

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-VI (NEW) EXAMINATION – WINTER 2024

Subject Code:3160617

Date:05-12-2024

Subject Name:Construction Equipment and Automation

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.

- Q.1** (a) Write the importance of construction equipments in construction industry. **03**
(b) Write and explain the factors affecting selection of construction equipment. **04**
(c) State advantages and disadvantages of automation in construction. **07**
- Q.2** (a) List the different excavating equipment. **03**
(b) Write note on purpose, components and classification of concrete batching plant. **04**
(c) Differentiate between Standard equipment and Special equipment. **07**
- OR**
- (c) Classify different construction equipment. **07**
- Q.3** (a) What do you mean by real time data and aerial mapping? **03**
(b) What are the function of a tractors what are the various type of tractor. **04**
(c) Explain depreciation. List the methods of calculating depreciation cost. Explain simple line method of depreciation with a suitable example. **07**
- OR**
- Q.3** (a) How can be the automation applied to canal lining? **03**
(b) Write a short note on pavers. **04**
(c) Enlist various types of cranes used in construction work and explain anyone in detail with figure. **07**
- Q.4** (a) Write short note on types and working of brick laying machine/robots. **03**
(b) How is quantity survey carried out by drones? **04**
(c) Explain working mechanism of drones. **07**
- OR**
- Q.4** (a) What are the advantages of using robots in structural steel cutting? **03**
(b) How drones are useful for project monitoring? **04**
(c) Classify different types of drones. **07**
- Q.5** (a) Explain about 3D printing and its use in construction industry. **03**
(b) What are the uses and benefits of Virtual reality technologies? **04**
(c) Write short note on Building Information Modelling. **07**
- OR**
- Q.5** (a) Define photogrammetry. For what purpose it is used? **03**
(b) Write note on automation in highway construction. **04**
(c) Differentiate between virtual reality and augmented reality. How both are applicable in construction industry? **07**
