

Project Material Management

01CP0207 (PEC)

Objective of the Course:

- To study the various material management techniques.
- To explore the functions and process of material management.
- To implement the importance of material management in construction sector.
- To learn to apply engineering fundamentals and analyses to planning, selection and utilization of construction equipment.

Credit Earned: 3

Students learning outcomes:

After successful completion of the course, it is expected that student will be able to,

1. Understand the importance of subjects in today fast-growing construction industry.
2. Learn process and types of material management and functions.
3. Choose the right types of equipment for particular type of the work and will be get knowledge and limitations of various equipment.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA (M)	CSE (I)	Viva (V)	Term Work (TW)	
03	00	00	03	50	30	20	25	25	150

Detailed Syllabus

Sr No.	Title of the unit	Number of hours
1	Introduction to Material Management	10
	Definitions, functions, objectives, scope, Importance of material managements, advantages. Integrated approach to materials management, Role of materials manager; Material Planning: Importance's, definitions, flowchart, techniques and examples of material planning	
2	Codification and Procurement	10
	Classification: Need, classification of material, nature of codification, process of codification, advantages and drawbacks of codification, codification system; Procurement, identification of sources of procurement, vendor analysis. Vendor analysis concept of (MRP) Material requirement planning, planning, purchase procedure, legal aspects.	

3	Inventory Management	12
	Inventory Control: Introduction, definition, importance and scope, inventory models, EOQ, Advantages and limitation of use of EOQ, Periodic ordering, order point control, safety stock, stock outs, Selective inventory model and tools: ABC Analysis, VED, FSN, Guidelines used for assessment of effectiveness of inventory management	
4	Stores Management	12
	Purchase: Importance's, definitions, objectives, principles, purchase cycle, types of purchase, vendor evaluation types and vendor rating; Store management: Definition and its importance, functions, store location and layout, store systems and procedures, and store accounting & verifications. Receipt and inspection, safety in handling, loss on storage, wastage, Bulk purchasing, site layout and site organization, scheduling of men, materials and equipment	
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Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
10%	10%	25%	25%	20%	10%

Instructional Method and Pedagogy:

1. Use of Learning Management system like canvas
2. Demonstration through presentations on power point and videos and lectures
3. Brainstorming and group discussion sessions
4. Collaborative learning

Recommended Study Material:

1. Chitale A K, Gupta R C, (2013), "Material Management Text and Cases" – PHI Learning Private Limited
2. Chitkara K K, (2011), "Construction Project Management- Planning, Scheduling and Controlling" – Tata McGraw Hill Education Private Limited.
3. Peurifoy R L, Schexnayder C J, Shapira A, (2012), "Construction Planning, Equipments, and Methods"- Tata McGraw Hill Education Private Limited.
4. Kotadia A S, (2012), "Construction Management and Equipments" – Mahajan Publishing House.
5. Gopalakrishnan P, (2011), "Handbook of Materials Management" - PHI Learning Private Limited.
6. Rangwala S C, (2012), "Construction of structures and management of works" –Charotar Publishing House Private Limited.
7. Nicholas J M, Steyn H, (2012), "Project management for engineering, business and technology" – by Routledge Publication.