

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI (NEW) EXAMINATION – SUMMER 2021****Subject Code:2160601****Date:03/08/2021****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

		MARKS
Q.1	(a) Write the uses of cofferdam.	03
	(b) Write a note on caisson sickness	04
	(c) With neat and clean sketch explain under-reamed pile.	07
Q.2	(a) Write an importance of machine in construction.	03
	(b) Explain: i) Idlers ii) Feeders	04
	(c) Explain the formwork of column with neat and clean sketches.	07
OR		
	(c) Explain with neat and clean sketches pneumatic caisson.	07
Q.3	(a) Describe rock filled cofferdam.	03
	(b) Give brief idea of slip formwork.	04
	(c) Discuss causes of tilting of caissons. Write actions to correct it.	07
OR		
Q.3	(a) Describe pile accessories in brief.	03
	(b) Explain monolith.	04
	(c) Explain rolling resistance and grade resistance.	07
Q.4	(a) Write a brief note on wagon.	03
	(b) Explain chemical grouting method of dewatering.	04
	(c) Explain power shovel it neat and clean sketch.	07
OR		
Q.4	(a) Write a note on cycle time of truck.	03
	(b) Enlist various explosive and explain anyone.	04
	(c) Explain various types of concrete pumps in detail.	07
Q.5	(a) Give brief classification of construction equipments.	03
	(b) Define: a) Depreciation, b) Obsolescence cost, c) Down time, d) Investment cost	04
	(c) The owning cost of a hoe is Rs.6.25 lakh. The monthly usage of the hoe is 150 hours. The salvage value of the hoe is 9% of its original cost and its life span is 6.0 years. The hiring charge of above equipment is Rs.23,000/- per month which includes repair and maintenance. Give your suggestion whether the equipment Should be purchased or hired?	07
OR		
Q.5	(a) Classify compressors and explain any one in detail.	03
	(b) Define: a) Drawbar pull, b) Rim pull, c) Coefficient of traction and d) Rolling resistance	04
	(c) Define the economic life of equipment. Explain factors to be considered for the evaluation of economic life of construction equipment.	07