

Jharsuguda Engineering School, Jharsuguda

Lesson Plan

Course-Building Construction (3rd Semester Diploma, Civil Engineering)

Weekly: 3 classes | Total: 45 Periods | Duration: 15 Weeks

Week	Class No. (1-45)	Unit	Topic / Sub-topics	Pedagogy / Activities	Assessment / Assignment
1	1	I	NBC classification of buildings (Group A-I); Types of construction: load bearing, framed & composite	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
1	2	I	Building components & their functions; Substructure: foundation, plinth	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
1	3	I	Superstructure: walls, partition/cavity walls, sill, lintel, doors & windows (overview)	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
2	4	I	Superstructure contd.: floors, mezzanine floor, roofs, columns, beams, parapet; short tutorial	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
2	5	II	Job layout: site clearance; layout by centre-line & face-line methods; precautions	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
2	6	II	Earthwork: excavation for foundations, timbering & strutting	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
3	7	II	Earthwork: embankment, plinth filling materials; tools & plants	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
3	8	II	Foundations: functions & classification	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
3	9	II	Shallow foundations: stepped, wall, isolated & combined column footings, raft; grillage	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled

4	10	II	Deep foundations: pile, well & caissons	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
4	11	II	Dewatering: pumping methods, deep wells, well points; cofferdams (Intro)	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
4	12	II	Tutorial/problem-solving on substructure	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
5	13	III	Stone masonry: terms (facing, backing, hearting, through/corner stone, cornice)	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
5	14	III	Rubble masonry - types, uses	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
5	15	III	Ashlar masonry - types; joints & their purpose; selection & precautions	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
6	16	III	Brick masonry: terms (header, stretcher, closer, quoin, course, lap, frog, line, level, plumb, etc.)	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
6	17	III	Brick bonds: header & stretcher bonds	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
6	18	III	Brick bonds: English & Flemish; requirements of good brick masonry	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
7	19	III	Junctions in brick masonry - purpose & procedure; precautions	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
7	20	III	Stone vs brick masonry - comparison; tools & plants	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled

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7	21	III	Hollow concrete block & composite masonry	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
8	22	III	Scaffolding: purpose, types, erection & dismantling	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
8	23	III	Shoring: purpose, types; underpinning	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
8	24	III	Formwork: definition, requirements, materials, types & removal	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
9	25	IV	Doors: components; paneled, flush, collapsible, rolling shutters, revolving, glazed; BIS-recommended sizes	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
9	26	IV	Windows: components & types (wood/steel/Al, sliding, louvered, bay, corner, clerestory, dormer, skylight); BIS sizes; ventilators	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
9	27	IV	Fixtures & fastenings; materials & functions of sills, lintels, chajjas	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
10	28	IV	Vertical communication: stair terminology (tread, riser, nosing, waist, baluster, handrail, landing, headroom, winder)	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
10	29	IV	Stair types by shape: straight, dog-legged, open well, quarter/half/three-quarter turn, spiral, bifurcated	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
10	30	IV	Stair types by material: stone, brick, RCC, timber, metal; ramps, lifts, elevators,	Lecture + Sketching/Board work + Short Q&A / Tutorial where	In-class quiz / short assignment / model test as


			escalators	indicated	scheduled
11	31	IV	Design considerations, typical proportions & checks; quick numerical/tute	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
11	32	IV	Class test / assignment on Unit IV	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
11	33	V	Floor finishes overview & selection criteria	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
12	34	V	Kota, marble, granite - laying, finishing & polishing	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
12	35	V	Ceramic, vitrified, chequered tiles, paver blocks, concrete floors - laying & finishing	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
12	36	V	Timber/engineered wooden floors; skirting & dado	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
13	37	V	Roofing materials: RCC, Mangalore tiles, AC sheets, GI/corrugated GI, plastic & fibre sheets	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
13	38	V	Roof types: flat vs pitched; roof terminology	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
13	39	V	Pitched roofs: King-post truss - components & details	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
14	40	V	Pitched roofs: Queen-post truss & other common trusses	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
14	41	V	Wall finishes: plastering - necessity & procedure; single & double coat,	Lecture + Sketching/Board work + Short Q&A / Tutorial where	In-class quiz / short assignment / model test as

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			rough/Neeru/POP finish	indicated	scheduled
14	42	V	Special plasters: stucco, sponge, pebble; plaster boards & wall claddings; defects & precautions	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
15	43	V	Painting: necessity; surface preparation	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
15	44	V	Painting: types & methods of application	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled
15	45	V	Comprehensive revision & model test (Units I-V)	Lecture + Sketching/Board work + Short Q&A / Tutorial where indicated	In-class quiz / short assignment / model test as scheduled


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14/12/2025
(Unit IV, Part B, Ho D, L11)