DEPARTMENT OF CIVIL ENGINEERING, OSME KEONJHAR

Lesson Plan for Summer 2023-24

Subject: *Highway Engineering (4th semester)*		No. of Days/Per week class alloted: *05hrs*	Name of the faculty: *Er. Lopamudra Nayak*	Semester From Date: *14-02-2023* To Date: *23-05-2024* No. of weeks: 15
Month	**Week**	**Date/Class Day**	**Periods Available**	**Topic To Be Covered**
FEBRUARY	1st	14.02.2023	1	Briefing of Syllabus , introduction about the subject, books required, classroom rules ***Chapter 1 -Introduction:*** 1.1 Importance of Highway transportation: importance organizations like Indian roads congress, Ministry of
		15.02.2023	2	1.2 Functions of Indian Roads Congress , 1.3 IRC classification of roads , 1.4 Organisation of state highway department
		16.02.2023	1	***Chapter 2 - Road Geometrics:*** 2.1 Glossary of terms used in geometric and their importance, right of way, formation width, road margin, road shoulder, carriage way, side slopes, kerbs, formation level, camber and gradient
		17.02.2023	1	2.2 Design and average running speed,
	2nd	21.02.2023	1	Sight Distance , Stopping Sight Distance and Numericals on Stopping Sight Distance
		22.02.2023	2	Numericals on Stopping Sight Distance
		23.02.2023	1	Overtaking Sight Distance
		24.02.2023	1	Numericals on Overtaking Sight Distance
	3rd	28.02.2023	1	Numericals on Overtaking Sight Distance
		01.03.2023	2	Revision and Question Answers Discussion , 2.3 Necessity of curves
		02.03.2023	1	Types of Horizontal Curves and Vertical Curves , Transition Curves
		03.03.2023	1	Super elevation , Necessity of Providing super elevation , Derivation of Super elevation
	4th	09.03.2023	1	Methods of Providing Super elevation
		10.03.2023	1	Numericals on Super elevation
MARCH	5th	14.03.2023	1	Numericals on Super elevation
		15.03.2023	2	***Chapter 3 - Road Materials:*** 3.1 Difference types of road materials in use: soil, aggregates, and binders
		16.03.2023	1	3.2 Function of soil as highway Subgrade
		17.03.2023	1	3.3 California Bearing Ratio: methods of finding CBR valued in the laboratory and at site and their significance
	6th	21.03.2023	1	3.4 Testing aggregates: Abrasion test, impact test, crushing strength test, water absorption test & soundness test
		22.03.2023	2	Revision and Question Answers Discussion ***Chapter 4 - Road Pavements:*** 4.1 Flexible and rigid pavement, their merits and demerits, typical cross-sections
		23.03.2023	1	functions of various components
		24.03.2023	1	Flexible pavements: 4.2 Sub-grade preparation: Setting out alignment of road
	7th	28.03.2023	1	**Monthly Test (March)**
		29.03.2023	2	setting out bench marks, control pegs for embankment and cutting , borrow pits, making profile of embankment , construction of embankment, compaction, stabilization
		31.03.2023	1	preparation of subgrade, methods of checking camber, gradient and alignment as per recommendations of IRC, equipment used for subgrade preparation

APRIL	8th	04.04.2023	1	4.3 Sub base Course: Necessity of sub base, stabilized sub base, purpose of stabilization (no designs) Types of stabilization Mechanical stabilization , Lime stabilization , Cement stabilization , Fly ash stabilization
		05.04.2023	2	4.4 Base Course: Preparation of base course, Brick soling, stone soling and metalling, Water Bound Macadam and wet-mix Macadam, Bituminous constructions: Different types 4.5 Surfacing: Surface dressing (i) Premix carpet and (ii) Semi dense carpet , Bituminous concrete , Grouting
		06.04.2023	1	4.6 Rigid Pavements: Concept of concrete roads as per IRC specifications , Revision and Question Answer Discussion
	9th	11.04.2023	1	**Chapter 5 - Hill Roads:** 5.1 Introduction: Types of Hill Roads
		12.04.2023	2	Typical cross-sections showing all details of a typical hill road in cut, partly in cutting and partly in filling
		13.04.2023	1	5.2 Breast Walls, Retaining walls, different types of bends
	10th	18.04.2023	1	***Chapter 6 - Road Drainage:*** 6.1 Necessity of road drainage work, cross drainage works , Different Types of Cross Drainage
		19.04.2023	2	6.2 Surface and sub-surface drains and storm water drains. Different Types of Sub-Surface Drains
		20.04.2023	1	Location, spacing and typical details of side drains, side ditches for surface drainage, intercepting drains, pipe drains in hill roads
		21.04.2023	1	details of drains in cutting embankment, typical cross sections
	11th	25.04.2023	1	***Chapter 7 - Road Maintenance:*** 7.1 Common types of road failures – their causes and remedies , Revision and Question Answers Discussion
		28.04.2023	1	7.2 Maintenance of bituminous road such as patch work and resurfacing , 7.3 Maintenance of concrete roads – filling cracks, repairing joints
MAY	12th	02.05.2023	1	maintenance of shoulders (berm), maintenance of traffic control devices
		03.05.2023	2	**Monthly Test (April)**
		04.05.2023	1	7.4 Basic concept of traffic study, Traffic safety and traffic control signal
	13th	09.05.2023	1	***Chapter 8 - Construction Equipments:*** Preliminary ideas of the following plant and equipment: 8.1 Hot mixing plant
		10.05.2023	2	8.2 Tipper, tractors (wheel and crawler) scraper, bulldozer, dumpers, shovels, graders, roller dragline
		11.05.2023	1	8.3 Asphalt mixer and tar boilers
		12.05.2023	1	8.4 Road pavers , 8.5 Modern construction equipments for roads , Revision and Question Answer Discussion
	14th	16.05.2023	1	Previous Years Question Discussion
		17.05.2023	2	**Monthly Test (May)**
		18.05.2023	1	**Mock Test**
	15th	23.05.2023	1	**Mock Test**
		Total	***60***	

