

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI (NEW) EXAMINATION – WINTER 2017

Subject Code: 2160601

Date: 03/11/2017

Subject Name: Advanced Construction and Equipments

Time: 02:30 PM TO 05:00PM

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
1. Figures to the right indicate full marks.

- Q.1** (a) Enlist requirements of formwork. **03**
(b) Enlist common types of cofferdams with neat sketch of any one of them. **04**
(c) What is pile foundation? Explain under which condition you would prefer pile foundation. **07**
- Q.2** (a) Differentiate between End bearing and Friction piles. **03**
(b) Define “pneumatic caisson” and its method of construction? **04**
(c) Explain the method of construction of under reamed piles with help of neat sketch. **07**
- OR**
- (c) Explain pile driving. Give different equipments used for pile driving with its specific uses? **07**
- Q.3** (a) List out methods of demolition. Explain wrecking ball method of demolition? **03**
(b) Differentiate between cofferdam and caisson. **04**
(c) Write short note on methods of construction of tall structures. **07**
- OR**
- Q.3** (a) Give different uses for application of diaphragm wall for a given site? **03**
(b) Explain with neat sketch formwork for R.C.C beam. **04**
(c) Briefly describe the methods of controlling ground water in excavation. **07**
- Q.4** (a) Define: Depreciation, Ownership cost and Maintenance cost **03**
(b) Write a note on Slip Formwork? **04**
(c) Enlist the various factors affecting equipment selection. Explain any four of them in detail for given equipment. **07**
- OR**
- Q.4** (a) Explain the importance of construction equipment on a project site. **03**
(b) Draw neat sketch of belt conveyor and enlist its components **04**
(c) Explain the different steps of process of vibroflotation with help of neat sketches? **07**
- Q.5** (a) Define (i) Coefficient of traction and (ii) Gradability **03**
(b) What is power shovel? Explain operation of power shovel. **04**
(c) Explain sinking fund method for calculation of depreciation? **07**
- OR**
- Q.5** (a) Give different methods of boring with respect to site conditions? **03**
(b) What is concrete batching plant? Give a general layout plan for a concrete batching plant? **04**
(c) Discuss advantages and disadvantages of Draglines and Clamshells. **07**
