

# Government Polytechnic Asthawan, Nalanda

## LECTURE PLAN

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**Semester : 3rd**

**Subject : Building Construction (1615303)**

Unit	Week	Lecture No (1 Hr Each)	Topic of Class & Discussions	Mode of Teaching
Unit 1 BUILDING COMPONENTS AND TYPES OF STRUCTURE	1	1	BUILDING COMPONENTS & THEIR FUNCTION, SUBSTRUCTURE & SUPERSTRUCTURE	Lecture /PDF /Video
		2	TYPES OF STRUCTURES, CLASSIFICATION OF ROCKS, REQUIREMENT OF GOOD BUILDING STONE, DRESSING & QUARRYING OF STONES	Lecture /PDF /Video
		3	CONVENTIONAL BRICKS , STANDARD BRICKS COMPOSITION OF CLAY BRICK, STRENGTH OF BRICKS, TESTING OF BRICKS , SPECIAL BRICKS	Lecture /PDF /Video
	2	4	LIME MORTAR, CEMENT MORTAR, SPECIAL MORTARS. FUNCTIONS OF MORTAR, PROPORTIONS, PROPERTIES OF MORTAR AND TESTS FOR MORTAR	Lecture /PDF /Video
		5	USE OF TIMBER, CHARACTERISTICS OF GOOD TIMBER, DEFECTS IN TIMBER, PLYWOOD, PARTICLE BOARD , VENEER, SUN MICA , ARTIFICIAL TIMBER,	Lecture /PDF /Video
		6	GLASS, PLASTIC, FIBERS, ALUMINIUM, STEEL , GALVANIZED IRON, ASPHALT BITUMEN, PVC, CPVC, PPF, WATERPROOFING AND TERMITE PROOFING MATERIALS, ADMIXTURES IN CONCRETE, BONDING AGENTS, EPOXY RESINS,	Lecture /PDF /Video
Unit 2 CONSTRUCTION OF SUBSTRUCTURE	3	7	SITE CLEARANCE, PREPARING JOB LAYOUT, LAYOUT FOR LOAD BEARING STRUCTURE AND FRAMED STRUCTURE BY CENTER LINE AND FACE LINE METHOD	Lecture /PDF /Video
		8	WHILE MARKING LAYOUT ON GROUND, EXCAVATION FOR FOUNDATION	Lecture /PDF /Video
		9	TIMBERING AND STRUTTING EARTHWORK FOR EMBANKMENT MATERIAL FOR PLINTH FILLING	Lecture /PDF /Video
	4	10	TOOLS AND PLANTS USED FOR EXCAVATION AND EARTHWORK, TYPES OF FOUNDATION	Lecture /PDF /Video
		11	OPEN FOUNDATIONS, SHALLOW FOUNDATION, STEPPED FOUNDATION, ISOLATED AND COMBINED COLUMN FOOTING, RAFT FOUNDATION, DEEP FOUNDATION AND PILE FOUNDATION	Lecture /PDF /Video
		12	PUMPING METHOD OF DEWATERING, COFFERDAMS, BEARING CAPACITY OF FOUNDATION SOIL, UNDER REAMED PILE FOUNDATION.	Lecture /PDF /Video
5	5	13	TERMS USED IN STONE MASONRY – FACING, BACKING, HEARTING, THROUGH STONE, CORNER STONE	Lecture /PDF /Video
		14	UNCOURSED RUBBLE MASONRY, COURSED RUBBLE MASONRY, POINT TO BE OBSERVED IN CONSTRUCTION OF STONE MASONRY	Lecture /PDF /Video
		15	MORTARS FOR STONE MASONRY, TOOLS AND PLANTS USED FOR STONE MASONRY, COL-GROUT MASONRY.	Lecture /PDF /Video
	6	16	COMMON TERMS USED IN BRICK MASONRY, REQUIREMENTS OF GOOD BRICKWORK, BONDS IN BRICK MASONRY, ENGLISH, FLEMISH	Lecture /PDF /Video
		17	STRETCHER AND HEADER BONDS ONLY, BRICK LAYING ,LINE LEVEL AND PLUMB OF BRICKWORK, STRIKING AND RAKING OF JOINTS.	Lecture /PDF /Video
		18	LEAD AND LIFT, PRECAUTIONS IN BRICK MASONRY, TOOLS AND PLANTS USED IN BRICK MASONRY,	Lecture /PDF /Video
7	7	19	COMPARISON BETWEEN BRICK AND STONE MASONRY, HOLLOW CONCRETE BLOCK MASONRY	Lecture /PDF /Video
		20	COMPOSITE MASONRY , CAVITY WALL- PURPOSE AND CONSTRUCTION.	Lecture /PDF /Video
		21	DOORS -COMPONENTS AND CONSTRUCTION OF PANELLED DOORS, BATTENED DOORS, FLUSH DOORS,	Lecture /PDF /Video

