Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–IV (NEW) - EXAMINATION – SUMMER 2017

Subject Code: 2144001 **Date: 26/05/2017**

Subject Name: Building, Town and Infrastructure 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. **Q1. To Q3 to be answered in the answer book. Q2(c), Q.4 and Q.5 (b) has to be answered directly on A2 size drawing sheet using Engineering drawing tools.**
5. **All drawings should be dimensioned properly.**
6. **Freehand sketches will not be graded.**

Q1	(a)	Short Questions	14
	1	GIFT city is what kind of a smart city development program	
	2	Define green building material	
	3	What is the minimum dimensions for a play field area of a senior secondary school (class 6 to class 12)	
	4	Define carpet area	
	5	Define set-back	
	6	Define margin	
	7	Define mezzanine floor	
	8	Define plinth area	
	9	Proper aspect of kitchen is in which direction?	
	10	What is the difference between town planning and smart town planning?	
	11	What is TPS?	
	12	Explain classification of Zoning in a TPS with any one existing city example?	
	13	What is the meaning of word Dwelling?	
	14	List out the surveys required to collect data for the process of town planning?	
Q2	(a)	What is smart city?	3
	(b)	Explain the multi-dimensional concept of sustainable development with neat sketch	4
	(c)	Plan out water supply system on a fabric plan of a well-planned city with: a) Educational complex b) Sports complex c) High rise (G+20) residential complexes of 8 nos. d) Cement industry e) Engineering academic college f) Hospital with academic facilities	7
		OR	
	(c)	Draw a route reference map of a well-planned city for the vehicular movement with: a) Educational complex b) Sports complex c) High rise (G+20) residential complexes of 8 nos. d) Cement industry e) Engineering academic college f) Hospital with academic facilities	7
Q3	(a)	Write in brief about any 2 green building materials	3
	(b)	Explain all the following terms in context to the smart city development a. Pan-City development b. Green field development	4
	(c)	Define slums and state characteristics of slums, explain slum clearance methods and state the precautions to be taken against the formation of slums	7

OR

Q3	(a)	Justify a smart city as sustainable city	3
	(b)	Explain all the following terms in context to the smart city development a. Restoration b. Rehabilitation	4
	(c)	List down and explain each principle of urban planning	7
Q4		Draw a single line plan of all the floors with dimensions in accordance to the building by-laws of a full-fledged multi-specialty G+5 hospital with academic facilities having the following criterion: a) 1000 common beds b) 450 semi special rooms c) 300 special rooms d) 200 doctors at senior posts (resting space + working) e) 400 students (resting space + working) f) 1000 nursing staff (resting space + working) g) 300 cleaning staff (resting space + working) h) 50 receptionists i) Canteen facility j) Waiting area k) Pharmacy store l) ICU m) Operation theatre n) Blood Storage area	14

OR

Q4		For a luxurious HIG residential bungalow with NO COMMON WALLS on a plot of 18 X 24m, draw a detailed plan of the first floor and ground floor with the following ensuring adequate air ventilation and natural lighting: Details of Ground floor: (a) Living room (b) Kitchen (c) Dining space not attached with kitchen (d) 2 bedrooms (1 with attached toilet) (e) 1 common toilet (f) Store attached with kitchen (g) Bath and W.C. in the toilet (h) Prayer room (i) Staircase and stairwell with approach to first floor Details of First floor: a) 2 bedrooms with attached toilets and reading facilities b) Open terrace on one side c) Store room for storage of surplus bedding d) Staircase and stairwell with approach to terrace	14
Q5	(a)	Draw two numbers of sections for the building drawn in Q-4 with the following details: 1. Section passing through staircase with stairwell, and 2. Six sided sectional view of toilet block	10
	(b)	List various working drawings of a residential building with details. Mention the scales and units for preparing working drawings.	4

OR

Q5	(b)	What do you mean by Bye laws? Who frames it? Give the Minimum Size of the Drawing room and Kitchen.	4