

LESSON PLAN OF 3rd SEMESTER CIVIL ENGINEERING

Subject:- Building materials and construction technology.

Week	Class Day	Theory/ Practical Topics
1 st	1 st	Classification of rock.
	2 nd	Uses of stone, natural bed of stone
	3 rd	Qualities of good building stone
	4 th	Dressing of stone
	5 th	Characteristics of different types of stone and their uses
	6 th	Tutorial classes
2 nd	1 st	Brick earth-its composition
	2 nd	Brick making- preparation of brick earth
	3 rd	Moulding, Drying
	4 th	Burning in kilns (Continuous process)
	5 th	Classification of bricks, size of traditional and modular bricks.
3 rd	1 st	Qualities of good building bricks
	2 nd	Cement types of cement, properties of cements, manufacturing of cement.
	3 rd	Importance and application of blended cement with fly ash and blast furnace slag
	4 th	Mortar : Definition and types of mortar
	5 th	Sources and classification of sand, bulking of sand.
4 th	1 st	Use of gravel, morrum and fly ash as different building material.
	2 nd	Concrete: Definition and composition –Water cement ratio- workability, Mechanical properties.
	3 rd	Grading of aggregates, mixing, placing, compacting and curing of concrete
	4 th	Timber classification and structure of timber
	5 th	seasoning of timber- Importance
5 th	1 st	Characteristics of good timber
	2 nd	Clay products and refractory materials- Definition and classification.
	3 rd	Properties and uses of refractory materials like-tiles, terracotta
	4 th	Porcelain glazing , Iron and steel uses of cast iron.
	5 th	Wrought iron, mild steel and tor steel
	6 th	Tutorial class
6 th	1 st	Composition of paints, enamels
	2 nd	Composition of varnishes
	3 rd	Types and uses of surface protective materials like paints
	4 th	Enamels, Varnishes, Distempers
	5 th	Emulsion, French polish and Wax polish Tutorial class.
	6 th	Tutorial Class.
7 th	1 st	Building and classification of buildings based on occupancy, different components of buildings site

	2 nd	investigation objective, Site reconnaissance and explorations
	3 rd	Concept of foundation and its purpose
	4 th	Types of foundation – shallow and deep, shallow foundation - constructional details of Spread foundation of walls.
	5 th	Thumb rules for depth and width of foundation and thickness of concrete block.
8 th	1 st	Deep foundations : Pile foundation their suitability, classification of piles based on materials, function and method of installation
	2 nd	Purpose of walls, Classification of walls load bearing, non-load bearing walls, retaining walls
	3 rd	Classification of walls as per materials of construction : brick stone, reinforced brick , reinforced concrete, pre cast, hollow and solid concrete block and composite masonry walls
	4 th	Partition walls suitability and uses of brick and wooden partition walls, brick masonry, Definition of different terms
	5 th	Bond- meaning and necessity; English bond for I and I -1/2 brick thick walls
9 th	1 st	Stone Masonry string course, corbel, Cornices block in course
	2 nd	Grouting, mouldings, templates, throating through stones, parapet, coping, pilaster and buttress
	3 rd	Glossary of terms used in doors and windows doors- different types of doors
	4 th	Doors- different types of doors
	5 th	Windows – different types of windows
10 th	1 st	Purpose of use of arches and lintels
	2 nd	Floors, types of floor finishes-cast – situ, concrete flooring, terrazzo tile flooring cast in situ terrazzo flooring, timber flooring.
	3 rd	Roofs types concept and function of flat pitched and sloped roofs
	4 th	stair case, landing, winder, stringer, newel, baluster, rise, tread , width
	5 th	Hand rail, nosing, head room, mummy room, various types of stair case – straight flight, dog legged open well
11 th	1 st	Quarter turn, half turn, bifurcated stair, spiral stair, cantilever stair, tread riser stair
	2 nd	Plastering – purpose- types of plastering types of plaster finishes.
	3 rd	Proportions of mortar of plaster, pre parathion techniques and curing.
	4 th	Painting purpose types, painting- method of painting new and old surface
	5 th	White washing –colour washing- distemping internal and external walls
12 th	1 st	Damp and termite proofing – materials and method
	2 nd	Concept of green building, introduction to energy management and audit of building
	3 rd	Aims of energy management of buildings
	4 th	Types of energy audit, response energy audit questionnaire
	5 th	Energy Surveying and audit report
	6 th	Tutorial classes