

**GOVERNMENT POLYTECHNIC JAJPUR**

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**DEPARTMENT OF CIVIL ENGINEERING**

**LESSON PLAN**

<b>Discipline:</b> Civil Engg.	<b>Semester:</b> 6th	<b>Name of the Teaching faculty:</b> Rajashree Nayak
<b>Subject:</b> Construction Management Th-2	<b>No of Days/Week class allotted:</b> 4	<b>Semester from Date:</b> 16/01/2024 <b>To Date:</b> 26/04/2024 <b>No of weeks:</b> 15
<b>Week</b>	<b>Class Day</b>	<b>Topics</b>
1st	1st	<b>Introduction To Construction Management</b> Aims and objectives of construction management.
	2nd	Functions of construction management.
	3rd	The construction team components- owner, engineer, architect, contractor-their functions and interrelationship and jurisdiction.
	4th	Resources for construction management- men, machines, materials, money
2nd	1st	<b>Constructional Planning</b> Importance of Construction Planning
	2nd	Developing work breakdown structure for construction work
	3rd	Construction Planning stages- Pre-tender stage, Post-tender stage.
	4th	Construction scheduling by Bar charts- preparation of Bar Charts for simple construction works.
3rd	1st	Preparation of schedules for labour, materials, machinery, finance for small works
	2nd	Limitation of Bar charts
	3rd	Construction scheduling by network techniques- definition of terms, PERT and CPM techniques, advantages and disadvantages of two techniques, network analysis, estimation of time and critical path, application of PERT and CPM techniques in sample construction works.
	4th	<b>Materials and Stores Management</b> Classification of Stores- storage of stock.
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	2nd	Issue of materials- indent, invoice, bin card
	3rd	Issue of materials- indent, invoice, bin card
	4th	<b>Construction Site Management</b> Job Layout- Objectives, Review plans
5th	1st	specifications, Layout of equipments.
	2nd	Location of equipment, organizing labour at site.
	3rd	Job layout for different construction sites.
	4th	Principle of storing material at site.
6th	1st	<b>Construction Organization:</b> Introduction- Characteristics, Structure, importance.
	2nd	Organization types- line and staff, functions and their characteristics

	3rd	Principles of organization-meaning and significance of terms- control, authority, responsibility, job & task.
	4th	Leadership-necessity, styles of leadership, role of leader
7th	1st	Human relations-relations with subordinates, peers, Supervisors, characteristics of group behavior, mob psychology, handling of grievances, absenteeism, labour welfare.
	2nd	Conflicts in organization-genesis of conflicts, types-intrapersonal, interpersonal, intergroup, resolving conflicts.
	3rd	<b>Construction Labour and Labour Management:</b> Preparing Labour schedule
	4th	Essential steps for optimum labour output
8th	1st	Labour characteristics
	2nd	Wages & their payment
	3rd	Labour incentives
	4th	Motivation-Classification of motives, different approaches to motivation.
9th	1st	placing of concrete, compaction of concrete (vibrators) <b>Equipment Management</b> Preparing the equipment schedule
	2nd	Identification of different alternative equipment
	3rd	Importance of Owning & operating costs in making decisions for hiring & purchase of equipment
	4th	Importance of Owning & operating costs in making decisions for hiring & purchase of equipment
10th	1st	Inspection and testing of equipment
	2nd	Equipment maintenance
	3rd	<b>Quality Control</b> Concept of quality in construction
	4th	Quality Standards-during construction, after construction, destructive & non destructive methods.
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	2nd	Quality Standards-during construction, after construction, destructive & non destructive methods.
	3rd	Quality Standards-during construction, after construction, destructive & non destructive methods.
	4th	<b>Monitoring Progress</b> Programme and progress of work
12th	1st	Work study
	2nd	Analysis and control of physical and financial progress corrective measures.
	3rd	Analysis and control of physical and financial progress corrective measures.
	4th	Analysis and control of physical and financial progress corrective measures.
13th	1st	Analysis and control of physical and financial progress corrective measures.
	2nd	<b>Safety Management In Construction</b> Importance of safety
	3rd	causes and effects of accidents in construction works
	4th	Safety measures in work sites for excavation, scaffolding, formwork,

		fabrication and erection, demolition.
14th	1st	Development of safety consciousness
	2nd	Safety legislation-Workman's compensation act, contract labour act.
	3rd	<b>Role of Vulnerability Atlas of India in construction projects</b> Introduction to Vulnerability Atlas of India, Concepts of natural hazards and disasters and vulnerability profile of India. Definition of disaster related
	4th	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.
15th	1st	Wind/Cyclone hazard and vulnerability, wind speed and pressures, wind hazard and cyclone occurrence maps, storm surveys and cyclone resistant measures.
	2nd	Flood hazard and vulnerability, Flood hazard and Flood prone areas of the country, General protection of habitant and flood resistant construction.
	3rd	Landslides, Tsunami and Thunderstorm hazards and vulnerability, Landslide & Thunderstorm incidence maps, Measures against Tsunami hazards.
	4th	Housing vulnerability risk tables and usage of vulnerability atlas of India, Inclusion of vulnerability atlas in Tender documents.
16th	1st	CLASSTEST, PREVIOUS YEAR QUESTIONS, QUIZ

**Learning Resources:**

S.No.	Author Name	Name of the Book
1	M.R. Samal & R.L. Sahoo	Construction Management
2	PSG Ahlot & BMDhir	Construction planning and management
3	Robert L Peurifoy & William B Ledbetter	Construction Planning equipment and methods

Rajashree Nayak  
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