

BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK
DEPARTMENT OF CIVIL ENGINEERING
LESSON PLAN



LESSONPLAN

SUBJECT:ADVANCE CONSTRUCTION TECHNIQUES & EQUIPMENT (TH3)	ACADEMICSESSION:2023-24
FACULTY: ADITYA RANJAN PATRA	SEMESTER:6 TH
	SEC -C

Sd/-
HOD(CivilEngineering.)

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Discipline: Civil Engineering	Semester: 6th (C) No. of Days/ per week class allotted: 04periods per week. (Mon-1, Tue-1, Fri-2period)		Name of the teaching faculty: ADITYA RANJAN PATRA
Subject: ACTE			Semester From Date: 16-01-2024 To Date: 26-04-2024 No. of weeks: 15 weeks
Week	Class Day	No of period available	Theory Topics
1st	16/01/24	1	1 Advanced construction Materials 1.1 Fibers and plastic:-Types of fibers-steel,carbon, glass fibers as construction materials, properties of fibers
	19/01/24	2	1.1 Types of plastics-PVC,RPVC,HDPE,FRP,GRP,etc.Colored plastic sheets.Use of plastic as construction material 1.2 Artificial Timber-Properties and uses of artificial timber.Types of artificial timber available in market, strength of artificial timber.
2nd	22/01/24	1	1.3 Miscellaneous materials-Properties and uses of acoustics materials,wall cladding , plaster boards,micro-silica,artificialsand,bondingagents,adhesives etc.
3rd	29/01/24	1	2 Prefabrication 2.1 Introduction,necessity and scope of prefabrication
	30/01/24	1	2.1 History of prefabrication,current uses of prefabrication,types of prefabricated systems, Classification of prefabrication,advantages and disadvantages of prefabrication
	02/02/24	2	2.2 The theory and process of prefabrication, Design principle of prefabricated systems,types of prefabricated elements, modular coordination
4th	05/02/24	1	2.3 Indian standard recommendation for modular planning
	06/02/24	1	3 Earthquake Resistant Construction 3.1 Building configuration 3.2 Lateral load resisting structures3 Building

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			characteristics
	09/02/24	2	3.3 Building characteristics 3.4 Effect of structural irregularities-vertical irregularities, plan configuration problems
5th	12/02/24	1	Monthly class test 1 3.5 Safety consideration during additional construction and alteration of existing buildings.
	13/02/24	1	3.6 Additional strengthening measures in masonry building-corner reinforcement , lintel band, sill band etc.
	16/02/24	1	4 Retrofitting of Structure 4.1 Seismic retrofitting of reinforced concrete buildings
6th	19/02/24	1	4.2 Sources of weakness in RC frame building
	20/02/24	1	4.3 classification of retrofitting techniques and their uses
	23/02/24	2	5 Building Services .5.1 Cold water distribution in high rise building, layout of installation, Cold water distribution in high rise building, layout of installation
7th	26/02/24	1	5.2 Hot water supply -general principles for central plants- layout
	27/02/24	1	5.3 Sanitation-soil and waste water installation in high rise buildings
	01/03/24	2	5.4 Electrical services-i) requirements in high rise buildings, ii) layout of wiring, iii) fuses and their types iv) earthing
8th	04/03/24	1	5.5 Lighting 5.6 Ventilation
9th	11/03/24	1	5.7 Mechanical services-lift , escalator, elevators-types and uses.
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	15/03/24	2	6 Construction and earth moving equipments 6.1 Planning and selection of construction equipments 6.2 Study on earth moving equipments
10th	18/03/24	1	Monthly Class Test 2
	19/03/24	1	6.3 Study and uses of compacting equipments like tamping rollers, smooth wheel rollers, pneumatic tired rollers and vibrating compactors

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	22/03/24	2	6.3 Study and uses of compacting equipments like tamping rollers, smooth wheel rollers, pneumatic tired rollers and vibrating compactors.
11th	02/04/24	1	INTERNAL ASSESSMENT
	05/04/24	2	7 Soil reinforcing techniques 7.1 Necessity of soil reinforcing
12th	08/04/24	1	6.4 Owning and operating cost-problems
	09/04/24	1	7.2 Use wire mesh and geo-synthetics
	12/04/24	2	7.3 Strengthening of embankments
13th	15/04/24	1	7.3 Slope stabilization in cutting
	16/04/24	1	7.3 embankments by soil reinforcing techniques.
	19/04/24	2	Previous Year Questions & Answer Discussion
14th	22/04/24	1	Previous Year Questions & Answer Discussion
	23/04/24	1	Revision
	26/04/24	2	Revision
15th	30/04/24	2	Previous Year Questions & Answer Discussion