GOVERNMENT POLYTECHNIC, PURI
DEPARTMENT OF CIVIL ENGINEERING

Discipline: **CIVIL ENGG.**	Semester: 6TH	Name of the Teaching Faculty: - **Mr. TAPAN KUMAR MOHAPATRA**
Subject: construction management (Th2)	No. of days/per week class allotted: 04	Semester From date:10.03.2022 To Date: 10.06.2022 No. of Weeks:14
PRE-REQUISITE	Basic knowledge about managemnt and execution of project	
COURSE OUTCOMES	1. Develop schedules for construction project . Management and labor management.	
	2. Realize significance of organizational behavior towards successful functioning	
	3. Explain the important terminology related to materials management, site management, equipment.	
	4. Understand construction quality indicators and their measurement	
	5. Apply methods to measure and monitor progress of work	
	6. Realize significance of safety requirement and regulations at workplace	

Week	Class day	Practical topics	Delivery Method
1ST	1ST	**Introduction To Construction Management** 1.1 Aims and objectives of construction management.	Whiteboard
	2ND	1.2 Functions of construction management.	Whiteboard
	3RD	1.3 The construction team components owner,engineer,architect,contractor-their functions and interrelationship and jurisdiction.	Whiteboard
	4TH	1.4 Resources for construction management-men,machines,materials,money	Whiteboard
2ND	1ST	**Constructional Planning** 2.1 Importance of Construction Planning	Whiteboard
	2ND	2.2 Developing work breakdown structure for construction work	Whiteboard
	3RD	2.3 Construction Planning stages-Pre-tender stage, Post-tender stage.	Whiteboard
	4TH	2.4 Construction scheduling by Bar charts-preparation of Bar Charts for simple construction works.	Whiteboard
3RD	1ST	2.5 Preparation of schedules for labour materialsmachinery, finance for small works	Whiteboard
	2ND	2.6 Limitation of Bar charts	Whiteboard
	3RD	2.7 Construction scheduling by network techniques -deffination of terms ,PERT and CPM techniques, advantages and disadvantages of two techniques, network analysis, estimation of time and critical path, application of PERTand CPM techniques in sample construction works.	Whiteboard
	4TH	ASSESSMENT	Whiteboard
4TH	1ST	**Materials and Stores Management** 3.1 Classification of Stores-storage of stock.	Whiteboard
	2ND	Classification of Stores-storage of stock.	Whiteboard
	3RD	3.2 Issue of materials-indent , invoice, bin card	Whiteboard

	4TH	CLASS TEST	Whitebo
5TH	1ST	**Construction Site Management** 4.1 Job Lay out-Objectives, Review plans, specifications, Lay out of equipments.	Whitebo
	2ND	4.2 Location of equipment, organizing labour at site.	Whiteboard
	3RD	4.3 Job lay out for different construction sites.	Whiteboard
	4TH	4.4 Principle of storing material at site	Whiteboard
6TH	1ST	**Construction Organization:** 5.1 Introduction – Characteristics, Structure, importance.	Whiteboard
	2ND	5.2 Organization types-line and staff, functions and their characteristics	Whiteboard
	3RD	5.3 Principles of organization- meaning and significance of terms-control . authority, responsibility, job & task.	Whiteboard
	4TH	5.4 Leadership-necessity, styles of leadership, role of leader	Whiteboard
7TH	1ST	5.5 Human relations-relations with subordinates, peers, Supervisors, characteristics of group behavior, mob psychology, handling of grievances. absenteeism, labour welfare.	Whiteboard
	2ND	5.6 Conflicts in organization-genesis of conflicts, types-intrapersonal, interpersonal, intergroup, resolving conflicts.	Whiteboard
	3RD	**Construction Labour and Labour Management:** 6.1 Preparing Labour schedule	Whiteboard
	4TH	6.2 Essential steps for optimum labour output 6.3 Labour characteristics	Whiteboard
8TH	1ST	6.4 Wages & their payment 6.5 Labour incentives	Whiteboard
	2ND	6.6 Motivation- Classification of motives, different approaches to motivation	Whiteboard
	3RD	CLASS TEST	Whiteboard
	4TH	**Equipment Management** 7.1 Preparing the equipment schedule	Whiteboard
9TH	1ST	7.2 Identification of different alternative equipment	Whiteboard
	2ND	7.3 Importance of Owning &operating costs in making decisions for hiring & purchase of equipment	Whiteboard
	3RD	7.4 Inspection and testing of equipment	Whiteboard
	4TH	7.5 Equipment maintenance	Whiteboard
10TH	1ST	**Quality Control** 8.1 Concept of quality in construction	Whiteboard
	2ND	8.2 Quality Standards- during construction	Whiteboard
	3RD	destructive & non destructive methods	Whiteboard
	4TH	destructive & non destructive methods and different technics	Whiteboard
11TH	1ST	assessment	Whiteboard
	2ND	**Monitoring Progress** 9.1 Programme and progress of work 9.2 Work study 9.3 Analysis and control of physical and financial progress corrective measures.	Whiteboard
	3RD	**Monitoring Progress** 9.1 Programme and progress of work	Whiteboard

	4TH	9.2 Work study	Whiteboard
	1ST	9.3 Analysis and control of physical progress	Whiteboard
	2ND	financial progress corrective measures	Whiteboard
	3RD	**Safety Management In Construction** 10.1 Importance of safety	Whiteboard
	4TH	10.2 causes and effects of accidents in construction works 10.3 Safety measures in worksites for excavation, scaffolding, formwork, fabrication and erection, demolition.	Whiteboard
13TH	1ST	10.4 Development of safety consciousness	Whiteboard
	2ND	10.5 Safety legislation- Workman's compensation act, contract labour act.	Whiteboard
	3RD	**Role of Vulnerability Atlas of India in construction projects** 11.1 Introduction to Vulnerability Atlas of India, Concepts of natural hazards and disasters and vulnerability profile of India. Definition of disaster related terms. 11.2 Earthquake hazard and vulnerability, Magnitude and intensity scales of earthquake, seismic zones, earthquake hazard maps, types of structures and damage classification, effects in housing and resistant measures.	Whiteboard
	4TH	1.3 Wind / Cyclone hazard and vulnerability, wind speed and pressures, wind hazard and cyclone occurrence maps, storm surveys and cyclone resistant measures. 11.4 Flood hazard and vulnerability, Flood hazard and Flood prone areas of the country, General protection of habitants and flood resistant construction.	Whiteboard
14TH	1ST	11.5 Landslides, Tsunamis and Thunderstorm hazards and vulnerability,Landslide & Thunderstorm incidence maps. Measures against Tsunami hazards.	Whiteboard
	2ND	11.6 Housing vulnerability risk tables and usage of vulnerability atlas of India, Inclusion of vulnerability atlas in Tender documents.	Whiteboard

LEARNING RESOUCES:

1. construction management: M.R. SAMAL
2. CONSTRUCTION PLANNING AND MANAGEMENT: B.M. DHIR

WEBSITE RESOUCES:

ConSTRUCTION MANAGEMENT - NPTEL
https://nptel.ac.in › courses

Tapan Kumar Mohapatra
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10.03.2022
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