

Enrollment No./Seat No.:

GUJARAT TECHNOLOGICAL UNIVERSITY
Bachelor of Engineering - SEMESTER - IV EXAMINATION - WINTER 2025

Subject Code: N114AF01

Date: 03-12-2025

Subject Name: Fundamentals of Smart City Planning

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.**

	Marks
Q.1 (a) Discuss the key components of a smart city and how they work together to create a connected urban environment.	03
(b) Describe the characteristics of smart cities and how they differentiate from traditional cities.	04
(c) What challenges are involved in building smart cities, and how can these be addressed?	07
Q.2 (a) Who are stakeholders of smart city?	03
(b) Write a short note on criteria of smart city planning.	04
(c) Explain in detail history of smart cities.	07
OR	
(c) What are the benefits and problems of smart city?	07
Q.3 (a) Explain in detail the stages in smart city planning process.	03
(b) Explain in detail about the master plan of a city.	04
(c) Write a short note on governance of smart city.	07
OR	
(a) Write in detail about Questionnaire design in smart city planning process.	03
(b) Discuss in detail about the development control rules.	04
(c) Explain in detail about financing smart city development.	07
Q.4 (a) Write a short note on application of GPS and GIS in smart cities.	03
(b) What are the challenges regarding cyber security in smart cities?	04
(c) Explain in detail concept of smart housing	07
OR	
(a) Explain in detail about smart vehicles.	03
(b) Discuss role of project management in smart city planning.	04

- (c) Write a short note on role of solar energy in smart city planning. 07
- Q.5** (a) List down the environmental impacts of building. 03
- (b) What are green buildings? 04
- (c) Write the importance of energy conservation in green building. 07

OR

- (a) Explain advantages and disadvantages of green building. 03
- (b) Define sustainable green building material. 04
- (c) What are the factors affecting energy use in building? 07
