ASIAN SCHOOL OF TECHNOLOGY, BHUBANESWAR

DEPARTMENT OF CIVIL ENGINEERING

LESSON PLAN

Discipline: Civil engineering	Semester : 3rd	No. of periods available: 51	Name of Teaching Faculty: Ankita Rath
Subject: Advanced Construction Techniques and Equipment	No. of Days/ per week class allotted : 4 periods per week		No. of weeks : 13
Week	Class Day		Topics to be covered
1st	1st	1	Introduction, Building Configuration,
	2nd	1	Building characteristics
	3rd	1	Lateral Load resisting structure
	4th	1	Effect of structural irregularities-vertical irregularities,
2nd	5th	1	plan configuration problems
	6th	1	Additional strengthening measures in masonry building
	7th	1	lintel band, sill band, plinth band, roof band, gable band etc.
	8th	1	lintel band, sill band, plinth band, roof band, gable band repeat and description
3rd	9th	1	Seismic retrofitting of reinforced concrete buildings
	10th	1	Sources of weakness in RC frame building
	11th	1	Classification of retrofitting techniques and their uses
	12th	1	Classification of retrofitting techniques

			and their description
4th	13th	1	Cold Water Distribution in high rise building,
	14th	1	lay out of installation and types
	15th	1	Hot water supply – General principles for central plants-layout
	16th	1	Class test
5th	17th	1	Sanitation in high rise buildings
	18th	1	soil and waste water installation in high rise buildings
	19th	1	Electrical services – i) requirements in high rise buildings
	20th	1	ii) Layout of wiring - types of wiring iii) Fuses and their types
6th	21st	1	iv)Earthing and their uses
	22nd	1	Lighting – Requirement of lighting, Measurement of lightintensity
	23rd	1	Ventilation (i) Methods of ventilation
	24th	1	ii) Systems of ventilation,
7th	25th	1	Mechanical Services- Lifts, Escalator, Elevators – types and uses
	26th	1	Types of fibers, steel carbon and glass.
	27th	1	Uses of fibers as construction materials
	28th	1	Properties of fibers. Types of plastics PVC, RPVC, HDPE,
8th	29th	1	FRP, GRP etc. Colored plastic sheets and uses
	30th	1	Artificial timbers- properties and uses
	31st	1	Types and strength of artificial timbers
	32nd	1	Miscellaneous materials
9th	33rd	1	properties and uses of

			acoustic materials
	34th	1	Wall cladding, plaster boards,
	35th	1	micro silica, artificial sand
	36th	1	Bonding agents as construction materials
10th	37th	1	adhesives as construction materials
	38th	1	Introduction and scope of prefabrication in building
	39th	1	history of prefabrication, current uses of prefabrication
	40	1	Theory and process of prefabrication
11th	41st	1	types of prefabricated systems, classification of prefabrication,
	42nd	1	advantages and disadvantages of prefabrication
	43rd	1	design principle of prefabricated systems
	44th	1	types of prefabricated elements,
12th	45th	1	modular coordination Indian standard recommendation for modular planning
	46th	1	Revision and Practice
	47th	1	Class Test
	48th	1	Planning and selection of Construction equipment
13th	49th	1	Study on earth moving equipment: drag line
	50th	1	Study on earth moving equipment: tractor
	51st	1	Study on earth moving equipment: bulldozer
	52nd	1	Study on earth moving equipment: power shovel, Study and uses of compacting equipment like tamping rollers wheel rollers Pneumatic tired

			rollers vibrating compactors Owning and operating cost
	53rd	1	Necessity of soil reinforcing, Use wire mesh and geo-synthetics. Slope stabilization in cutting and embankments by soilreinforcing techniques.