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: Bisnupriya Jena
Subject: Building Construction	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	**1. Overview of Building Components** 1.1. Classification of Buildings as per National Building Code Group A to I, as per Types of Constructions- Load Bearing Structure, Framed Structure, Composite Structure..
	2nd	1	1.2. Building Components – Functions of Building Components, substructure – Foundation, Plinth
	3rd	1	1.3. Superstructure – Walls, Partition wall, Cavity wall, Sill, Lintel, Doors and Windows, Floor, Mezzanine floor, Roof, Columns, Beams, Parapet.
	4th	1	Unit 1 Revision
2nd	5th	1	**2. Construction of Substructure** 2.1. Job Layout: Site Clearance, Layout for Load Bearing Structure and Framed Structure by Center Line and Face Line Method, Precautions.
	6th	1	2.2. Earthwork: Excavation for Foundation, Timbering and Strutting, Earthwork for embankment, Material for plinth Filling, Tools

			and plants used for earthwork.
	7th	1	Class Test 2
	8th	1	2.3. Foundation: Functions of foundation, 2.4. Types of foundation – Shallow Foundation, Stepped Footing, Wall Footing,
3rd	9th	1	Column Footing, Isolated and Combined Column Footing, Raft Foundation, Grillage Foundation.
	10th	1	Footing Revision
	11th	1	2.5. Deep Foundation – Pile Foundation, Well foundation and Caissons
	12th	1	Pumping Methods of Dewatering, Deep wells, Well points, Cofferdams (Introduction only).
4th	13th	1	Foundation Revision
	14th	1	Unit 2 Revision
	15th	1	**3. Construction of Superstructure** 3.1. Stone Masonry: Terms used in stone masonry- facing, backing, hearting, through stone, corner stone, cornice. Types of stone masonry: Rubble masonry, Ashlar Masonry and their types.
	16th	1	Joints in stone masonry and their purpose. Selection of Stone Masonry, Precautions to be taken in Stone Masonry Construction.
5th	17th	1	3.2. Brick masonry: Terms used in brick masonry- header, stretcher, closer, quoins, course, face, back, hearting, bat bond, joints, lap, frog line, level and plumb. Bonds in brick masonry- header bond, stretcher bond, English bond and Flemish bond. Requirements of good brick masonry.

	18th	1	Junctions in brick masonry and their purpose and procedure. Precautions to be observed in
	19th	1	Brick Masonry Construction. Comparison between stone and Brick Masonry. Tools and plants required for construction of stone and brick masonry.
	20th	1	Hollow concrete block masonry and composite masonry.
6th	21st	1	Masonary Revision
	22nd	1	3.3. Scaffolding and Shoring: Purpose, Types of Scaffolding, Process of Erection and Dismantling. Purpose and Types of Shoring, Underpinning.
	23rd	1	Formwork: Definition of Formwork, Requirements of Formwork, Materials used in Formwork, Types of Formwork, Removal offormwork.
	24th	1	Unit 3 Revision
7th	25th	1	**4. Building Communication and Ventilation** 4.1. Horizontal Communication: Doors –Components of Doors, Full Paneled Doors, Part ly Paneled and Glazed Doors, Flush Doors, Collapsible Doors, Rolling Shutters, Revolving Doors, Glazed Doors. Sizes of Door recommended by BIS.
	26th	1	4.2. Windows: Component of windows, Types of Windows – Full Paneled, Partly Paneled and Glazed, wooden, Steel, Aluminum windows, Sliding Windows, Louvered Window, Bay win- dow, Corner window, clear storey window, Gable and Dormer window, Skylight. Sizes of Windows recommended by BIS. Ventilators
	27th	1	Door and Window Revision
	28th	1	4.3. Fixtures and fastenings for doors and windows
8th	29th	1	4.4. Material used and functions of Window Sill and Lintels, Shed /

			Chajja.
	30th	1	4.5. Vertical Communication: Means of Vertical Communication- Stair Case,Ramps,Lift, Elevators and Escalators.
	31st	1	4.6. Terms used in staircase steps, tread, riser, nosing, soffit, waist slab, baluster, balustrade, scotia, hand rails, newel post, landing, headroom, winder.
	32nd	1	Types of staircase (On the basis of shape): Straight, dog-legged, open well, Spiral, quarter turn, bifurcated, Three quarter turn and Half turn, (On the basis of Material): Stone, Brick, R.C.C., wooden and Metal.
9th	33rd	1	Unit 4 revision
	34th	1	Unit 4 class test
	35th	1	**5. Building Finishes** 5.1. Floors and Roofs: Types of Floor Finishes and its suitability- Kota, Marble, Granite, Ceramic Tiles, Vitrified, Chequered Tiles, Paver Blocks, Concrete Floors, wooden Flooring, Skirting and Dado.
	36th	1	Process of Laying and Construction, Finishing and Polishing of Floors, Roofing Ma terials- RCC, Mangalore Tiles, AC Sheets, G.I. sheets, Corrugated G.I. Sheets, Plastic and Fibre Sheets.
10th	37th	1	Types of Roof: Flat roof, Pitched RoofKing Post truss, Queen Post Truss, terms used in roofs.
	38th	1	Wall Finishes: Plastering – Necessity of Plastering, Procedure of Plastering, Single Coat Plaster, Double Coat Plaster, Rough finish, Neeru Finishing and Plaster of Paris (POP). Special Plasters- Stucco plaster, sponge finish, pebble finish. Plaster Board and Wall Claddings. Precautions to be taken in plastering, defects in plastering.
	39th	1	Painting – Necessity, Types of painting

			and procedure of Painting. Painting – Necessity, Surface Preparation for painting, Methods of Application.
	40	1	Unit 5 class test