Seat No./Enrollment No.: _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BACHELOR OF ENGINEERING – SEMESTER 4 – EXAMINATION – SUMMER 2026

Subject Code: BE040AF011 **Date: 09/06/2026**

Subject Name: FUNDAMENTALS OF SMART CITY PLANNING

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.**

Q.1	**(a)**	What is a smart city? Explain the features of a smart city.	**03**
	(b)	Explain the need to develop smart city.	**04**
	(c)	Discuss history of Smart city in India.	**07**
Q.2	**(a)**	What are objectives for smart cities?	**03**
	(b)	Explain the advantages & disadvantages of a smart city.	**04**
	(c)	Discuss history of Smart city in world.	**07**
		OR	
Q.2	**(c)**	Explain various navigation systems in detail.	**07**
Q.3	**(a)**	What do you understand by Smart Cities Planning & Development?	**03**
	(b)	What are the performance benchmarks of a smart city?	**04**
	(c)	Explain various built-up approaches to smart cities in detail.	**07**
		OR	
Q.3	**(a)**	Which criterias are used for smart city development?	**03**
	(b)	Explain the governance of smart cities in India.	**04**
	(c)	Write a short note on Strategic components of Area-based development.	**07**
Q.4	**(a)**	What is Smart Mobility?	**03**
	(b)	Justify: Solar energy is most suited to India.	**04**
	(c)	Discuss the Smart vehicles in detail and give their applications.	**07**
		OR	
Q.4	**(a)**	Which are the objectives of solar smart cities.	**03**
	(b)	Write a short note on: Fuels of future.	**04**
	(c)	Discuss important phases for smart city project management.	**07**
Q.5	**(a)**	What are the objectives of Green Building?	**03**
	(b)	Explain the various fundamental principles of Green Building.	**04**
	(c)	Which are different Green Building rating systems? Explain any one in detail.	**07**
		OR	
Q.5	**(a)**	List out the top ten Green Buildings in India.	**03**

(b) Write a short note on the Energy Saving System. **04**

(c) How can lighting design be an energy-saving parameter in making a building energy efficient? **07**

*****