GUJARAT TECHNOLOGICAL UNIVERSITY

Bachelor of Engineering (Semester 6)

Minor Degree : Next Generation Smart Village

Subject Code : N116AD02 (w.e.f. AY 2025-26)

Subject Name : Application of Green & Smart Village Concepts

Type of course : Compulsory

Prerequisite : Basic Concept of Green & Smart Village.

Rationale : To develop basic understanding about applying concept of green and smart village for developing conceptual model.

Teaching and Examination Scheme :

Teaching Scheme			Credits	Examination Marks				Total Marks
				Theory Marks		Practical Marks		
L	T	P	C	ESE (E)	PA (M)	ESE (V)	PA (I)	
0	0	4	2	00	00	70	00	70

Content :

Sr. No.	Content	Total Hrs.
1	Case Studies and Conceptual Model development for Zero-Energy Building	12
2	Case Studies and Conceptual Model development for Smart Education in Village	12
3	Case Studies and Conceptual Model development for Smart Agriculture	08
4	Case Studies and Conceptual Model development for Green & Smart Water, Waste water and Solid Waste Management	08
5	Related Activities and **REPORT (PART-3):** Preparation of final report of Integrated Smart village.	16

Suggested Specification table with Marks (Theory) :

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
10%	**25%**	**20%**	**15%**	**10%**	**20%**

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above Levels (Revised Bloom's Taxonomy)

Note : This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Reference Books :

1. Smart Village Technology: Concepts and Developments By Srikanta Patnaik, Siddhartha Sen, Magdi S. Mahmoud, Springer International Publishing
2. Smart Villages of Tomorrow: The Road to Mori, Solomon Darwin, Independently Published
3. Green and Smart Technologies for Smart Cities edited by Pradeep Tomar, Gurjit Kaur, CRC Press, Taylor & Francis Group
4. IoT and Analytics for Agriculture edited by Prasant Kumar Pattnaik, Raghvendra Kumar, Souvik Pal, S. N. Panda

Course Outcomes :

Sr. No.	CO statement	Marks % weightage
01	Students will learn about how to use and apply various technologies to develop smart infrastructures in rural areas.	20%
02	Students will know and learn about various waste management techniques while developing smart village.	55%
03	Students will able to integrate various technologies to solve real world problems for developing smart village.	25%

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