

**DEPARTMENT OF PRODUCTION TECHNOLOGY
MADRAS INSTITUTE OF TECHNOLOGY CAMPUS**

ANNA UNIVERSITY :: CHENNAI – 600 044.

COURSE PLAN

COURSE DETAILS:

Degree	B.E.		
Programme Name	Production Engineering		
Course Code & Title	PR5074- Material Procurement Management		
Credits	3	Session	July 2023 – Dec 23
Course Type	Theory/ Theory with Lab/ Lab	Section	6 th semester
Name of the Faculty	Mr.K.Tamilarasan Teaching Fellow Department of Production Technology MIT, Anna University, Chennai – 600044.		

COURSE CONTENT:

Syllabus: (Approved Syllabus as per Regulation 2019)

OBJECTIVE:

- To understand the objectives and procedures of Purchasing.
- To remember the various aspects of stores management
- To apply the various concepts of inventory management
- To analyze management tools such as MRP, Aggregate planning, JIT concepts.
- To evaluate the usefulness of quantitative techniques in materials management.

UNIT I PURCHASING MANAGEMENT

9

Introduction to materials management – objectives – organization — value analysis – make or buy decisions-Purchasing and procedures – Selection of sources of supply – Vendor development – Vendor evaluation and rating – Vendor rating methods- Imports – Buyer and Seller relationship.

UNIT II STORES MANAGEMENT

9

Store function – Location – Layout – Stock taking – Materials handling Travel chart method– Transportation– Codification – Inventory pricing– warehousing –Logistics.

UNIT III BASIC INVENTORY MANAGEMENT

9

Basic EOQ Models- Assumptions- Quantity discount model- Q system- P system- Reorder level- ABC analysis- Deterministic and Probabilistic models- Finite Production

UNIT IV ADVANCED INVENTORY MANAGEMENT

9

Bill of Materials-Market Production Schedule requirements planning– Aggregate planning Aggregate planning strategies-Costs-Techniques-Tabulation method-Linear Programming Method – JIT- Lot size under constraints.

UNIT V O .R TECHNIQUES IN MATERIAL MANAGEMENT**9**

Application of O.R. Techniques in Materials Management- Linear Programming – Distribution model- Replacement analysis- Scheduling – Forecasting-Forecasting techniques.

TOTAL: 45 PERIODS**COURSE OUTCOMES:**

At the end of the course, students will be able to:

- CO1: Identify the objectives and procedures of Purchasing.
- CO2: Design the possible layout, selecting the appropriate equipment for material handling
- CO3: Decide the correct inventory system for the given application
- CO4: Develop suitable inventory management strategies
- CO5: Select a suitable quantitative techniques for the particular situation

TEXT BOOKS:

1. Gopalakrishnan. P, "Purchasing and Material Management", Text and cases, Tata McGraw Hill, 1996.
2. Kesavan.R, Elanchezhian.C and VijayaRamnath.B, "Engineering Management", Eswar Press. 2005.

REFERENCES:

1. Gupta P.K. and Man Mohan, "Problems in Operations Research", Sultan chand and Sons, 2014.
2. Jhamb L.C," Inventory Management", Everest Publishing House, 2013.
3. Menan K.S and Sarikakulkarni, Purchasing and Inventory Management, Shross, 2011.
4. Stephan.N, Chapmen J.R and Tany Arnold, "Introduction to Materials Management", Pearson , 2017.
5. Nair N.K, "Purchasing and Materials Management", Vikas Publishing, 1990.

COURSE ARTICULATION MATRIX

PR7013 NON DESTRUCTIVE TESTING METHODS																	
Course Outcome	Statement	Programme Outcomes												Programme Specific Outcomes			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
CO1	Identify the objectives and procedures of Purchasing.	1	-	1							1	-		1	1	1	
CO2	Design the possible layout, selecting the appropriate equipment for material handling	1	1	1							1	1		1	1	1	
CO3	Decide the correct inventory system for the given application	1	1	1							1	1		1	1	1	
CO4	Develop suitable inventory management strategies	1	1	1							1	1		1	1	1	
CO5	Select a suitable quantitative techniques for	1	1	1							1	1		1	1	1	