13-02-2023.

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DEPARTMENT OF CIVIL ENGINEERING, OSME KEONJHAR

Lesson Plan for Winter 2023-24

Subject: *Construction Management (6th semester)*	No. of Days/Per week class alloted: 04hrs	Name of the faculty: *Er. Lopamudra Nayak*	Semester From Date: *14-02-2023* To Date: *24-05-2024* No. of weeks: 15

Month	Week	Date/Class Day	Periods Available	Topic To Be Covered
FEBRUARY	1st	14.02.2023	1	Briefing of Syllabus , introduction about the subject, books required, classroom rules ***Chapter 1 - Introduction to Construction Management*** : 1.1 Aims and objectives of construction management , 1.2 Functions of construction management
		16.02.2023	2	1.3 The construction team components- owner,engineer,architect,contractor-their functions and interrelationship and jurisdiction , 1.4 Resources for construction management-men,machines,materials,money
		17.02.2023	1	***Chapter 2 - Construction Planning:*** 2.1 Importance of Construction Planning , 2.2 Developing work breakdown structure for construction work , 2.3 Construction Planning stages-Pre-tender stage, Post-tender stage
	2nd	21.02.2023	1	2.4 Construction scheduling by Bar charts-preparation of Bar Charts for simple construction works , 2.5 Preparation of schedules for labour materials,machinery, finance for small works , 2.6 Limitation of Bar charts , 2.7 Construction scheduling by network techniques-defination of terms
		23.02.2023	2	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 , Numerical Practice
		24.02.2023	1	Numerical Practice ***Chapter 3 - Materials and Stores Management:*** 3.1 Classification of Stores-storage of stock
	3rd	28.02.2023	1	3.2 Issue of materials-indent , invoice, bin card , Revision and Question Answer Discussion
MARCH		02.03.2023	2	***Chapter 4 - Construction Site Management:*** 4.1 Job Lay out-Objectives, Review plans, specifications, Lay out of equipments , 4.2 Location of equipment, organizing labour at site ***Chapter 5 - Construction Organisation:*** 4.2 Location of equipment, organizing labour at site
		03.03.2023	1	5.2 Organization types-line and staff, functions and their characteristics , 5.3 Principles of organization- meaning and significance of terms- control, authority, responsibility, job & task
	4th	09.03.2023	2	5.4 Leadership-necessity, styles of leadership, role of leader , 5.5 Human relations-relations with subordinates, peers, Supervisors, characteristics of group behavior, mob psychology , Revision and Question Answer Discussion
		10.03.2023	1	handling of grievances, absenteeism, labour welfare
	5th	14.03.2023	1	5.6 Conflicts in organization-genesis of conflicts, types-intrapersonal, interpersonal, intergroup, resolving conflicts
		16.03.2023	2	***Chapter 6 - Construction Labour and Labour Mamagement:*** 6.1 Preparing Labour schedule , 6.2 Essential steps for optimum labour output , 6.3 Labour characteristics
		17.03.2023	1	6.4 Wages & their payment , 6.5 Labour incentives
	6th	21.03.2023	1	6.6 Motivation- Classification of motives, different approaches to motivation
		23.03.2023	2	***Chapter 7 - Equipment Management:*** 7.1 Preparing the equipment schedule , 7.2 Identification of different alternative equipment
		24.03.2023	1	Revision and Question Answer Discussion
	7th	28.03.2023	1	**Monthly Test (March)**
		31.03.2023	1	7.3 Importance of Owning & operating costs in making decisions for hiring & purchase of equipment , 7.4 Inspection and testing of equipment , 7.5 Equipment maintenance
APRIL	8th	04.04.2023	1	Chapter 8 - Quality Control: 8.1 Concept of quality in construction ,
		06.04.2023	2	8.2 Quality Standards- during construction, after construction, destructive & non destructive methods , Revision and Question Answer Discussion
	9th	11.04.2023	1	Revision and Question Answer Discussion
		13.04.2023	2	***Chapter 9 - Monitoring Progress:*** 9.1 Programme and progress of work
	10th	18.04.2023	1	9.2 Work study, 9.3 Analysis and control of physical and financial progress corrective measures
		20.04.2023	2	***Chapter 10 - Safety Management in Construction:*** 10.1 importance of safety , 10.2 causes and effects of accidents in construction works

