GOVT. POLYTECNIC, SIRSA

Lesson Plan

Name of Faculty **:RITU BALA**
Dicipline **:CIVIL ENGG.**
Subject **:CONSTRUCTION MATERIALS**
Lesson Plan duration **:15Weeks(From 7SEP TO 24 DEC.2020)**
Work load (Lecture/Practical) per week (in hours): Lectures-03,Practicals-02

Week	Theory		Practical	
	Lecture day	Topic(Including assignment/test)	Practical Day	Topic
1	1	Building Stones: Classification of Rocks: (General Review)	1	To identify the stones used in building works by visual examination
	2	Geological classification: Igneous, sedimentary and metamorphic rocks		
	3	Chemical classification; Calcareous, argillaceous and siliceous rocks Physical classification: Unstratified , startified and foliated rocks		
2	4	Revision/Assignment	2	To determine the crushing strength of bricks
	5	General characteristics of stones – Marble, Kota stone, Granite, Sand, Trap, Basalt stone, Lime stone and Slate		
	6	Requirements of good building stones stones Identification of common building		
3	7	Various uses of stones in construction	3	viva-voice
	8	Quarrying of stones by blasting and its effect on environment		
	9	Revision/Assignment		
4	10	Bricks and Tiles Introduction to bricks		
	11	Raw materials for brick manufacturing and properties of good brick making earth	4	To determine the water absorption of bricks and efflorescence of bricks
	12	Manufacturing of bricks Preparation of clay (manual/mechanically) Moulding: hand moulding and machine moulding brick table; drying of bricks, burning of bricks,		
5	13	types of kilns (Bull's Trench Kiln and Hoffman's Kiln), process of burning,	5	viva-voice
	14	size and weight of standard brick; traditional brick, refractory brick,		

	15	clay-flyash bricks, sun dried bricks, only line diagram of kilns Classification and specifications of bricks as per BIS: 1077		
6	16	Testing of common building bricks as per BIS: 3495	6	To identify various types of timbers such as: Teak, Sal, Chir, Shisham, Deodar, Kail & Hollock by visual examination only
	17	Compressive strength, water absorption – hot and cold water test, efflorescence, Dimensional tolerance, soundness		
	18	Tiles Building tiles; Types of tiles-wall, ceiling, roofing and flooring tiles Ceramic, terrazo and PVC tiles, : their properties and uses,		
7	19	Vitrified tiles, Paver blocks. Stacking of bricks and tiles at site	7	viva-voice
	20	Cement: Introduction, raw materials, flow diagram of manufacturing of cement		
	21	Various types of Cements, their uses and testing: Ordinary portland cement, rapid hardening cement, low heat cement, high alumina cement,		
8	22	blast furnace slag cement, white and coloured cement, portland pozzolana cement, super sulphate cement	8	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.
	23	Tests of cement – fineness, soundness, initial and final setting time etc.as per B.I.S. Code.		
	24	Properties of cement Lime: Introduction: Lime as one of the cementing materials		
9	25	Classification and types of lime as per BIS Code	9	viva-voice
	26	Calcination and slaking of lime		
	27	Revision/Assignment Timber and Wood Based Products: Identification and uses of different types of timber: Teak, Deodar, Shisham, Sal, Mango, Kail, Chir, Fir, Hollock, Champ		
10	28	Market forms of converted timber as	10	They will also show the competitive study
	29	per BIS Code		based upon the cost, brand name, sizes available in the local market.
	30	Seasoning of timber: Purpose, methods of seasoning as per BIS Code Properties of timber and specifications of structural timber		
11	31	Defects in timber, decay in timber	11	viva-voice
	32	Preservation of timber and methods of treatment as per BIS Other wood based products, their brief description		
	33	manufacture and uses: laminated board, block board, fibre board, hard board, sunmica, plywood, veneers,		

	34	nu-wood and study of the brand name and cost of the wood based products available in the market, Cement Panel Board, Moulded Door.		
	35	Paints and Varnishes: Introduction, purpose and use of paints		
	36	Types, ingredients, properties and Covering capacity of various paints uses of oil paints, water paints and cement paints		
13	37	Types, properties and uses of varnishes Trade name of different products.	13	viva-voice
	38	Metals: Ferrous metals: Composition, properties and uses of cast iron, mild steel, HYSD steel, high tension steel as per BIS.		
	39	Commercial forms of ferrous, metals.		
14	40	Aluminium & Stainless Steel.	14	viva-voice
	41	Miscellaneous Materials: Plastics – Introduction and uses of various plastic products in buildings such as doors, water tanks and PVC pipes		
	42	Fibre Sheets and their manufacture process Types and uses of insulating materials for sound and thermal insulation		
15	43	Construction chemicals like water proofing compound, epoxies, polymers	15	viva-voice
	44	Water proofing, termite proofing and fire resistance materials – types and uses		
	45	Materials used in interior decoration works like POP, methods of doing POP		