

Lesson Plan- CE1138- Construction Resource Planning And Management
Academic year 2015-16
(Semester commencing in June 2015)

Instructional objectives (IO)	
1	To study the concepts of construction resource planning, scheduling and to apply appropriate tools and techniques like allocation of resources as per requirement.
2	To know the methods of project estimation and obtain the knowledge of planning and preparing budgets for the construction projects.
3	To know the materials and equipments used in construction projects and gain knowledge in proper utilization of procurement.
4	To make aware of labour management and regulations for construction activities.
5	To create awareness on resource leveling and resource allocation.

Student outcomes

Student outcome (SO)	
a	an ability to apply knowledge of mathematics, science, and engineering
c	An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
e	an ability to identify, formulate, and solve engineering problems
g	The ability to communicate effectively
k	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

Mapping of Instructional Objectives (IOs) with Student Outcomes (SOs)
CE1138- Construction Resource Planning And Management

Instructional objectives	Student Outcomes				
	a	c	e	g	k
To study the concepts of construction resource planning, scheduling and to apply appropriate tools and techniques like allocation of resources as per requirement.	X	X			
To know the methods of project estimation and obtain the knowledge of planning and preparing budgets for the construction projects.	X	X			
To know the materials and equipments used in construction projects and gain knowledge in proper utilization of procurement.	X		X		
To make aware of labour management and regulations for construction activities.		X		X	
To create awareness on resource leveling and resource allocation.			X		X

CE1138	Construction Resource Planning And Management	Lecture Hours (L)	Tutorial Hours (T)	Practical Hours (P)	Credits (C)
		3	0	0	3
45 hours					

Lecture No.	Topic	No. of hours	IOs	SO	Reference
UNIT-I RESOURCE PLANNING					
1.	Introduction to resources	1	1	a, c	1
2.	Types of resources, Manpower, Equipment, Material, Money.	1	1	a, c	1
3.	Resource Planning-Manpower, Equipment Manpower planning-Functions of Manpower planning, Scope of construction manpower planning Introduction to Equipment planning(detailed in III unit)	2	1	a, c	1
4.	Resource Planning-Material, Money Material planning-ABC analysis problems, material wastage standard, Material provisioning process. Introduction to money planning (detailed in II)	2	1	a, c	1
5.	Scheduling concepts and types-work scheduling fundamentals, bar chart, network based complex project scheduling method, Line of balance method, resource scheduling considerations.	2	1	a, c	1
6.	Procurement management process.	1	1	a, c	1
7.	Cycle Test –I	2	2	a, c	1
UNIT-2 COST MANAGEMENT					
8.	Methods of Estimating project cost (An overview)	2	2	a, c	1
9.	Classification of construction cost	1	2	a, c	1,3
10.	Planning resources unit rate, cost inflation, Escalation and Contingencies	2	2	a, c	1
11.	Earned value budget	1	2	a, c	1
12.	Project master budget	2	2	a, c	1
13.	contractors cost control system	1	2	a, c	1
UNIT-3 PROCUREMENT MANAGEMENT					
14.	Material: Time of purchase, quantity of material, sources	1	3	a, e	1,2,3
15.	Transportation, Delivery and Distribution	2	3	a, e	1,2
16.	Control methods	1	3	a, e	1,2
17.	Inventory basics, Inventory Planning	1	3	a, e	1,2
18.	EOQ basic model problems	1	3	a, e	1,2
19.	Equipment: planning and selecting	1	3	a, e	1,2
20.	Extension of equipment, types, cost control methods	1	3	a, e	1,2

Lecture No.	Topic	No. of hours	IOs	SO	Reference
21.	Depreciation and Replacement	1	3	a, e	1,2
	Cycle Test - II	2	3	a, e	1,2
UNIT-4 LABOUR MANAGEMENT					
22.	Labour Regulations: Social Security - welfare Legislation	1	4	c, g	1
23.	Laws relating to Wages, Bonus and Industrial disputes	1	4	c, g	1
24.	Labour Administration - Labour, Classes of Labour, Cost of Labour, Labour schedule	1		c, g	1
25.	optimum use Labour, Insurance and Safety Regulations	1	4	c, g	1
26.	Workmen's Compensation Act - other labour Laws.	1	4	c, g	1
UNIT-5 RESOURCE ALLOCATION AND LEVELLING					
27.	Resource list - Resource Allocation	1	5	e, k	1
28.	Resource Leveling and Smoothing	2	5	e, k	1
29.	Importance of Project Scheduling - Time-cost trade off	2	5	e, k	1
30.	Value Management.	1	5	e, k	1
	Model Examination	3	1-5	a,c,e, g,k	1
	Total hours	45			

Note:

1. The faculty members handling the course may conduct surprise test according to their convenience. However a question paper in hard copy as well as key shall be made available for the surprise test. The process shall be same as that of cycle tests.

2. The portion for the cycle tests / model examinations will be announced a week prior to commencement of such exam / tests.

TEXT BOOKS

- Chitkara .K.K, "Construction Project Management", McGraw Hill, 2012.
- Sharma .S.C, "Construction Engineering and Management", Khanna Publishers, 2008.

REFERENCE BOOKS

- Senguptha .B, "Construction Management and Planning", Tata McGraw Hill, 2005.

Prepared by

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29-06-2015

Faculty members handling the course

Sl. No.	Faculty Name
1.	Mr.L.Krishnaraj
2.	Mr.A.Arokia prakash
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