

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V (NEW) EXAMINATION – WINTER 2021****Subject Code:3151711****Date:15/12/2021****Subject Name:Building Automation****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) What is the concept Building Management System?	03
	(b) Explain Building Automation and Home Automation.	04
	(c) Explain an overview of Building Automation in detail. Which are the functions, parameters and utilities which require measurement, monitoring and control as a part of overall Building Automation System?	07
Q.2	(a) What is ASHRAE? Explain any 3 ASHRAE symbols.	03
	(b) Which are the types of Fire Standards? Why it is required?	04
	(c) What is FAS? Explain various components of FAS and also explain working principle of any one type of fire detector	07
OR		
	(c) Explain the concept of Access Control as a part of Building Automation. Also explain various components and access control system design	07
Q.3	(a) Explain importance of security systems in smart buildings.	03
	(b) What is the difference between DAC and MAC as a part of access control?	04
	(c) What is CCTV? Explain different types of CCTV cameras in detail	07
OR		
Q.3	(a) Briefly explain the concept of Green Building.	03
	(b) What is the meaning of Energy Conservation? Explain it in the context of Smart Buildings.	04
	(c) Which are the different types of cables used as a part of Building Automation System? Explain in detail.	07
Q.4	(a) List out various industrial standards for “fire” and explain why these standards are required?	03
	(b) What do you mean by intelligent lighting? Briefly explain.	04
	(c) What is HVAC system? Explain various parts of HVAC system.	07
OR		
Q.4	(a) What are the advantages of Building Management System?	03
	(b) Explain the selection criteria for CCTV camera.	04
	(c) Which are the different types of smoke detectors? Explain in detail any three types of smoke detectors.	07
Q.5	(a) Briefly explain LEED for green buildings.	03
	(b) What is RBAC? Briefly explain it.	04
	(c) Explain ventilation process in detail as a part of HVAC	07
OR		
Q.5	(a) List out the key areas measured by LEED in green buildings?	03
	(b) Compare IP Camera Vs HD Camera as a part of CCTV.	04
	(c) Explain in detail DVR based system for CCTV.	07