		21.04.2023	1	10.3 Safety measures in worksites for excavation, scaffolding, formwork, fabrication and erection, demolition
	11th	25.04.2023	1	10.4 Development of safety consciousness , 10.5 Safety legislation- Workman's compensation act, contract labour act
		28.04.2023	1	**Monthly Test (April)**
MAY	12th	02.05.2023	1	***Chapter 11 - 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,
		04.05.2023	2	11.3 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.
	13th	09.05.2023	1	11.5 Landslides, Tsunamis and Thunderstorm hazards and vulnerability, Landslide & Thunderstorm incidence maps, Measures against Tsunami hazards. 11.6 Housing vulnerability risk tables and usage of vulnerability atlas of India, Inclusion of vulnerability atlas in Tender documents.
		11.05.2023	2	Revision of all Chapters
		12.05.2023	1	Previous Year Question Answer Discussion
	14th	16.05.2023	1	**Monthly Test (May)**
		18.05.2023	2	**Mock Test**
	15th	23.05.2023	1	**Mock Test**
		Total	48	

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DEPARTMENT OF CIVIL ENGINEERING, OSME KEONJHAR

Lesson Plan for Winter 2023-24

Subject: Student Centered Activities *(4th semester)*		No. of Days/Per week class alloted: 03hrs	Name of the faculty: *Er. Lopamudra Nayak*	Semester From Date: *14-02-2023* To Date: *24-05-2024* No. of weeks: 10
Month	Week	Date/Class Day	Periods Available	Topic To Be Covered
FEBRUARY	1st	17.02.2023	3	Self Introduction By Students
	2nd	24.02.2023	3	Short Speech on any Topic of own Choice
MARCH	3rd	03.03.2023	3	Group Discussion
	4th	10.032023	3	Aptitude and Reasoning Test
	5th	17.03.2023	3	Cleanig and plantation Drive
	6th	24.03.2023	3	Seminar
	7th	31.03.2023	3	Extra Curricular Activities Activities
APRIL	8th	21.04.2023	3	Script Writing
	9th	28.04.2023	3	Classes on MOOCS
MAY	10th	12.05.2023	3	Field Visit
		Total	30	

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DEPARTMENT OF CIVIL ENGINEERING, OSME KEONJHAR

Lesson Plan for Winter 2023-24

ject: Project Phase II *(6th semester)*	No. of Days/Per week class alloted: 05hrs	Name of the faculty: *Er. Lopamudra Nayak*	Semester From Date: *14-02-2023* To Date: *24-05-2024* No. of weeks: 14

Month	Week	Date/Class Day	Periods Available	Topic To Be Covered
FEBRUARY	1st	20.02.2023	3	Finding out Shortfalls
		25.02.2023	2	Corrective Action towards Shortfalls in Project
	2nd	27.02.2023	3	Analysis of the Project Report
		04.03.2023	2	Modifications in the Project if needed
MARCH	3rd	06.03.2023	3	Finalisation of the Project Report
		11.03.2023	2	Finalisation of materials Required For Model of the Project
	4th	13.03.2023	3	Estimation of approximate Expenditure
		18.03.2023	2	Market Study
	5th	20.03.2023	3	Collection of Materials
		25.03.2023	2	Start Model Preparation
	6th	27.03.2023	3	Model Preparation
APRIL	7th	03.04.2023	3	Model Preparation
		08.04.2023	2	Model Preparation
	8th	10.04.2023	3	Model Preparation
		15.04.2023	2	Seminar on Partial Complition of Project
	9th	17.04.2023	3	Model Preparation
		22.04.2023	2	Model Preparation
	10th	24.04.2023	3	Model Preparation
		29.04.2023	2	Model Preparation
MAY	11th	01.05.2023	3	Model Preparation
		06.05.2023	2	Model Preparation
	12th	08.05.2023	3	Model Preparation
		13.05.2023	2	Model Preparation
	13th	15.05.2023	3	Completion of Model Preparation
		20.05.2023	2	Seminar by group members on Complition of Project
	14th	22.05.2023	3	Submission of Project
		Total	66	

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