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Unit – 3 CONSTRUCTION OF SUPERSTRUCTURE	8	22	COLLAPSIBLE DOORS, ROLLING SHUTTERS, REVOLVING DOORS, GLAZED DOORS. SIZES OF DOOR,	Lecture /PDF /Video
		23	WINDOWS -COMPONENT AND CONSTRUCTION OF FULLY PANELLED, PARTLY PANELLED AND GLAZED,	Lecture /PDF /Video
		24	GLAZED WOODEN, STEEL, ALUMINIUM WINDOWS, SLIDING WINDOWS, LOUVERED WINDOW, VENTILATORS,	Lecture /PDF /Video
	9	25	CEMENT GRILLS, PROTECTIVE TREATMENT FOR DOORS AND WINDOWS, FIXTURES AND FASTENINGS FOR DOORS AND WINDOW,	Lecture /PDF /Video
		26	SILL, LINTEL AND WEATHER SHED - FUNCTIONS, TYPES AND CONSTRUCTION	Lecture /PDF /Video
		27	MEANS OF VERTICAL COMMUNICATION – STAIR CASE,	Lecture /PDF /Video
	10	28	ELEVATOR OR OF GOOD STAIRCASE	Lecture /PDF /Video
		29	TYPES OF STAIRCASE, FABRICATED STAIR.	Lecture /PDF /Video
		30	PURPOSE, TYPES OF SCAFFOLDING,	Lecture /PDF /Video
	11	31	PROCESS OF ERECTION AND DISMANTLING	Lecture /PDF /Video
		32	PURPOSE AND TYPES OF SHORING, UNDERPINNING, SAFETY PRECAUTIONS	Lecture /PDF /Video
Unit - 4 BUILDING FINISHES	11	33	FLOOR FINISHES- SHAHABAD , KOTA, MARBLE, GRANITE ,KADAPPA	Lecture /PDF /Video
	12	34	CERAMIC TILES,VITRIFIED , MOSAIC TILES ,CHEQUERRED TILES, GLAZED TILE	Lecture /PDF /Video
		35	PAVEMENT BLOCKS , CONCRETE FLOORS, TREMIX FLOOR, SKIRTING AND DADO.	Lecture /PDF /Video
		36	PROCESS OF LAYING- PROCESS OF LAYING AND CONSTRUCTION	Lecture /PDF /Video
	13	37	FINISHING AND POLISHING OF FLOORS, ROOFING MATERIALS – AC SHEETS	Lecture /PDF /Video
		38	G.I. SHEETS, PLASTIC SHEETS, FIBRE SHEETS, MANGALORE TILES ETC.	Lecture /PDF /Video
		39	STEEL TRUSSES. R.C.C. SLAB, PLASTERING – NECESSITY OF PLASTERING.	Lecture /PDF /Video
	14	40	SINGLE COAT PLASTER DOUBLE COAT PLASTER , NEERU FINISHING AND POP.	Lecture /PDF /Video
		41	SPECIAL PLASTERS STUCCO PLASTER , PLASTER BOARD AND WALL CLADDINGS, PRECAUTION TO BE TAKEN WHILE PLASTERING.	Lecture /PDF /Video
		42	DEFECTS IN PLASTER, POINTING – NECESSITY AND PROCEDURE OF POINTING.	Lecture /PDF /Video
	15	43	PAINTING – NECESSITY, SURFACE PREPARATION.METHOD OF APPLICATION.	Lecture /PDF /Video
44		SELECTING SUITABLE PAINTING MATERIAL, WHITE WASH AND COLOUR WASH.	Lecture /PDF /Video	
Unit - 4 BUILDING MAINTENANCE	15	45	CAUSES AND TYPES OF CRACKS, IDENTIFICATION AND REPAIR OF CRACKS, GUNITING AND GROUTING, USE OF EPOXY AND CRACK FILLS.	Lecture /PDF /Video
	16	46	SETTLEMENT --CAUSES AND REMEDIAL MEASURES, PLINTH PROTECTION – NECESSITY AND MATERIALS USED.	Lecture /PDF /Video
		47	NECESSITY, METHOD OF DEMOLITION-HAND DEMOLITION, MACHINE DEMOLITION, CONTROLLED BLASTING DEMOLITION.	Lecture /PDF /Video
		48	PRECAUTIONS DURING DEMOLITION, NECESSITY AND EQUIPMENT FOR REBARING TECHNIQUES.	Lecture /PDF /Video