

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER-VI EXAMINATION – WINTER 2025****Subject Code:3160617****Date:25-11-2025****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) Explain importance of construction equipments. **03**
 (b) State and explain the factors affecting on owning and operating cost. **04**
 (c) Draw neat sketch of scrapers and label it. **07**
- Q.2** (a) What are the types of batching plant of concrete? **03**
 (b) What are the advantages and disadvantages of Automation in construction industry? **04**
 (c) State the use of scrapers and working of scrapers. **07**
- OR**
- (c) Draw neat sketch of belt conveyor and describe its components. **07**
- Q.3** (a) What is the full form of DRONE? And write the advantages of the DRONE? **03**
 (b) Write down the different types of the DRONE. **04**
 (c) What are the application of drones in construction? **04**
- OR**
- Q.3** (a) How Automation help in canal lining? **03**
 (b) What are the benefits of 3D printing in construction? **04**
 (c) What is SCADA system? And how SCADA is working for highway construction? **07**
- Q.4** (a) How do you do Structural Health Monitoring? **03**
 (b) What are the three phase of BIM? **04**
 (c) How Robotics used in bridges and roads? **07**
- OR**
- Q.4** (a) How Robotics could change the future of construction? **03**
 (b) Which material is used to 3d print for house? How does 3d printing work? **04**
 (c) What are the advantage and disadvantages of 3d printing for construction? **07**
- Q.5** (a) What are the challenges will 3d painting have in the future? **03**
 (b) How is laser scanning technology used in land surveying? **04**
 (c) What is augment and virtual reality technology? **07**
- OR**
- Q.5** (a) What are the benefits of BIM in construction project? **03**
 (b) How drone are work for under water survey? **04**
 (c) Write short note on: Properties of Canal Lining. **07**
