

Total No. of Questions : 12]

SEAT No. :

P880

[Total No. of Pages : 2

[4659]-338

**B.E. (Instrumentation and Control)
d-BUILDING AUTOMATION-I
(2008 Course) (Semester-I) (Elective-I)**

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:

- 1) *Answers to the two sections should be written in separate answer books.*
- 2) *Answer any three questions from each section.*
- 3) *Neat diagrams must be drawn wherever necessary.*
- 4) *Figures to the right side indicate full marks.*
- 5) *Use of Calculator is allowed.*
- 6) *Assume suitable data, if necessary.*

SECTION-I

Q1) a) What is fire? Explain various stages of fire. **[10]**

b) Explain Fire alarm control panel and describe Conventional FACP. **[8]**

OR

Q2) a) Enlist types of FAS architecture. Explain any one. **[8]**

b) Draw the block diagram of building life safety system & explain each block. **[10]**

Q3) a) Explain SLC Communication Protocol. **[6]**

b) What is IDC. Explain class A IDC with alarm open and trouble condition. **[10]**

OR

Q4) a) Give classification FAS loops. Explain any one. **[8]**

b) Discuss voltage drop calculations of FAS. **[8]**

Q5) a) Explain Types of smoke detector. Elaborate photoelectric type. **[8]**

b) Explain relays and contacts used in FAS. **[8]**

OR

P.T.O.

- Q6) a)** Explain purpose of NFPA. Discuss Origin and development of NEPA. [8]
- b) The Panel has 70 detectors each consuming $50\mu\text{A}$, 20 sounders consumes 20 ma each. Required stand by time is 24 hrs and required alarm time is 0.5 hrs. Quiscent Current through control panel is 0.025 A. Calculate Stand by Battery size (Ah). [8]

SECTION-II

- Q7) a)** Draw and explain the architecture of access control systems. [10]
- b) Discuss communication between card and card reader technology with the help of weigand card. [8]

OR

- Q8) a)** Discuss need of security system with suitable examples. [8]
- b) Draw and explain biometrics for security system. [10]

- Q9) a)** Discuss classification of camera in CCTV systems and explain any 2. [8]
- b) Explain general specification for camera selection and explain any 2. [8]

OR

- Q10)a)** What are different activities carried out in CCTV control room. [8]
- b) Explain technologies used for perimeter intrusion detection system. [8]

- Q11)a)** List various types of Intrusion detection system and explain any one. [8]
- b) Explain different types of intrusion detectors. [8]

OR

- Q12)a)** Discuss advantages and disadvantages of various biometrics. [8]
- b) Explain Object/Spot protection System with Capacitance Proximity sensor. [8]

