

Reg. No.

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B. E / B. TECH.DEGREE EXAMINATIONS, MAY 2023

Fourth Semester

CE18404 – CONSTRUCTION TECHNIQUES, EQUIPMENTS AND PRACTICES*(Civil Engineering)***(Regulation 2018)****TIME:3 HOURS****MAX. MARKS: 100**

- CO1** Describe the manufacturing process, types and application of concrete.
CO2 Illustrate the different construction practices and their importance.
CO3 Formulate the requirements for sub structure in a construction project.
CO4 Formulate the requirements for super structure in a construction project.
CO5 Classify the various construction equipment based on its operation and suitability.

PART- A(10x2=20Marks)

(Answer all Questions)

	CO	RBT LEVEL
1. What are the different grades of concrete as per the IS 456?	1	1
2. What is meant by water cement ratio and write its range of values as per IS 467?	1	1
3. List the different factors to be considered for the selection of foundation.	2	1
4. What is meant by DPC?	2	1
5. List the different types of pile foundation.	3	1
6. Sketch the different types of caisson.	3	1
7. What is meant by launching girder?	4	1
8. What is the purpose of weep holes in abutment?	4	1
9. How to select the equipments for different activities in construction?	5	1
10. What is meant by dredger? List its types.	5	1

PART- B (5x 14=70Marks)

	Marks	CO	RBT LEVEL
11. (a) Explain the manufacturing process of concrete in detail with neat sketch.	(14)	1	3
(OR)			
(b) List the various tests on fresh and hardened concrete. Explain any two tests on fresh concrete in detail with neat sketch.	(14)	1	3
12. (a) Sketch the different bonds in the brick masonry and explain its significance in detail.	(14)	2	3

(OR)

- (b)** Explain the following in detail with suitable sketch **(14)** **2** **3**
- A. Centering and Shuttering
 - B. Construction joints
 - C. Steel trusses and frames

- 13. (a)** Sketch the detailed view of Tunnel Boring Machine (TBM). Explain the process of tunneling using TBM in detail with neat sketch. Comment on how TBM is more suitable compare to other methods of tunneling. **(14)** **3** **3**

(OR)

- (b)** Explain in detail about the underwater construction of diaphragm walls and basement with neat sketch. **(14)** **3** **3**

- 14. (a)** What is meant by pre-stressing? Differentiate the pre tensioned pre-stressed concrete and post tensioned pre-stressed concrete with neat sketch. **(14)** **4** **3**

(OR)

- (b)** Explain in detail about the tall structures with neat sketch. **(14)** **4** **3**

- 15. (a)** Explain the equipments used for compaction, batching, mixing and concreting in detail with neat sketch. **(14)** **5** **3**

(OR)

- (b)** List the factors to be considered for the selection of equipment for earth work. Explain the different earth moving equipments with neat sketch. **(14)** **5** **3**

PART- C (1x 10=10Marks)

(Q.No.16 is compulsory)

- | | Marks | CO | RBT
LEVEL |
|---|-------------|----------|--------------|
| 16. Recommend the suitable dewatering technique where the water table encounters at 1m from ground level for the excavation of 5 m depth in the area of 20 m x 20 m. explain the different possible dewatering technique with next sketch. | (10) | 3 | 5 |
