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ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)



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

CIVIL ENGINEERING

Semester- III

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

Time:3 hrs

Max. Marks: 100

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	Write any two criteria for the selection of good building stones	2	CO1	L1
2	Based upon the IS codal provision how do you classify the bricks?	2	CO1	L2
3	What is Impact test?	2	CO2	L1
4	Predict the importance of aggregate abrasion value?	2	CO2	L1
5	What is HPC?	2	CO3	L2
6	Distinguish between heart wood and sap wood	2	CO3	L1
7	Name some common diseases of timber.	2	CO4	L2
8	Enumerate the properties of Glass?	2	CO4	L1
9	What are Sealants?	2	CO5	L2
10	Write the advantages of FRP	2	CO5	L1

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

Q. No.	Questions	Marks	CO	BL
11 (a)	Explain any four important tests to be conducted on coarse aggregates with neat sketches.	13	CO1	<u>L1</u>
	OR			
11 (b)	(i) List the Classification of Bricks. (ii) Describe the various tests on bricks.	7 6	CO1	<u>L1</u> <u>L2</u>
12 (a)	(i) Explain sampling and testing of aggregates. (ii) How do you perform the compression strength of cement mortar? Also explain the procedure for fineness of cement.	6 7	CO1	<u>L2</u> <u>L1</u>
	OR			
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 7	CO1	<u>L1</u>
13 (a)	Describe the properties of hardened concrete and also explain the different strength tests to be conducted on concrete.	13	CO1	<u>L1</u>
	OR			
13 (b)	Explain in detail about Ready Mixed Concrete RMC and the Factors Affecting Workability?	13	CO1	<u>L2</u>

14 (a)	(i) List and explain the market forms of timber. (ii) Discuss about aluminum and its alloys.	6 7	CO1	<u>L1</u> <u>L1</u>
14 (b)	OR Explain the principles of Manufacture of TMT reinforcement bars for reinforced concrete construction.	13	CO1	<u>L2</u>
15 (a)	Explain the various methods of manufacture of glasses with neat sketches.	13	CO1	<u>L2</u>
15 (b)	OR Describe in detail the construction practices to be followed for acoustics and fire protection.	13	CO1	<u>L1</u>

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

Q. No.	Questions	Marks	CO	BL
16.	Write down the complete procedure of concrete mix design as per BIS specifications. Assume necessary data.	15	CO1	<u>L2</u>

