

BUILDING CONSTRUCTION - II

BEG 116 AR

Year: I

Semester: II

Teaching schedule Hours/Week					Examination Scheme						Total marks
					Final				Internal Assessments		
					Theory		Practical		Theory Mark	Practical Mark	
Cr.hr	L	Tu	P	T	Duration	Mark	Duration	Mark			
3	2	-	2	4	1.5 hrs	40	-	-	10	50	100

Course Objectives:

To familiarize with the technology involved in building construction. This includes site preparation, site investigation, excavation, damp proofing, masonry walls and openings in walls.

Course Topics & Contents:

CHAPTER 1: Excavation and Timbering to trenches

9 hrs.

1. Types of Excavation
Over site, Reduce level, Trench excavation
2. Excavation process
3. Timbering to trenches
4. Methods Timbering to trenches
Stay bracing, Box sheeting, Vertical sheeting, Runner system, Sheet piling
5. Dewatering

Classification of sub-soil water

Problems due to sub-soil water

Methods of dewatering

Simple sump system

Well point system

Shallow well system

Deep well system

Vacuum method

Electro-osmosis method

CHAPTER 2: Foundation & their types

9 hrs.

1. Definition
2. Function of foundations
3. Types of foundation
Shallow foundation
Spread footings
Combined footings
Mat footings
Grillage foundations
Eccentrically loaded footings
Foundation in sloping sites
Foundation in black cotton soil
Deep foundation
Pile foundation

Pier foundation
Caisson or well foundation

CHAPTER 3: Walls and partitions **6 hrs.**

1. Partition Wall
 - 1.1 Introduction
 - 1.2 Types of partition wall
2. Cavity Wall
 - 2.1 Introduction
 - 2.2 Advantages
3. Decorative Walls

CHAPTER 4: Masonry Walls **6 hrs.**

1. Stone masonry
 - 1.1 Types of stone masonry
 - 1.1.1 Rubble masonry and its types
 - 1.1.2 Ashlar masonry and its types
 - 1.2 Joints in stone masonry
 - 1.3 Openings in stone masonry
 - 1.4 Advantages of stone masonry
2. Concrete and hollow block masonry
 - 2.1 Introduction and its types
 - 2.1.1 Regular concrete blocks
 - 2.1.2 Hollow concrete blocks
 - 2.1.3 Hollow clay blocks
 - 2.2 Advantages of concrete hollow blocks

CHAPTER 5: Arch construction **6 hrs.**

1. Definition
2. Terminologies
3. Types of arches
 - According to different materials
 - According to different shapes
4. Construction of arches

CHAPTER 6: Design of staircase **6 hrs.**

1. Design of staircase and types according to different shape and size

CHAPTER 7: Fireplace and Chimney **3 hrs.**

1. Introduction
2. Design and construction

Practical Exercise:

Drawings of various elements of the above mentioned topics and field visits.

Reference:

1. Chudley, Building Construction Hand Book
2. Punmia B.C. and Jain Ashok K., A Text Book of Building Construction, Nem Chand & Bros., Roorkee, India

3. Barry, R., The construction of Buildings. ELBS and Crosby Lockwood staples London.
4. W.C. McKay; Building Construction.

Question Scheme
BUILDING CONSTRUCTION-III
BEG 111-AR

Time: 1 ^{1/2} hrs
F.M:40
P.M:16

Attempt all questions:

Chapter	No. of Question	Marks
Chapter 1	2	4+4
Chapter 2 or Chapter 3	1	8
Chapter 4 or Chapter 6	1	8
Chapter 5	1	8
Chapter 7	2	4+4