

Total No. of Questions : 10]

SEAT No. :

P3578

[Total No. of Pages : 2

[4959]-1195

**B.E. (Instrumentation & Control)**  
**BUILDING AUTOMATION - I**  
**(2012 Pattern) (Semester - I)**

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

- 1) *Answer Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8, Q9 or Q10.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right side indicate full marks.*
- 4) *Assume suitable data, if necessary.*

**Q1)** a) What is BAS? Explain importance of BAS in Security system with neat sketch. [6]

- b) Write a short notes on : [4]
- i) Specific Humidity
  - ii) Relative Humidity

OR

**Q2)** a) Explain role of Architect in Process BAS Design. [6]

- b) Write a short notes on intelligent Building. [4]

**Q3)** a) Define and explain : [6]

- i) Static Pressure
- ii) Velocity Pressure
- iii) Absolute Pressure

- b) Write a short notes on Psychrometer. [4]

OR

**Q4)** a) Explain with neat sketch Air handling unit. [6]

- b) Write a short notes on importance of Co2 in BAS system. [4]

**P.T.O.**

- Q5)** a) Explain single duct variable air volume system with neat sketch. [10]  
b) Difference between series fan powered, parallel fan powered. [8]

OR

- Q6)** a) What is CRAC? Explain CRAC System with neat sketch. [10]  
b) Explain Radiation Coil with neat sketch. [8]

- Q7)** a) List various types of heat pump. Explain any one with neat sketch. [8]  
b) Explain Vapour Compression cycle with neat sketch. [8]

OR

- Q8)** a) List different types of Boiler. Explain fire tube type of boiler with neat sketch. [8]  
b) Explain Expansion device used in vapour compression cycle with neat sketch. [8]

- Q9)** a) What is BAS System? Explain Field level components in BAS System with neat sketch. [8]  
b) What is MODBUS? Explain MODBUS ASCII and MODBUS RTU with neat sketch. [8]

OR

- Q10)** a) Explain Architecture of DDC with neat sketch. [8]  
b) Explain in LON protocol with neat sketch. [8]

