

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE- SEMESTER-V (NEW) EXAMINATION – WINTER 2020****Subject Code:3151711****Date:22/01/2021****Subject Name:Building Automation****Time:10:30 AM TO 12:30 PM****Total Marks: 56****Instructions:**

1. Attempt any FOUR questions out of EIGHT questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
<b>Q.1</b>	(a) Explain Concept and application of Building Management System.	<b>03</b>
	(b) State similarities and differences between smart building and green building.	<b>04</b>
	(c) Explain working principle of HVAC system and explain its architecture with all components.	<b>07</b>
<b>Q.2</b>	(a) What are the different phases of fire? Draw a block diagram of fire detection and alarm system.	<b>03</b>
	(b) Write short note on: Energy Saving concepts & methods.	<b>04</b>
	(c) Classify different fire detectors & Explain any two detectors in detail.	<b>07</b>
<b>Q.3</b>	(a) Give the comparison between NVR and DVR.	<b>03</b>
	(b) Write down advantages of IP access control with POE.	<b>04</b>
	(c) Draw typical CCTV based surveillance system. State the component of analog CCTV system and IP based CCTV system.	<b>07</b>
<b>Q.4</b>	(a) Explain following terms in context of camera: Auto Iris, WDR and Vari-focal.	<b>03</b>
	(b) Explain operations and types of camera.	<b>04</b>
	(c) Compare DAC, MAC and RBAC in context of computer system access control.	<b>07</b>
<b>Q.5</b>	(a) What is ASHRAE? Explain symbols associated with it.	<b>03</b>
	(b) Justify the use of people counter in access control system.	<b>04</b>
	(c) Discuss RFID in access control. Explain Lightning control for Building Efficiency improvement.	<b>07</b>
<b>Q.6</b>	(a) Explain the advantages and limitations of biometric systems.	<b>03</b>
	(b) Compare different cables which are used in camera system.	<b>04</b>
	(c) Discuss DDC in HVAC. How different types of hazard and their level are identified using NFPA rating?	<b>07</b>
<b>Q.7</b>	(a) Draw architecture of IBMS and explain the same.	<b>03</b>
	(b) Differentiate between VAV and CAV.	<b>04</b>
	(c) State the different way of authentication process carried out in access control system.	<b>07</b>

- |            | <a href="http://www.FirstRanker.com">www.FirstRanker.com</a>                              | <a href="http://www.FirstRanker.com">www.FirstRanker.com</a> |
|------------|---|--|
| <b>Q.8</b> | (a) Write short note on BMS controller.   | <b>03</b>  |
|            | (b) How Smart cards differs from Proximity cards?   | <b>04</b>  |
|            | (c) Explain typical Air Handling Unit with basic operation.<br>Also brief about Chillers. | <b>07</b>  |

\*\*\*\*\*

[www.FirstRanker.com](http://www.FirstRanker.com)