NILASAILA INSTITUTE OF SCIENCE & TECHNOLOGY
SERGARH-756060, BALASORE (ODISHA)
(Approved by AICTE& affiliated to SCTE&VT, Odisha)

LESSON PLAN

SUBJECT: Th-3 (ADVANCED CONSTRUCTION TECHNIQUES & EQUIPMENT)

CHAPTER WISE DISTRIBUTION OF PERIODS

Sl.No.	Name of the chapter as per the Syllabus	No. of Periods as per the Syllabus	No. of periods actually needed
1	Advanced construction materials	10	10
2	Prefabrication	8	8
3	Earthquake Resistant Construction	8	8
4	Retrofitting of Structures	8	8
5	Building Services	8	8
6	Construction and earth moving equipments	10	10
7	Soil reinforcing techniques	8	8
	Total Period:	60	60

Discipline: CIVIL ENGINEERING	Semester: 6th	**Name of the Teaching Faculty:** Er. SITIKANTHA BARIK
Week	**Class Day**	**Theory / Practical Topics**
1st	1st	1.1 Fibers and Plastics- Types of fibers- Steel, Carbon, glass fibers, Use of fibers as construction material, properties of Fibers.
	2nd	1.1 Fibers and Plastics- Types of fibers- Steel, Carbon, glass fibers, Use of fibers as construction material, properties of Fibers.
	3rd	1.1 Fibers and Plastics- Types of plastics- PVC, RPVC, HDPE, FRP, GRP etc. Colored plastic sheets. Use of plastic as construction material
	4th	1.1 Fibers and Plastics- Types of plastics- PVC, RPVC, HDPE, FRP, GRP etc. Colored plastic sheets. Use of plastic as construction material
2nd	1st	1.2 Artificial Timbers – Properties and uses of artificial timber. Types of artificial timber available in market, strength of artificial timber.
	2nd	1.2 Artificial Timbers – Properties and uses of artificial timber. Types of artificial timber available in market, strength of artificial timber.
	3rd	1.2 Artificial Timbers – Properties and uses of artificial timber. Types of artificial timber available in market, strength of artificial timber.
	4th	1.3 Miscellaneous materials – Properties and uses of acoustics materials, wall claddings, plaster boards, micro-silica, artificial sand, bonding agents, adhesives etc.
3rd	1st	1.3 Miscellaneous materials – Properties and uses of acoustics materials, wall claddings, plaster boards, micro-silica, artificial sand, bonding agents, adhesives etc.
	2nd	1.3 Miscellaneous materials – Properties and uses of acoustics materials, wall claddings, plaster boards, micro-silica, artificial sand, bonding agents, adhesives etc.

3rd	3rd	2.1 Introduction, necessity and scope of prefabrication of buildings, history of prefabrication, current uses of prefabrication , types of prefabricated systems, classification of prefabrication, advantages and disadvantages of prefabrication
	4th	2.1 Introduction, necessity and scope of prefabrication of buildings, history of prefabrication, current uses of prefabrication , types of prefabricated systems, classification of prefabrication, advantages and disadvantages of prefabrication
4th	1st	2.1 Introduction, necessity and scope of prefabrication of buildings, history of prefabrication, current uses of prefabrication , types of prefabricated systems, classification of prefabrication, advantages and disadvantages of prefabrication
	2nd	2.2 The theory and process of prefabrication, design principle of prefabricated systems, types of prefabricated elements, modular coordination.
	3rd	2.2 The theory and process of prefabrication, design principle of prefabricated systems, types of prefabricated elements, modular coordination.
	4th	2.2 The theory and process of prefabrication, design principle of prefabricated systems, types of prefabricated elements, modular coordination.
5th	1st	2.3 Indian standard recommendation for modular planning.
	2nd	2.3 Indian standard recommendation for modular planning.
	3rd	3.1 Building Configuration
	4th	3.2 Lateral Load resisting structures
6th	1st	3.3 Building characteristic
	2nd	3.4 Effect of structural irregularities-vertical irregularities, plan configuration problems.
	3rd	3.5 Safety consideration during additional construction and alteration of existing Buildings.

	4th	3.5 Safety consideration during additional construction and alteration of existing Buildings.
7th	**1st**	3.6 Additional strengthening measures in masonry building-corner reinforcement, lintel band, sill band, plinth band, roof band, gable band etc.
	2nd	3.6 Additional strengthening measures in masonry building-corner reinforcement, lintel band, sill band, plinth band, roof band, gable band etc.
	3rd	4.1 Seismic retrofitting of reinforced concrete buildings
	4th	4.1 Seismic retrofitting of reinforced concrete buildings
8th	**1st**	4.2 -Sources of weakness in RC frame building
8th	**2nd**	4.2 -Sources of weakness in RC frame building
	3rd	4.2 -Sources of weakness in RC frame building
	4th	4.3 -Classification of retrofitting techniques and their uses
9th	**1st**	4.3 -Classification of retrofitting techniques and their uses
	2nd	4.3 -Classification of retrofitting techniques and their uses
	3rd	5.1 Cold Water Distribution in high rise building, lay out of installation

	4th	5.2 Hot water supply – General principles for central plants-layout
10th	**1st**	5.3 Sanitation –soil and waste water installation in high rise buildings
	2nd	5.4 Electrical services – i) requirements in high rise buildings ii) Layout of wiring - types of wiring iii) Fuses and their types iv)Earthing and their uses
	3rd	5.4 Electrical services – i) requirements in high rise buildings ii) Layout of wiring - types of wiring iii) Fuses and their types iv)Earthing and their uses
	4th	5.5 Lighting – Requirement of lighting, Measurement of light intensity
11th	**1st**	5.6 Ventilation - Methods of ventilation (Natural and artificial Systems of ventilation) problems on ventilation
	2nd	5.7 Mechanical Services- Lifts, Escalator, Elevators – types and uses.
	3rd	6.1 Planning and selection of construction equipments
	4th	6.1 Planning and selection of construction equipments
12th	**1st**	6.2 Study on earth moving equipments like drag line, tractor, bulldozer, Power shovel
	2nd	6.2 Study on earth moving equipments like drag line, tractor, bulldozer, Power shovel
	3rd	6.2 Study on earth moving equipments like drag line, tractor, bulldozer, Power shovel

	4th	6.3 Study and uses of compacting equipments like tamping rollers, Smooth wheel rollers, Pneumatic tired rollers and vibrating compactors
13th	**1st**	6.3 Study and uses of compacting equipments like tamping rollers, Smooth wheel rollers, Pneumatic tired rollers and vibrating compactors
	2nd	6.4 Owning and operating cost – problems
	3rd	6.4 Owning and operating cost – problems
	4th	6.4 Owning and operating cost – problems
14th	**1st**	7.1 Necessity of soil reinforcing
	2nd	7.1 Necessity of soil reinforcing
	3rd	7.2 Use wire mesh and geo-synthetics.
	4th	7.2 Use wire mesh and geo-synthetics.
15th	**1st**	7.2 Use wire mesh and geo-synthetics.
	2nd	7.3 Strengthening of embankments, Slope stabilization in cutting and embankments by soil reinforcing techniques.
	3rd	7.3 Strengthening of embankments, Slope stabilization in cutting and embankments by soil reinforcing techniques.

	4th	7.3 Strengthening of embankments, Slope stabilization in cutting and embankments by soil reinforcing techniques.