DEPARTMENT OF MECHANICAL ENGINEERING

TEACHING PLAN

Course Code	Course Title	Semester	Branches	Contact Periods /Week	Academic Year	Date of commencement of Semester
23BM4T01	INDUSTRIAL MANAGEMENT	IV	MECHANICAL ENGINEERING	05	2024-25	16/12/2024

COURSE OUTCOMES: Students are able to

1	Learn about how to design the optimal layout(**K1**)
2	Demonstrate work study methods(**K3**)
3	Explain Quality Control techniques(**K2**)
4	Discuss the financial management aspects. (**K2**)
5	Understand the human resource management methods.(**K2**)

UNIT	Out Comes / Bloom's Level	Topic No.	Topics/Activity	Text Book / Reference	Contact Hour	Delivery Method
I	Learn about how to design the optimal layout (K1)		**UNIT I: Introduction Industrial Engineering, PlantLayout**			PPT, Lecture, Active Learning & Tutorial
		1.1	Industrial Engineering (IE), Development&Application	T1,R1	01	
		1.2	Role of an industrial engineer	T1,R1	01	
		1.3	Differences between production management & industrialengineering	T1,R1	01	
		1.4	QuantitativetoolsofIE	T2,R1	01	
		1.5	ProductivityMeasurement	T2,R1	01	
		1.6	Conceptsofmanagement& importance	T1,R1	01	
		1.7	Functionsofmanagement	T2,R1	01	
		1.8	Scientificmanagement byTaylor'sprinciples	T1,R1	01	
		1.9	TheoryX andtheoryY	T1,R1	01	
		1.10	Henry Fayol'sprinciplesofmanagement.	T1,R1	01	
		1.11	Factorsgoverningplantlocation	T1,R1	01	
		1.12	Typesofproductionlayouts	T1,R1	01	
		1.13	Advantagesanddisadvantagesofprocesslayoutandproductlayout, applications	T1,R1	01	
		1.14	Quantitativetechniquesforoptimaldesignoflayouts	T1,R1	01	
		1.15	Plant maintenance, preventive& breakdownmaintenance.	T1,R1	01	
				Total	**15**	

II	Demonstrate work study methods (K3)	2.1	**UNIT II - Work Study** Work study Importance & Applications	T2,R2	01	PPT, Lecture, Active Learning & Tutorial
		2.2	Types of production	T2,R1	01	
		2.3	Method Studyand Time Study	T2,R2	01	
		2.4	Work sampling	T2,R1	01	
		2.5	PMTS, micro-motion study	T2,R1	01	
		2.6	Rating techniques, MTM	T2,R2	01	
		2.7	Workfactorsystem	T1,R1	01	
		2.8	PrinciplesofErgonomics	T2,R1	01	
		2.9	Flowprocesscharts	T2.R2	01	
		2.10	StringdiagramsandTherbligs.	T2,R2	01	
			Total		**10**	**11**
III	Explain Quality Control techniques (K2)		**UNIT III –StatisticalQualityControl, Total Quality Management**			PPT, Lecture, Active learning
		3.1	Introduction to Qualitycontrol	T2,R1	01	
		3.2	Queuingassuranceanditsimportance,	T2,R1	01	
		3.3	SQC, attribute sampling inspection with single and double sampling	T2,R2	01	
		3.4	Controlcharts–*X*andR–charts*X*and*S*charts	T2,R1	01	
		3.5	Applications,numericalexamples control charts.	T2,R2	01	
		3.6	Zero defect concept	T1,R1	01	
		3.7	Qualitycircles,implementation,applications,	T1,R1	01	
		3.8	ISOqualitysystems	T1,R1	01	
		3.9	SixSigma–definition,basicconcepts	T2,R1	01	
			Total		**9**	
IV	Discuss the financial management aspects. (K2)	**4.1**	**UNIT IV- Financial Management** Scope and nature of financial management	T1,R1	01	PPT, Lecture, Active learning &Tutorial
		4.2	Sources offinance	T1,R1	01	
		4.3	Ratioanalysis	T2,R1	01	
		4.4	Managementofworkingcapital	T1,R1	01	
		4.5	Estimationofworkingcapitalrequirements	T1,R1	01	
		4.6	Stockmanagement	T2,R1	01	
		4.7	Costaccountingandcontrol	T1,R1	01	
		4.8	Budgetandbudgetarycontrol	T1,R1	01	
		4.9	Capitalbudgeting- NatureofInvestmentDecisions	T1,R1	01	
		4.10	InvestmentEvaluationcriteria- NPV,IRR	T1,R1	01	
		4.11	PI,PaybackPeriod,andARR,numericalproblems.	T1,R1	01	
			Total		**11**	

V	Understand the human resource management methods. (K2)	**UNIT V - HumanResourceManagement, Value Analysis**				PPT, Lecture, Active learning &Tutorial
		5.1	Conceptofhumanresourcemanagement	T1,R1	01	
		5.2	Personnel management andindustrial relations	T1,R1	01	
		5.3	Functions ofpersonnel management	T1	01	
		5.4	Job-evaluation,itsimportanceandtypes	T1,R1	01	
		5.5	Merit rating,quantitativemethods	T2,R1	01	
		5.6	Wageincentiveplans,andtypes.	T2,R1	01	
		5.7	Value engineering	T1	01	
		5.8	Implementation procedure	T1,R1	01	
		5.9	Enterprise resourceplanningand	T1,R1	01	
		5.10	Supply chainmanagement.	T2,R1	01	
				Total	**10**	
				CUMULATIVE PROPOSED PERIODS	**55**	

Text Books:

S.No	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION
1	O.PKhanna,IndustrialEngineeringandManagement,DhanpatRaiPublications (P)Ltd,2018.
2	Martand Telsang,Industrial Engineering andProduction Management, 3rdEdition, S.Chand&CompanyLtd.NewDelhi,2018

Reference Books:

S.No	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION
1	BhattacharyaDK,IndustrialManagement, 1st Edition, S.Chand,publishers,2010.
2	T.R.Banga,S.C.Sharma,N.K.Agarwal,IndustrialEngineeringandManagementScience,12th Edition, KhannaPublishers,2008.
3.	NVSRaju,IndustrialEngineeringandManagement, 1st Edition, CengageIndiaPrivateLimited,2013

Web Details

1	https://onlinecourses.nptel.ac.in/noc21_me15/preview
2	https://onlinecourses.nptel.ac.in/noc20_mg43/preview
3	https://www.edx.org/learn/industrial-engineering

		Name	Signature with Date
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