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Question Paper Code: 41682

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2017

Elective

Electronics and Instrumentation Engineering

14UIC918 - BUILDING AUTOMATION

(Regulation 2014)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. A manual fire alarm system only, activated by manual call points
 - (a) Type 1
 - (b) Type 2
 - (c) Type 6
 - (d) Type 7
2. The _____ gives heat sensing setting only.
 - (a) mode 1
 - (b) mode 2
 - (c) mode 4
 - (d) mode 5
3. Water is most effective and most commonly used for which of the following type of fire?
 - (a) Class A-ordinary combustibles
 - (b) Class B-flammable and combustible liquids
 - (c) Class C-electrical
 - (d) Class D-combustible metals
4. The _____ is hub of the system that monitors inputs and system integrity, controls outputs and relays information inherently.
 - (a) fire alarm boxes
 - (b) fire alarm communication unit
 - (c) fire alarm control unit
 - (d) perimeter intrusion system
5. The _____ is a computer-based control system installed in buildings that controls and monitors the building's mechanical and electrical equipment.
 - (a) building automation system
 - (b) domestic automation system
 - (c) household automation system
 - (d) industrial automation system

6. The _____ is an approach to computer security that attempts to unify endpoint security technology.
- (a) Control area network (b) Local area network
(c) Network Access Control (d) Peer to peer network
7. Name the device that allows four surveillance camera images to be viewed on a monitor at the same time?
- (a) A video splitter (b) A quad switcher
(c) A modulator (d) A photoelectric sensor
8. Which type of sensor is used for door installations?
- (a) PIR (b) Contact sensor
(c) Active (d) Magnetic switch
9. How many wires are normally required for connecting a passive sensor to the control panel?
- (a) 1 (b) 4 (c) 2 (d) 3
10. A changing characteristic used to communicate building automation information between control devices
- (a) analog signal (b) digital Signal
(c) control signal (d) discrete signal

PART - B (5 x 2 = 10 Marks)

11. Mention the uses of fire alarm systems.
12. Draw simple power supply design for fire alarm system.
13. Difference between straight cable and cross cable.
14. List the camera calculation parameters.
15. Define BMS.

PART - C (5 x 16 = 80 Marks)

16. (a) Illustrate the principle of operation and components of fire alarm system. (16)
- Or
- (b) Explain in detail about the types of fire alarm systems. (16)
17. (a) (i) Give classification of FAS loops. Explain any one with neat diagram. (8)

(ii) Summarize the steps involved in voltage drop calculations in FAS. (8)

Or

(b) (i) Explain FAS system with its advantages. (8)

(ii) Explain cause and effect matrix in FAS. (8)

18. (a) Draw and Explain the block diagram of access control systems. (16)

Or

(b) Describe the installation process of access control systems with suitable example. (16)

19. (a) Discuss the classification of camera in CCTV systems and give its advantages. (16)

Or

(b) (i) Explain the selection criteria of camera in CCTV systems. (8)

(ii) Explain the concept behind the perimeter intrusion systems used in CCTV. (8)

20. (a) Explain the concept of direct digital control system with its applications. (16)

Or

(b) Illustrate the operation of Honeywell architecture. (16)
