

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VI (NEW) EXAMINATION – WINTER 2023

Subject Code:2160601

Date:02-12-2023

Subject Name:Advanced Construction and Equipments

Time:02:30 PM TO 05:00 PM

Total Marks:70

Instructions:

- 1. Attempt all questions.**
- 2. Make suitable assumptions wherever necessary.**
- 3. Figures to the right indicate full marks.**
- 4. Simple and non-programmable scientific calculators are allowed.**

		MARKS
Q.1	(a) Define cofferdam. Write the uses of cofferdams.	03
	(b) Discuss different types of cutting edges of caissons. Also write merits and demerits of each	04
	(c) Explain Pneumatic caisson. Also precautions to be taken for construction of pneumatic caisson.	07
Q.2	(a) Write the differences between dragline and clamshell.	03
	(b) Explain various financial aspects of procuring construction equipments.	04
	(c) Discuss operations are involved for transportation of materials by a truck? What are the factors affecting cycle time of truck.	07
OR		
	(c) Describe various types of trenching machines. Which points to be kept in mind while selecting trenching equipments?	07
Q.3	(a) Explain different types of pile hammers with their advantages and disadvantages.	03
	(b) Give the classification of piles on the basis of their functions	04
	(c) Discuss tilting of caissons. How can it be corrected?	07
OR		
Q.3	(a) Enlist various methods of ground water control.	03
	(b) What is a tall structure? Discuss its design considerations.	04
	(c) What are under reamed piles? Under which under reamed piles are used?	07
Q.4	(a) Write a short note on Diaphragm wall construction.	03
	(b) Write a short note on sinking of caisson.	04
	(c) Enlist various types of uncased cast in situ concrete piles. Explain any two.	07
OR		
Q.4	(a) What is a monolith? Write its advantages and disadvantages	03
	(b) Explain slip formwork.	04
	(c) Enlist various methods of demolition and explain any one in detail with neat and clean figure.	07
Q.5	(a) Discuss chemical grouting method of dewatering	03
	(b) Explain electro osmosis method with neat figure.	04
	(c) Explain with neat sketches the formwork of RCC column.	07

OR

- Q.5** (a) Define:1)Drawbar pull 2)Rim Pull 3)Rolling Resistance **03**
(b) Write a short note on belt conveyors. **04**
(c) Explain with neat sketches the formwork of RCC beam. **07**
