Semester Session 2019-20

Date: 23/07/2019

Batch: B.Tech 5th Semester (PIE)

Credits: 3

L T P: 3 0 0

Course Title: Production Management-II

Course Code: PI1504

Instructor in-Charge: Dr. Dinesh Kumar

Course Description

UNIT I :Value Engineering: Introduction, Objective, Importance of value, Cycles of a product, Value engineering approach, Phases of job plan, Technique of value Engineering, Structure of value Engineering, Organization advantages, Application.

UNIT II: Union and Industrial Relations: Introduction, Trade Unions, Industrial disputes, strikes Lockout, Picketing, Ghero, Settlement of industrial disputes, Collective bargaining handling of worker grievances and procedure, workers participation in management, Union management relations. The Design and scheduling of flow processing system.

UNIT III: Sales and Marketing Management:- Sales organization (functional, area based). Product group organization (functional, abases, product group based, end use based), Selling vs marketing concept, Marketing management and its functions, Marketing research (objective scope) Marketing research techniques, Advertisement, Sales promotion, Channels of distribution packing.

UNIT III: Product development: Basic concepts, Alternative product strategies, Steps in new product development, Product design, Consumer perception and product positioning. Business Process Re-engineering: Historical background: Nature, significance and rationale of business process reengineering, Fundamental of BPR

Additional Topics to be covered: Lean Manufacturing, Toyota Production systems, JIT, Kanban, Kaizen.

Course outcomes:

The following outcomes are expected on completion of the course.

CO1: Students will describe the principle of value engineering and will analyse the value of various components/products.

CO2: Students will recognize various labor rules and will review some cases of industrial disputes, lockouts picketing and Ghero. They will also brainstorm the ways to resolve such disputes.

CO3: Students will practice different techniques used for market research and explore the concept of competitive advantages.

CO4: Students will define product design and development in lean environment and will demonstrate the product development procedure for some components/products.

Course Articulation Matrix

		Engineering Knowledge	Problem Analysis	Design development of solutions	complex problems	modern tool	engineer and society	Environmental and sustainability	Ethics	Individual and Team Work	Communication	Project management and finance	Lifelong learning
PRODUCTION MANAGEMENT- II	COs \ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	CO1		2	2	2	3	2	2				3	2
	CO2			1	3	2	3	3		3		3	2
	CO3		2	2	2	2						3	2
	CO4		2	2	2	2						3	2
	AVG			1.5	1.75	2.25	2.25	1.25	1.25	0	0.75	0	3

Text Books

T1: S N Chary, 'Production and Operation Management', 5th Edition, Tata Mac Graw Hill.

T2: J. L. Riggs, 'Production Systems: Planning, Analysis & Control', 4th Edition, John Wiley & Sons.

T3: M.Mahajan, 'Industrial Engineering and Production Management', Dhanpat Rai & Co., 2015 reprint onwards

T4: M. Telsang 'Industrial Engineering And Production Management', S Chand, 2006 edition onwards

Reference Books

R1: E. S. Buffa and Sarin, 'Modern Production/Operation management', 8th Edition, John Wiley & Sons.

Paneersalvem, 'Production & Operations Management', 2nd edition, PHI.

R2: L.D. Miles, Techniques of value analysis and engineering

R3: Y. Monden, Toyota production system: An integrated approach to Just-in time, 4th Edition, CRC Press

Course Plan

Lecture No.	Topics to be covered	Reference
1-2	Concept of Value Engineering: Introduction, Objective, Importance of value and value engineering.	T1,T2, R2
3-6	Cycles of a product, Various case studies on product life cycle, Value engineering approach.	T1, T2
7-8	Phases of job plan, Technique of value Engineering, Structure of value Engineering, Organization advantages, Application.	T1, T2, R2
9-10	Concept of Union and Industrial Relations, Introduction, Trade Unions, Industrial disputes, strikes Lockout, Picketing, Ghero, and Settlement of industrial disputes.	T1, T3
11-12	Collective bargaining handling of worker grievances and procedure, workers participation in management.	T2
13-14	Various design and scheduling of flow processing system. PERT and CPM analysis.	T3, T4
15-17	Sales and Marketing Management:- Sales organisation (functional, area based). Product group organization (functional, abases, product group based, end use based). Selling vs marketing concept, Marketing management and its functions, Marketing research (objective scope)	T1, T4
18-20	Marketing research techniques, Advertisement, Sales promotion, Channels of distribution packing.	T1, T3
21-23	Product development: Basic concepts, Alternative product strategies, Steps in new product development, Product design, Consumer perception and product positioning.	T1,T3, T4
24-26	Business Process Re-engineering: Historical background: Nature, significance and rationale of business process reengineering, Fundamental of BPR	T3
27-30	Additional Topics: Lean Manufacturing, Toyota Production systems, JIT, Kanban, Kaizen.	

Evaluation Scheme (EC)

EC No.	Evaluation Component	Duration	Weightage	Date & Time	Nature of Component
1.	Mid Semester	2 Hrs	30%	Refer to Academic calendar	Closed Book
2.	End Semester	3 Hrs.	50%		Closed Book
3.	Internal Assessment	--	20%		

Consultation Hours: 4PM to 6PM (Monday to Friday) in Room No. NA 116

Note: All notices regarding the course will be displayed only on the Department of Production and Industrial Engineering notice board.

Dr. Dinesh Kumar
Instructor In-Charge,
E-mail: dinesh.prod@nitjsr.ac.in