



Roll No.

ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)

B.E. /B. Tech / B. Arch (Full Time) - END SEMESTER EXAMINATIONS, Nov / Dec 2024

CIVIL ENGINEERING

Semester- III

CE5302 - CONSTRUCTION MATERIALS, TECHNIQUES AND PRACTICES
(Regulation 2019)

Max. Marks: 100

Time: 3 hrs

CO1	Identify the good quality of brick for construction.
CO2	Design the concrete mixes for different exposure conditions
CO3	Understand material properties of cement and aggregates.
CO4	Study the market forms of timber and steel.
CO5	Recognize the good practices of thermal insulations and air conditioning of buildings

BL – Bloom's Taxonomy Levels

(L1-Remembering, L2-Understanding, L3-Applying, L4-Analysing, L5-Evaluating, L6-Creating)

PART- A (10x2=20Marks)
(Answer all Questions)

Q. No.	Questions	Marks	CO	BL
1	List out the characteristics of a good stone	2	CO1	L1
2	Explain the advantages of artificial stones	2	CO1	L2
3	Write any one test on sand.	2	CO2	L1
4	Grade of concrete-define.	2	CO2	L2
5	Distinguish between heart wood and sap wood.	2	CO3	L2
6	Different types of industrial timber.	2	CO4	L1
7	Name some common diseases of timber.	2	CO4	L2
8	Enumerate the properties of Glass?	2	CO5	L1
9	Define underpinning.	2	CO5	L2
10	What are Geomembranes?	2	CO5	L1

PART- B (5x 13=65Marks)
(Restrict to a maximum of 2 subdivisions)

Q. No.	Questions	Marks	CO	BL
11 (a)	(i) Explain the characteristics of good building stone. Explain the methods of preservation of building stones at the time of construction stage:	13	CO1	L1
	OR			
11 (b)	(i) List the Classification of Bricks. (ii) Describe the various tests on bricks.	7	CO1	L1
		6	CO1	L2
12 (a)	(i) Explain sampling and testing of aggregates. (ii) Describe the method for determining the compressive strength of cement mortar. Additionally, explain the procedure for evaluating the fineness of cement.	6	CO1	L2
		7	CO1	L1
12 (b)	Explain how the following tests are conducted on aggregate as per IS codes: (i) Flakiness Index and Elongation Index (ii) Crushing strength of aggregate	6	CO1	L1
		7	CO1	L1
13 (a)	Describe the properties of hardened concrete and also explain the different strength tests to be conducted on concrete.	13	CO1	L1

OR

13 (b) Document the full process for designing a concrete mix following the BIS (Bureau of Indian Standards) guidelines, incorporating all required steps and assumptions for the necessary data. 13 CO1 L2

14 (a) (i) Describe the process of manufacturing of Glass? What are the Uses of glass in construction industry? 13 CO1 L1

OR

14 (b) (i) Discuss about aluminum and its alloys. 7 CO1 L2
(ii) List and explain the market forms of timber. 6 CO1 L2

15 (a) Explain the various methods of manufacture of glasses with neat sketches. 13 CO1 L2

OR

15 (b) Describe in detail the construction practices to be followed for acoustics and fire protection. 13 CO1 L1

PART- C (1x 15=15Marks)
(Q.No.16 is compulsory)

Q. No.	Questions	Marks	CO	BL
16.	As a civil engineer recommend various building materials involved in the construction of a building with their criteria with respect to quality	15	CO1	L2

