Name Of The Faculty : **Parveen Beniwal**

Discipline : **Civil Engg.**

Semester : **2nd Sem.**

Subject : **Construction Materials**

Lesson Plan Duration : **15 Weeks**

Week	Theory		Practical	
	Lecture Day	Topic (including assignment / test)	Practical Day	Topic
1.	1.	. Building Stones: Classification of Rocks: (General Review) Geological classification: Igneous, sedimentary and metamorphic rocks Chemical classification; Calcareous, argillaceous and siliceousrock	1	i) To identify the stones used in building works by visual examination
	2.	Physical classification: Unstratified, startified and foliated rocks General characteristics of stones – Marble, Kota stone, Granite, Sand, Trap, Basalt stone, Lime stone and Slate Requirements of good building stones Identification of common building stones		
2.	1.	Various uses of stones in construction Quarrying of stones by blasting and its effect on environment	2	DO
	2.	Bricks and Tiles: Introduction to bricks Raw materials for brick manufacturingand properties of good brick making earth Manufacturing of bricks Preparation of clay(manual/mechanically)		

3.	1.	Moulding: hand moulding and machine moulding brick table; drying of bricks, burning of bricks, types of kilns (Bull's Trench Kiln and Hoffman's Kiln), process of burning, size and weight of standard brick; Traditional brick, refractory brick, clay-flyash bricks, sun dried bricks, only line diagram of kilns	3	ii)To determine the crushing strength of bricks
	2.	Classification and specifications of bricks asper BIS: 1077 Testing of common building bricks as per BIS: 3495 Compressive strength, water absorption – hot and cold water test, efflorescence, Dimensional tolerance, soundness		
4.	1.	**Class Test /Assignment I**	4	DO
	2.	Tiles Building tiles; Types of tiles-wall, ceiling, roofing and flooring tiles Ceramic, terrazo and PVC tiles, : their properties and uses, Vitrified tiles, Paver blocks, interlockingtiles Stacking of bricks and tiles at site		
5.	1.	Cement: Introduction, raw materials, flow diagram of manufacturing of cement	5	iii)To determine the water absorption of bricks & efflorescence
	2	Various types of Cements, their uses and testing: Ordinary portland cement,		

6.	1.	Rapid hardening cement, low heat cement, white and coloured cement, portland pozzolana cement Properties of cement	6	DO
	2.	Timber and Wood Based Products: Identification and uses of different types of timber: Teak, Deodar, Shisham, Sal, Mango, Kail, Chir, Fir, Hollock, Champ Market forms of converted timber as per BISCode		
7.	1.	Seasoning of timber: Purpose, methods of seasoning as per BIS Code Properties of timber and specifications of structural timber	7	iv) To identify various types of timbers such as: Teak, Sal, Chir, Shisham, Deodar, Kail & Hollock by visual examination only
	2.	Defects in timber, decay in timber Preservation of timber and methods oftreatment as per BIS		
8.	1.	Other wood based products, their brief description of manufacture and uses: laminated board, gypsum board, block board, fibre board, hard board, sunmica, plywood, veneers,	8	DO
	2.	Nu-wood and study of the brand name and cost of the wood based products available in the market, Cement Panel Board, Moulded Doors.		
9.	1.	Paints and Varnishes: Introduction, purpose and use of paints	9	v) The students should submit a report work on the

				construction materials, covering water proofing material, cements, steel, paints and timber products available in the local market. They will also show the competitive study based upon the cost, brand name, sizes available in the local market.
	2.	Types, ingredients, properties and uses of oil paints, water paints and cement paints Covering capacity of various paints		
10.	1.	Revision	10	Revision
	2.	Revision		
11	1.	Types, properties and uses of varnishes Trade name of different products.	11	Revision
	2	Metals: Ferrous metals: Composition, properties and uses of cast iron, mild steel, HYSD steel, high tension steel as per BIS.		

12	1.	Commercial forms of ferrous, metals. Aluminium & Stainless Steel Fibre Sheets and their size and uses	12	Revision
	2.	Miscellaneous Materials: Plastics – Introduction and uses of various plastic products in buildings such as doors, water tanks and PVC pipes		
13	1.	Types and uses of insulating materials for sound and thermal insulation	13	Revision
	2.	Construction chemicals like water proofing compound, epoxies, polymers Water proofing, termite proofing and fire resistance materials – types and uses		
14	1.	. Materials used in interior decoration works like POP, methods of doing POP, PVC paneling	14	Revision
	2.	Eco friendly materials for construction of buildings		
15	1.	Revision	15	Revision
	2.	Revision		