

<b>Name:</b>	 <b>UPES</b> UNIVERSITY WITH A PURPOSE
<b>Enrolment No:</b>	

**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**  
**End Semester Examination, December 2019**

**Course: Modern Construction Techniques**  
**Program: B.Tech (Civil Engineering)**  
**Course Code: CEEG 408**

**Semester: VII<sup>th</sup>**  
**Time 03 hrs.**  
**Max. Marks: 100**

**Instructions: All questions are compulsory to attempt**

**SET A**

**SECTION A**

S. No.	Question	Marks	CO
Q 1	What do you understand by slip form technique in construction work	<b>04</b>	<b>CO1</b>
Q 2	Briefly discuss the various equipment's used for underwater construction.	<b>04</b>	<b>CO2</b>
Q 3	What are the different ways for carrying out chipping process in piles.	<b>04</b>	<b>CO3</b>
Q 4	Enlist the different structural components of a precast segmental bridge.	<b>04</b>	<b>CO4</b>
Q 5	Briefly explain the working mechanism of Slurry shield tunnel boring machine.	<b>04</b>	<b>CO2</b>

**SECTION B**

Q 1	Explain the different types of retaining walls along with their critical points. Also discuss how Geo-synthetics can be used for enhancing the stability of retaining walls.	<b>10</b>	<b>CO1</b>
Q 2	Explain the methodology adopted for construction of pile foundation for bridge construction along with required equipment's and construction materials detail. <p style="text-align: center;">OR</p> What is the purpose of providing pile cap in foundation work of bridge construction. Also discuss the methodology adopted for its construction.	<b>10</b>	<b>CO3</b>
Q 3	What do you understand by Jacket offshore platform system. Also discuss the installation procedures for the same.	<b>10</b>	<b>CO2</b>
Q 4	For well sinking, analyze how Jack down method can be effective in comparison to other conventional well sinking methods.	<b>10</b>	<b>CO1</b>

**SECTION-C**

Q 1	Why precast and prefabricated construction mechanisms are nowadays preferred in modern construction works. Also explain the planning, analysis and design considerations generally important for these construction mechanisms in detail.	<b>20</b>	<b>CO4</b>
-----	---	-----------	------------

Q 2	<p>Explain the Launching girder mechanism for bridge construction along with its essential components, detailed erection methodology and auto launching process.</p> <p style="text-align: center;">OR</p> <p>Explain the Underslung mechanism for bridge construction along with its essential components and detailed erection methodology.</p>	<b>20</b>	<b>CO3</b>
-----	---	-----------	------------