

Name:	 UPES UNIVERSITY WITH A PURPOSE
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

Online End Semester Examination, December 2020

Course: Modern Construction Techniques

Semester: VII

Program: B.Tech (Civil Engineering)

Time 3 hrs.

Course Code: CIVL 4003

Max. Marks: 100

Instructions: All questions are compulsory to attempt.

SECTION A (30 Marks)

S. No.	Question	Marks	CO
Q 1.	The major underpinning methods are _____, _____, _____, _____, _____ and _____.	5	CO1
Q 2.	Enlist the different structural components of a bridge.	5	CO3
Q 3.	Define the Precast and Prefabricated construction techniques.	5	CO4
Q 4.	The important floating type offshore platforms are _____, _____, _____ and _____.	5	CO2
Q 5.	The four major tunnel excavation methods are _____, _____, _____ and _____.	5	CO2
Q 6.	The four sequential stages for diaphragm wall construction are _____, _____, _____ and _____.	5	CO1

SECTION B (50 Marks)

Q 7.	Explain the working mechanism of Earth Pressure Balance and Slurry Shield tunnel boring machines.	10	CO2
Q 8.	Analyze the sheet piling construction technique along with different sheet pile types and their critical points.	10	CO1
Q 9.	State the planning, analysis and design considerations generally important for precast and prefabricated construction mechanisms.	10	CO4
Q 10.	Explain the Tension Leg Platform floating offshore structure along with its critical points.	10	CO2
Q 11.	Discuss the methodology adopted for construction of bridge pile foundation in detail.	10	CO3

SECTION-C (20 Marks)

Q12.	Explain the Underslung mechanism for bridge construction along with its essential components and detailed erection methodology.	20	CO3
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OR

Explain the Launching girder mechanism for bridge construction along with its essential components, detailed erection methodology and auto launching process.