Roll No.												

PRESIDENCY UNIVERSITY

BENGALURU

End - Term Examinations – December 2025

Date: 05-12-2025 **Time:** 01:00pm – 04:00pm

School: COMMON TO ALL SCHOOL	**Program:** COMMON TO ALL PROGRAM	
Course Code: CIV2006	**Course Name:** Infrastructure Systems of Smart Cities	
Semester: OE	**Max Marks**: 100	**Weightage**: 50%

CO - Levels	CO1	CO2	CO3	CO4	CO5
Marks	4	24	24	24	24

Instructions:

(i) Read all questions carefully and answer accordingly.

(ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks. **10Q x 2M=20M**

1.	What is meant by Urban infrastructure?	**2 Marks**	**L1**	**CO1**
2.	List any four core infrastructure elements of a smart city.	**2 Marks**	**L1**	**CO1**
3.	What are the challenges of smart cities development in India.	**2 Marks**	**L1**	**CO2**
4.	What is the function of a Special Purpose Vehicle (SPV) in smart cities?	**2 Marks**	**L1**	**CO2**
5.	What is meant by retrofitting and redevelopment in area-based development in smart city?	**2 Marks**	**L1**	**CO3**
6.	Define Urban consultation and inclusive planning.	**2 Marks**	**L1**	**CO3**
7.	Name any four advanced technologies used in smart city development.	**2 Marks**	**L1**	**CO4**
8.	Write the key applications of smart environment monitoring.	**2 Marks**	**L1**	**CO4**
9.	What is meant by smart water management system.?	**2 Marks**	**L1**	**CO5**
10.	Write the examples of smart mobility in action.	**2 Marks**	**L1**	**CO5**

Part B

Answer the Questions. **Total Marks 80M**

11.	**a.**	Discuss about the key concepts in urban infrastructure.	**15 Marks**	**L2**	**CO2**
	b.	Explain the core infrastructural elements that support the development of a smart city.	**05 Marks**	**L2**	**CO2**
		Or			
12.	**a.**	Explain the various components of Smart City Taxonomy and illustrate how they are applied in different sectors with suitable examples.	**20 Marks**	**L2**	**CO2**

13.	**a.**	Explain the area-based development of smart city like retrofitting, redevelopment and greenfield development.	**20 Marks**	**L2**	**CO3**
		Or			
14.	**a.**	Explain the various dimensions of smart city development with relevant examples.	**20 Marks**	**L2**	**CO3**

15.	**a.**	Demonstrate how the Smart City Citizen Engagement Framework can be applied to improve public participation and service delivery in urban governance.	**20 Marks**	**L3**	**CO4**
		Or			
16.	**a.**	Discuss the urban consultation process and its significance in smart city planning.	**10 Marks**	**L3**	**CO4**
	b.	Elaborate the methods of engagement in urban consultation process.	**10 Marks**	**L3**	**CO4**

17.	**a.**	Demonstrate how innovative approaches can be implemented in smart city infrastructure development with the help of emerging technologies.	**10 Marks**	**L3**	**CO5**
	b.	Elaborate briefly on the smart City Integration Challenges and Solutions	**10 Marks**	**L3**	**CO5**
		Or			
18.	**a.**	Illustrate the use of intelligent technologies to improve the effective last mile connectivity model for public transport users.	**10 Marks**	**L3**	**CO5**
	b.	Apply the concepts from your group's smart city case study to propose improvements for sustainable urban development.	**10 Marks**	**L3**	**CO5**