3	Monday	29/02/2024	2	1	Purchasing and procedures – Selection of sources of supply	T1	Chalk /Talk
4	Thursday	01/02/2024	1	1	Vendor evaluation and rating – Vendor rating methods- Imports	T1	Quiz and Group Discussion
5	Monday	05/02/2024	2	1	Buyer and Seller relationship.	T1	Chalk /Talk
6	Thursday	08/02/2024	1	2	Store function	T1	Chalk /Talk
7	Monday	12/02/2024	2	2	Location – Layout	T2	PPT Presentation
8	Thursday	15/02/2024	1	2	Stock taking	T1	Chalk /Talk
9	Monday	19/02/2024	2	2	Materials handling Travel chart method	T2	Chalk /Talk
10	Thursday	22/02/2024	1	2	Transportation– Codification	T1	Chalk /Talk
11	Monday	26/02/2024	2	2	Inventory pricing– warehousing – Logistics.	T1/T2	Chalk /Talk
12	Thursday	29/02/2024	1	3	Basic EOQ Models- Assumptions- Quantity discount model	T1/T2	Chalk /Talk
13	Monday	01/03/2024	2	2	Q system- P system	T1	Chalk /Talk
14	Thursday	05/03/2024	1	3	Reorder level	T1	Chalk /Talk
15	Monday	08/03/2024	2	3	ABC analysis- Deterministic and Probabilistic models	T1	Chalk /Talk
16	Thursday	12/03/2024	1	3	Finite Production	T1	Chalk /Talk
17	Monday	15/03/2024	2	4	Bill of Materials-Market Production Schedule requirements planning	T1	Chalk /Talk
18	Thursday	19/03/2024	1	4	Market Production Schedule requirements planning	T2	Chalk /Talk
19	Monday	22/03/2024	2	4	Aggregate planning Aggregate planning strategies	T2	PPT Presentation
20	Thursday	26/03/2024	1	4	Aggregate planning Aggregate planning strategies	T2	PPT Presentation
21	Monday	29/03/2024	2	4	Costs-Techniques-Tabulation method-Linear Programming Method	T2	PPT Presentation
22	Thursday	04/04/2024	1	4	JIT- Lot size under constraints	T2	Chalk /Talk
23	Monday	08/04/2024	2	5	Application of O.R. Techniques in Materials Management- Linear Programming.	T1/T2	Chalk /Talk
24	Thursday	11/04/2024	1	5	Linear Programming	T1/T2	PPT Presentation
25	Monday	14/04/2024	2	5	Distribution model- Replacement analysis	T1/T2	PPT Presentation/ Quiz and Group Discussion
26	Thursday	18/04/2024	1	5	Scheduling	T2	Chalk /Talk
27	Monday	21/04/2024	2	5	Forecasting	T2	Chalk /Talk
28	Thursday	25/04/2024	1	5	Forecasting techniques	T2	Chalk /Talk

COURSE DELIVERY/INSTRUCTIONAL METHODOLOGIES:

✓ Chalk & Talk	✓ Stud. Assignments	✓ Web Resources
✓ LCD/Smart boards	✓ Stud. Seminars	□ Add-On Courses

COURSE ASSESSMENT METHODOLOGIES-DIRECT

<input checked="" type="checkbox"/> University (End Semester) Examination		<input checked="" type="checkbox"/> Internal Assessment Tests	
<input checked="" type="checkbox"/> Assignments	<input type="checkbox"/> Laboratory Practices	<input type="checkbox"/> Mini/Major Projects	<input checked="" type="checkbox"/> Stud. Seminars
<input type="checkbox"/> Viva Voce	<input type="checkbox"/> Certifications	<input type="checkbox"/> Add-On Courses	<input type="checkbox"/> Others

COURSE ASSESSMENT METHODS

S.N.	Mode of Assessment	Date	Duration	% Weight
1	Internal Assessment Tests 1		1½ hr	25 %
2	Internal Assessment Tests 2		1½ hr	25 %
3.	University Examination		3 hr	50 %
Additional marks may be given for Assignments / Group / Team Seminar Presentation)				

COURSE ASSESSMENT METHODOLOGIES-INDIRECT

<input checked="" type="checkbox"/> Assessment of CO (By Feedback, Once)	<input checked="" type="checkbox"/> Student Feedback On Faculty (Once)
<input type="checkbox"/> Assessment of Mini/Major projects by Ext. Experts	<input type="checkbox"/> Others

COURSE POLICY (Compensation Assessment)

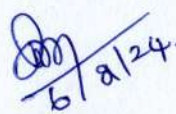
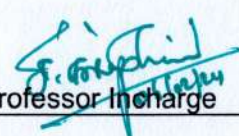
1. Attending all the assessment is mandatory for every student
2. Course policy will be followed as per the academic course regulation

COURSE ACADEMIC DISHONESTY AND PLAGIARISM

1. All rules and regulation prescribed by the ACOE, University Departments, are applicable in the Internal Assessment Tests and University (End Semester) Examinations. (https://acoe.annauniv.edu/download_forms/student_forms/Guidelines.pdf)
2. In general, possessing a mobile phone, carrying bits of paper with materials, talking to other students, copying from other students during Internal Assessment Tests and University (End Semester) Examinations will be treated as Malpractice and punishable as per the rules and regulations. The misuse of Assignment / Project / Seminar works from others is considered as academic dishonesty and will be treated with the rules and regulations of the University.

COURSE ADDITIONAL INFORMATION

Queries / clarifications / discussion (if required) may be e-mailed to / contact the course instructors during their Office Hours.

For Approval		
 6/2/24		
Course Faculty	Professor in charge	HOD (PT)