PCET LIBRARY BANGALORE-49

CBCS SCHEME

USN | | | | | | | | | | |

21CV72

Seventh Semester B.E./B.Tech. Degree Examination, June/July 2026
Construction Technology for Substructures and Superstructures

Time: 3 hrs. Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

Module-1

1 a. Discuss the cut and cover method and bored tunnel method of tunnel construction and their suitability. **(08 Marks)**

b. Elaborate on the bedding of conduits. **(06 Marks)**

c. Discuss the problems normally developed during deep excavation and the remedial measures to avoid them. **(06 Marks)**

OR

2 a. Discuss the forepoling method of tunneling. **(08 Marks)**

b. Explain the general construction procedure of tunnel shaft. **(06 Marks)**

c. How field compaction is controlled? Explain. **(06 Marks)**

Module-2

3 a. Classify the different types of blasting. **(08 Marks)**

b. Elaborate on the Micro Tunneling. **(06 Marks)**

c. Illustrate the objectives of dewatering in excavations. **(06 Marks)**

OR

4 a. Discuss the problems normally developed during deep excavations and remedial measures to avoid such problems. **(10 Marks)**

b. Demonstrate Well Point Systems. **(10 Marks)**

Module-3

5 a. Classify various types and erection methods of shuttering. **(10 Marks)**

b. Draw a typical layout of ready mix concrete plant and explain the basic requirements. **(10 Marks)**

OR

6	a.	Design the mix design steps for M20 grade concrete as per IS standard.	**(10 Marks)**
	b.	Demonstrate the characteristics and importance of self compacting concrete.	**(10 Marks)**

Module-4

7	a.	Classify the Piles based on function.	**(06 Marks)**
	b.	Demonstrate the pile load test.	**(08 Marks)**
	c.	Explain the causes of failure of pile foundation.	**(06 Marks)**

OR

8	a.	Classify the piles based on material.	**(06 Marks)**
	b.	Elaborate on Pile Integrity Test.	**(08 Marks)**
	c.	Write a short note on Diaphragm Walls.	**(06 Marks)**

Module-5

9	a.	Demonstrate the components of well foundation and the forces acting on it.	**(08 Marks)**
	b.	With a neat sketch elaborate on single pile and double sheet pile cofferdam.	**(06 Marks)**
	c.	Illustrate the construction of open caisson.	**(06 Marks)**

OR

10	a.	Elaborate on the circular type cellur cofferdam.	**(06 Marks)**
	b.	Demonstrate Soldier Construction Method.	**(06 Marks)**
	c.	Illustrate the construction by pneumatic caisson.	**(08 Marks)**

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