

Reg. No.

Question Paper Code

12093

27 .III 2023

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2023

Third Semester

Civil Engineering

20CEPC304 - CONSTRUCTION MATERIALS, EQUIPMENT AND PRACTICES

(Regulations 2020)

Duration: 3 Hours

Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

- | | <i>Marks,
K-Level, CO</i> |
|--|-------------------------------|
| 1. What are the uses of bricks? | 2,K1,CO1 |
| 2. Classify the types of tests on stones. | 2,K2,CO1 |
| 3. List the ingredients of cement. | 2,K1,CO2 |
| 4. Explain about grading of aggregate. | 2,K2,CO2 |
| 5. List the various types of special concrete. | 2,K1,CO3 |
| 6. Identify the objectives of Mix Design. | 2,K2,CO4 |
| 7. Outline the seasoning in timber. | 2,K2,CO5 |
| 8. Show what is annealing of steel. | 2,K2,CO5 |
| 9. What is shuttering? | 2,K1,CO6 |
| 10. List the importance of providing DPC in buildings. | 2,K1,CO6 |

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

- | | |
|--|-----------|
| 11. a) Explain briefly about methods of preparation of lime mortar. | 13,K2,CO1 |
| OR | |
| b) Explain the different tests on bricks. | 13,K2,CO1 |
| 12. a) Explain the manufacturing process of cement in detail with a flow chart. | 13,K2,CO2 |
| OR | |
| b) Explain the following: | |
| (i) Impact test on coarse aggregate. | 6,K2,CO2 |
| (ii) Crushing strength test on coarse aggregate. | 7,K2,CO2 |
| 13. a) Solve the concrete mix design and arrive at the mix proportion for M20 concrete as per BIS method for various parameters. | 13,K3,CO4 |

OR

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create

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- b) Summarize the factors influencing the choice of mix design. *13,K2,CO4*
14. a) What are composite materials? Explain its role and uses in construction industry. *13,K2,CO5*

OR

- b) Explain the Bessemer process of manufacture of steel. *13,K2,CO5*
15. a) Summarize the construction methodology of RCC cooling tower using slipform techniques. *13,K2,CO6*

OR

- b) Explain the various types of shoring in construction. *13,K2,CO6*

PART - C (1 × 15 = 15 Marks)

16. a) Explain about the RMC concrete and its manufacturing process. *15,K3,CO3*

OR

- b) Illustrate the tests on fresh concrete. *15,K3,CO3*