

**Lesson Plan- CE0402- CONSTRUCTION PLANNING AND MANAGEMENT**  
**Academic year 2015-16**  
**(Semester commencing in January 2015)**

**B.Tech Civil Engineering-VIII Semester 2015-2016**

<b>Course Code</b>	CN0402
<b>Course Name</b>	CONSTRUCTION PLANNING AND MANAGEMENT
<b>Prerequisites</b>	NIL
<b>Category</b>	P

**Instructional objectives**

<b>Instructional objectives no.</b>	<b>Instructional Objectives</b>
<b>1</b>	To introduce a concepts of projects formulation
<b>2</b>	To impart the idea about planning and scheduling of activities
<b>3</b>	To introduce the concepts of resource planning and allocation and control
<b>4</b>	To provide a bird's eye view of optimization techniques

**Student outcomes**

<b>Student Outcome No.</b>	<b>Student Outcome</b>
<b>a</b>	an ability to apply knowledge of mathematics, science, and engineering
<b>e</b>	an ability to identify, formulate, and solve engineering problems
<b>k</b>	an ability to use the techniques, skills and modern engineering tools necessary for engineering practice

**Mapping of Instructional Objectives (IOs) with Student Outcomes (SOs)**  
**CE0402- Construction Planning and Management**

<b>Instructional objectives</b>		<b>Student Outcomes</b>			
		<b>a</b>	<b>e</b>	<b>k</b>	
1. To introduce a concepts of projects formulation		X	X		
2. To impart the idea about planning and scheduling of activities			X	X	
3. To introduce the concepts of resource planning and allocation and control			X	X	
4. To provide a bird's eye view of optimization techniques		X	X	X	
<b>CE0402</b>	<b>Construction Planning and Management</b>	<b>Lecture Hours (L)</b>	<b>Tutorial Hours (T)</b>	<b>Practical Hours (P)</b>	<b>Credits (C)</b>
		<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>
	<b>Nil</b>				

Lecture No.	Date	Topic	Instructional Objectives	Student Outcome	Reference
<b>UNIT I</b>					
<b>CONSTRUCTION PROJECT FORMULATION</b>					
1		Introduction-Principles of Management - different types of construction projects	1	e	1,2
2		Project Life Cycle- phases in project life cycle	1	e	1,2
3		Pre-feasibility report and clearance- project estimate	2	e	1,2
4		Techno Economic feasibility report - Detailed project report.	1	a, e	1,2
		CYCLE TEST I	1,2	a, e	1,2
<b>UNIT II</b>					
<b>CONSTRUCTION PLANNING AND SCHEDULING</b>					
10		Introduction - work breakdown structure- plan development process.	1,2	a	2
11		Scheduling-definition -types of construction schedules, scheduling techniques-CPM	1,2	a, k	2
12		Terms and definitions -Earliest and Latest times - different types of floats – significance. CPM Problem Solving	2	a	2
13		Calculation of critical path method-PERT - terms and definitions	1,2	a, e	2
14		Network and solving problems using PERT - standard deviation and probability calculation in PERT	1,2		2
		SURPRISE TEST	1,2	a, k	2
<b>UNIT – III</b>					
<b>RESOURCE PLANNING</b>					
19		<b>Materials</b> : Quantity of materials - time of purchase- inventory control	2	a, k	2
20		terms and definitions - types of inventory -EOQ - reasons for maintain inventory, different tools for inventory	2	e	2,3
21		<b>Equipment</b> : Classification of major construction equipment	2	e	2
22		Planning and selecting of equipment- task consideration - cost consideration	2	a, k	2
23		<b>Labour</b> : Classes of labour - cost of labour- labour schedule - optimum use of labour.	1,2	a	2
		CYCLE TEST II	1,2	a, k	2,3
<b>UNIT IV</b>					

<b>RESOURCE ALLOCATION AND CONTROL</b>					
28		Introduction- resource allocation-resource leveling- resource loading graph	3	a, k	2
29		cost control - earned value concepts	3	a, k	2
30		S" curve technique in cost control - Risk cost management	3		2,3
31		stages in risk management- controlling the risk.	2, 3	a, e	2,3
<b>UNIT V</b>					
<b>OPTIMISATION TECHNIQUES</b>					
37		Introduction to optimization- Linear programming - formulation of LP problems.	4	a, e	2,3
38		solving LP problem using graphical method- Transportation problems, North west Corner cell method, Least cost cell method, VAM method- Assignment problems	4	a, e	2,3
39		Replacement model (Value of money does not change with time) – Without interest problem to be solved	4	a, k	2,3
40		Time cost trade off - crashing- computer application in construction management.	1,4	e	1,2,3
		<b>MODEL EXAM</b>	<b>1,2,3,4</b>	<b>a, e, k</b>	<b>1,2,3</b>

**Text Books:**

- Chitkara.K.K, *Construction Project Management: planning, Scheduling and control*, Tata McGraw Hill Publishing Company, New Delhi, 1998
- Joy.P.K, *Total Project Management - The Indian context*, Macmillan India Ltd, New Delhi, 1992
- Vohra.N.D., *Quantitative Techniques in Management*, Tata Mcgraw Hill Publishing Company, New Delhi, 1998

**Faculty members handling:**

Batch 1		Batch 2	
Faculty Name	Signature	Faculty Name	Signature
Mr.P. Jagannathan		Mr. V.R Prasath kumar	
Mr. L Krishnaraj		Mr. M Balasubramanian	
Mr.A. Arokiaprakash		Mr. S Anand	
Mr. J Rajprasad		Mr. Ganapathy Ramasamy	

**HOD/CIVIL**