Name: **Enrolment No:**	

UPES

End Semester Examination, May 2023

Course: Advanced Construction Techniques **Semester: VIII**

Program: B.Tech. Civil Engineering **Time: 03 hrs.**

Course Code: CIVL 4061P **Max. Marks: 100**

Instructions: <u>All questions are compulsory to attempt.</u>

SECTION A
(5Qx4M=20Marks)

S. No.		Marks	CO
Q 1	What do you understand by long line bed of precast segment casting.	**04**	**CO3**
Q 2	Enlist the various ways for carrying out chipping process in piles.	**04**	**CO3**
Q 3	State the working mechanism of Earth Pressure Balance tunnel boring machine.	**04**	**CO2**
Q 4	State the various equipment's used for underwater construction.	**04**	**CO2**
Q 5	Enlist the various methods adopted for sinking of caissons along with their key points.	**04**	**CO1**

SECTION B
(4Qx10M= 40 Marks)

Q 1	At the site, a tunnel has to be constructed in stable and unfractured ground conditions. Which type of tunnel boring machine (TBM) will you suggest in this circumstance and why? Also, analyze the working procedure of the suggested TBM.	**10**	**CO2**
Q 2	Explain the various types of caisson foundation along with their critical points.	**10**	**CO1**
Q 3	Analyze the methodology adopted for construction of pile foundation for bridge construction along with required equipment's and construction materials detail. OR Analyze the methodology adopted for the construction of pier and pier cap in bridge along with required equipment's and construction materials detail.	**10** **10**	**CO3** **CO3**
Q 4	What do you understand by an offshore construction. Explain the various floating offshore platforms with their key points.	**10**	**CO2**

SECTION-C (2Qx20M=40 Marks)			
Q1.	Why precast and prefabricated construction technology are nowadays preferred in modern construction works? Analyze the planning, analysis and design considerations generally important for these construction technologies in detail.	**20**	**CO4**
Q2.	Analyze the "Incremental launching method" for bridge construction along with its essential components and detailed erection methodology. OR Analyze the "Balanced cantilever method" for bridge construction along with its essential components and detailed erection methodology.	**20**	**CO3**