GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–VI (NEW) EXAMINATION – SUMMER 2022

Subject Code:3160617   **Date:10/06/2022**
Subject Name:Construction Equipment and Automation
Time:10:30 AM TO 01:00 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 special equipment with example.	**03**
	(b)	Explain need of construction equipment.	**04**
	(c)	Write note on purpose, components and classification of concrete batching plant.	**07**
Q.2	**(a)**	Define: Depreciation, Salvage and scrap values	**03**
	(b)	List the different excavating equipment.	**04**
	(c)	Write note on types, basic parts, operation of power shovel with neat sketch.	**07**
		OR	
	(c)	What is the difference between mobile cranes and tower cranes? Write note on components, purposes and types of tower cranes with sketch.	**07**
Q.3	**(a)**	What is automation? Explain need of automation.	**03**
	(b)	What are the benefits of automation?	**04**
	(c)	Write a note on canal lining equipment	**07**
		OR	
Q.3	**(a)**	What is difference between robotics and automation?	**03**
	(b)	Write short note on types and working of brick laying machine/robots.	**04**
	(c)	Write note on automation in highway construction.	**07**
Q.4	**(a)**	What are benefits of robotics in construction industry?	**03**
	(b)	Explain robotics in building demolition activity	**04**
	(c)	Explain working of 3D scanner for surveying	**07**
		OR	
Q.4	**(a)**	Classify different types of drones.	**03**
	(b)	Explain use of robot in material handling and streel cutting	**04**
	(c)	What is 3D printing? What are the advantages of 3D printing	**07**
Q.5	**(a)**	What is photogrammetry ?	**03**
	(b)	Explain advantage of using drone in photogrammetry	**04**
	(c)	Explain Real time data and land survey using drone.	**07**
		OR	
Q.5	**(a)**	What is concept of virtual reality technology?	**03**
	(b)	Explain in Brief about BIM	**04**
	(c)	What is structural health monitoring? Explain how effective structural health monitoring can be done using drones.	**07**

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