

Reg. No.

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B. E / B. TECH.DEGREE EXAMINATIONS, MAY 2024

Third Semester

CE18304 – CONSTRUCTION MATERIALS*(Civil Engineering)***(Regulation 2018/ 2018A)****TIME:3 HOURS****MAX. MARKS: 100**

COURSE OUTCOMES	STATEMENT	RBT LEVEL
CO 1	Summarise the classification, properties and tests of stones, bricks and concrete blocks.	2
CO 2	Summarise the classification, properties and tests of lime, cement, aggregates and mortar.	2
CO 3	Summarise the different types of concrete, their properties, testing procedures and mix design procedure.	3
CO 4	Summarise the applications of timbers and other materials.	2
CO 5	Summarise the applications of modern materials for construction.	2

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

	CO	RBT LEVEL
1. Draw neat sketches of: Conventional bricks and Standard bricks showing all the dimensions.	1	2
2. State any two selection criteria for stone to be used as a construction material.	1	1
3. List the type of cements used for underwater construction.	2	2
4. Distinguish fat lime and hydraulic lime.	2	2
5. Distinguish between segregation and bleeding.	3	2
6. What is meant by the freezing and thawing effect?	3	1
7. State the principal causes of decay of timber.	4	2
8. Differentiate Tar and Bitumen.	4	2
9. Why is asbestos banned in many countries?	5	2
10. List out the applications of laminar composites.	5	2

PART- B (5x 14=70Marks)

- 11. (a)** Briefly discuss the following tests of stones: **(14)** **1** **2**
- a) Durability test
 - b) Crushing test
 - c) Shear strength test

(OR)

- (b)** Describe briefly the tests to which bricks may be put before using them for engineering purposes. **(14)** **1** **2**

- 12. (a)** Explain the soundness test and consistency test on cement with neat diagrams. **(14)** **2** **2**

(OR)

- (b)** What are the requirements of good mortar? List the typical proportions used for cement mortar in the construction industry? **(14)** **2** **2**

- 13. (a)** Explain the steps involved in mix design of concrete using IS456-2000. **(14)** **3** **4**

(OR)

- (b)** Explain the various tests to be conducted on coarse aggregate for making concrete as per IS code. **(14)** **3** **4**

- 14. (a)** List and explain the various market forms of timber. **(14)** **4** **2**

(OR)

- (b)** What are the characteristics of ideal paint? What are the defects in painting? **(14)** **4** **2**

15. (a) Explain in detail about the manufacturing process of refractories and write the types of ceramics. **(14) 5 2**

(OR)

(b) Write short notes on the following: **(14) 5 2**

(i) Fibre Reinforced Plastic

(ii) Clay products

(iii) Geotextiles

PART- C (1x 10=10Marks)

(Q.No.16 is compulsory)

**Marks CO RBT
LEVEL**

16. Create a flowchart showing the various stages involved in the production of cement by dry process. **(10) 2 5**
