

# VAISH TECHNICAL INSTITUTE ROHTAK

## LESSON PLAN

Faculty Name: Anil Kumar Goel

Discipline: Civil Engg.

Subject: Construction Material

Semester: Third

Lesson Plan Duration	From July 2018 To November 2018
Work Load (Theory/Practical) Per Week	Theory-04 & Practical -02

Week	Theory		Practical	
1 <sup>st</sup> Week	1 <sup>st</sup> Day	Introduction to Syllabus and Evaluation Scheme.	1 <sup>st</sup>	To identify the stones used in building works by visual examination
	2 <sup>nd</sup> Day	Building Stones: Classification of Rocks: (General Review)		
	3 <sup>rd</sup>	Geological classification: Igneous, sedimentary and metamorphic rocks Chemical classification: Calcareous, argillaceous and siliceous rocks. Physical classification: Unstratified, stratified and foliated rocks.		
	4 <sup>th</sup>	General characteristics of stones – Marble, Kota stone, Granite, Sand, Trap, Basalt stone, Lime stone and Slate Requirements of good building stones		
2 <sup>nd</sup> Week	5 <sup>th</sup>	Identification of common building stones Various uses of stones in construction	2 <sup>nd</sup>	To determine the crushing strength of bricks
	6 <sup>th</sup>	Quarrying of stones by blasting and its effect on environment		
	7 <sup>th</sup>	Problems of the students from the relevant covered topics will be entertained.		

	8 <sup>th</sup>	Bricks and Tiles: Introduction to bricks		
3 <sup>rd</sup> Week	9 <sup>th</sup>	Raw materials for brick manufacturing and properties of good brick making earth Manufacturing of bricks Preparation of clay (manual/mechanically)	3 <sup>rd</sup>	To determine the water absorption of bricks and efflorescence of bricks
	10 <sup>th</sup>	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)		

	11 <sup>th</sup>	process of burning, size and weight of standard brick; traditional brick, refractory brick, clay-flyash bricks, sun dried bricks, only line diagram of kilns		
	12 <sup>th</sup>	Classification and specifications of bricks as per BIS: 1077 Testing of common building bricks as per BIS: 3495		
4 <sup>th</sup> week	13 <sup>th</sup>	Tiles: Building tiles; Types of tiles-wall, ceiling, roofing and flooring tiles Ceramic, terrazo and PVC tiles, : their properties and uses	4 <sup>th</sup>	To determine the water absorption of bricks and efflorescence of bricks
	14 <sup>th</sup>	Vitrified tiles, Paver blocks, interlocking tiles Stacking of bricks and tiles at site		
	15 <sup>th</sup>	Problems of the students from the relevant covered topics will be entertained.		
	16	Class test of unit-1&2.		
5 <sup>th</sup> Week	17	Cement: Introduction, raw materials, flow diagram of manufacturing of cement	5 <sup>th</sup>	To identify various types of timbers such as: Teak, Sal, Chir, Shisham, Deodar, Kail & Hollock by visual examination only
	18	Various types of Cements, their uses and testing		
	19	Various types of Cements, their uses and testing Properties of cement		
	20	Problems of the students from the relevant covered topics will be entertained.		
6 <sup>th</sup> week	21	Timber and Wood Based Products: Identification and uses of different types of timber: Teak, Deodar, Shisham, Sal, Mango, Kail, Chir, Fir, Hollock, Champ	6 <sup>th</sup>	Report writing on different construction materials.
	22	Market forms of converted timber as per BIS Code Seasoning of timber: Purpose, methods of seasoning as per BIS Code		
	23	Properties of timber and specifications of structural timber Defects in timber, decay in timber		
	24	Preservation of timber and methods of treatment as per BIS		
	25	Other wood based products, their brief description of manufacture and uses: laminated board, gypsum board, block board, fibre board, hard board, sunmica, plywood, veneers, nu-wood and study of the brand name and cost of the wood based products available in the market, Cement Panel Board,	7 <sup>th</sup>	Report writing on different construction materials.

7 <sup>th</sup> week		Moulded Doors.		
	26	Presentation of different topics of unit 4.		
	27	Paints and Varnishes: Introduction, purpose and use of paints		
	28	Types, ingredients, properties and uses of oil paints, water paints and cement paints		

8 <sup>th</sup> week	29	Types, ingredients, properties and uses of oil paints, water paints and cement paints	8 <sup>th</sup>	Report writing on different construction materials.
	30	Covering capacity of various paints Types, properties and uses of varnishes		
	31	Types, properties and uses of varnishes Trade name of different products.		
	32	Problems of the students from the relevant covered topics will be entertained.		
9 <sup>th</sup> week	33	Metals: Ferrous metals: Composition, properties and uses of cast iron, mild steel, HYSD steel, high tension steel as per BIS.	9 <sup>th</sup>	competitive study of materials based upon the cost, brand name, sizes available in the local market.
	34	Ferrous metals: Composition, properties and uses of cast iron, mild steel, HYSD steel, high tension steel as per BIS.		
	35	Commercial forms of ferrous, metals.		
	36	Aluminium & Stainless Steel.		
10 <sup>th</sup> week	37	Viva & Problems of the students from the relevant covered topics will be entertained.	10 <sup>th</sup>	Field visit
	38	Miscellaneous Materials: Plastics – Introduction and uses of various plastic products in buildings such as doors, water tanks and PVC pipes		
	39	Fibre Sheets and their size and uses		
	40	Types and uses of insulating materials for sound and thermal insulation		
11 <sup>th</sup> week	41	Construction chemicals like water proofing compound, epoxies, polymers	11 <sup>th</sup>	Field visit
	42	Water proofing, termite proofing and fire resistance materials – types and uses		
	43	Materials used in interior decoration works like POP.		
	44	methods of doing POP, PVC paneling		
12 <sup>th</sup> week	45	Eco friendly materials for construction of buildings.	12 <sup>th</sup>	Report writing on topic covered in a field visit.
	46	Problems of the students from the relevant covered topics will be entertained.		
	47	Class test of unit 7.		
	48	Revision of unit 1		
13 <sup>th</sup> week	49	Revision of unit 1	13 <sup>th</sup>	Revision of covered topics
	50	Presentation of covered topics		
	51	Revision and viva of unit 2		
	52	Revision and viva of unit 2		
14 <sup>th</sup> week	53	Assignment writing of unit 1 & 2.	14 <sup>th</sup>	Revision of covered topics
	54	Revision and viva of unit 3		
	55	Revision and viva of unit 3		
	56	Revision and viva of unit 4		
15 <sup>th</sup> week	57	Revision and viva of unit 4	15 <sup>th</sup>	Revision of covered topics.
	58	Assignment writing of unit 3 & 4		
	59	Revision of unit 5		
	60	Revision of unit 6.		