

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER- V EXAMINATION – SUMMER 2026****Subject Code:3151711****Date:21-05-2026****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) Classify various Explosive atmospheres Hazardous areas (Zoning) For Gases and Mists	03
	(b) Enlist various design consideration of green buildings.	04
	(c) Draw block diagram of Fire alarm systems. Explain various types of Fire detectors with examples.	07
Q.2	(a) Enlist advantage of BMS	03
	(b) Write in brief Fire Standard NFPA72A, BS5839	04
	(c) Compare fire detectors and fire sensor with various points.	07
	OR	
	(c) What are the various fire control mechanism in Gujarat state for Fire. State various criteria for installation of fire system in residential and commercial	07
Q.3	(a) What is human comfort zone? How it is control through HVAC?	03
	(b) Explain in brief importance of access control system.	04
	(c) Draw block diagram of CCTV system and compare NVR and DVR with various points.	07
	OR	
Q.3	(a) Enlist various types of protocol used in BMS.	03
	(b) Narrate the use of Psychometric chart, Air properties used in HVAC	04
	(c) Enlist various types of CCTV Camera with its application, Explain PTZ, bullet and Dome Camera in details.	07
Q.4	(a) Narrate 3 methods for improvement of building efficiency.	03
	(b) Which kind of access control system used in Library, Explain in brief.	04
	(c) Explain in details Finger Print, numerical lock and face detection-based access control system for door with diagram	07
	OR	
Q.4	(a) Write full form for ASHRAE and draw its symbol for compressor.	03
	(b) State working principal of RFID based access control with application.	04
	(c) Which are various authority to certify Green Building? Narrate in details various lightening system for green building.	07
Q.5	(a) State difference between conventional AC and HVAC system. Explain HVAC sequence of operation	07
	(b) Write short note on various energy saving concept in residential and commercial building	07
	OR	
Q.5	(a) Explain functioning of HVAC system and explain its architecture with all components	07
	(b) Narrate fundamental difference between conventional AC and Inverter AC ? Compare VAV and CAV with various points.	07
