

BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK
DEPARTMENT OF CIVIL ENGINEERING



LESSON PLAN

SUBJECT: ADVANCE CONSTRUCTION
TECHNIQUES & EQUIPMENT (TH 3)
FACULTY: SRI ADITYA RANJAN PATRA

ACCADEMIC SESSION: 2022-23

SEMESTER: 6TH

SEC: C

Sd/-
HOD (Civil Engineering.)

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Discipline: Civil Engineering	Semester: 6th (C)		Name of the teaching faculty: Mr. Aditya Ranjan Patra
Subject: ACTE	No. of Days/ per week class allotted: 04 periods per week. (Mon-2, Thu-1, Fri-1 period)		Semester From Date: 14-02-2023 To Date: 23-05-2023 No. of weeks: 15 weeks
Week	Class Day	No of period available	Theory Topics
1st	16/02/2023	1	1 ADVANCED CONSTRUCTION MATERIALS 1.1 Fibers and plastic: -Types of fibers-steel, carbon, glass fibers as construction materials, properties of fibers.
	17/02/2023	1	1.1 Types of plastics - PVC, RPVC, HDPE, FRP, GRP, etc. Colored plastic sheets. Use of plastic as construction material.
2nd	20/02/2023	2	1.2 Artificial Timber-Properties and uses of artificial timber. Types of artificial timber available in market, strength of artificial timber. 1.3 Miscellaneous Materials-Properties and uses of acoustics materials, wall cladding.
	23/02/2023	1	1.3 plaster boards, micro-silica, artificial sand, bonding agents, adhesives etc.
	24/02/2023	1	2 PREFABRICATIONS 2.1 History of prefabrication, current uses of prefabrication, types of prefabricated systems.
3rd	27/02/2023	2	2.1 Classification of prefabrication, advantages and disadvantages of prefabrication.
	02/03/2023	1	2.2 The theory and process of prefabrication, Design principle of prefabricated systems, types of prefabricated elements.
	03/03/2023	1	2.2 modular coordination. 2.3 Indian standard recommendation for modular planning.

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4th	06/03/2023	2	3 EARTHQUAKE RESISTANT CONSTRUCTION 3.1 Building configuration.
	09/03/2023	1	Monthly Class Test 1
	10/03/2023	1	3.2 Lateral load resisting structures 3 Building characteristics.
5th	13/03/2023	2	3.3 Building characteristics. 3.4 Effect of structural irregularities-vertical irregularities, plan configuration problems.
	16/03/2023	1	3.5 Safety consideration during additional construction and alteration of existing buildings.
	17/03/2023	1	3.6 Additional strengthening measures in masonry building-corner reinforcement, lintel band, sill band etc.
6th	20/03/2023	2	4 RETROFITTING OF STRUCTURE 4.1 Seismic retrofitting of reinforced concrete buildings.
	23/03/2023	1	4.2 Sources of weakness in RC frame building.
	24/03/2023	1	4.3 classification of retrofitting techniques and their uses.
7th	27/03/2023	2	5 BUILDING SERVICES 5.1 Cold water distribution in high rise building, layout of installation. 5.2 Hot water supply -general principles for central plants- layout.
	31/03/2023	1	5.3 Sanitation-soil and waste water installation in high rise buildings.
8th	03/04/2023	2	5.4 Electrical services- I) requirements in high rise buildings and ii) layout of wiring iii) fuses and their types and iv) earthing.
	06/04/2023	1	5.5 Lighting.

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			5.6 Ventilation.
9th	10/04/2023	2	5.7 Mechanical services-lift, escalator, elevators-types and uses.
	13/04/2023	1	Monthly Class Test 2
10th	17/04/2023	2	6 CONSTRUCTION AND EARTH MOVING EQUIPMENTS 6.1 Planning and selection of construction equipment's.
	20/04/2023	1	6.2 Study on earth moving equipment's.
	21/04/2023	1	6.3 Study and uses of compacting equipment's like tamping rollers, smooth wheel rollers, pneumatic tired rollers and vibrating compactors.
11th	24/04/2023	2	6.3 Study and uses of compacting equipment's like tamping rollers, smooth wheel rollers, pneumatic tired rollers and vibrating compactors.
	27/04/2023	1	6.4 Owning and operating cost-problems.
	28/04/2023	1	INTERNAL ASSESEEMENT
12th	01/05/2023	2	7 SOIL REINFORCING TECHNIQUES 7.1 Necessity of soil reinforcing.
	04/05/2023	1	7.2 Use wire mesh and geo-synthetics.
13th	08/05/2023	2	7.3 Strengthening of embankments.
	11/05/2023	1	7.3 Slope stabilization in cutting.
	12/05/2023	1	7.3 embankments by soil reinforcing techniques.
14th	15/05/2023	2	Monthly Class Test 3
	18/05/2023	1	Revision
15th	22/05/2023	2	Previous Year Questions & Answer Discussion