



Que 2 Short Questions (Attempt Any Ten)

[20]

- 1 What types of precautions should be taken if pneumatic control system is to be used in moisturized environment?
- 2 State importance of gas analyzers.
- 3 On the basis of their operating principles, give classification of gas analyzers.
- 4 Explain operating principle of thermal conductivity analyzer.
- 5 What are the drawbacks of discontinuous control mode?
- 6 Explain any two characteristics of integral (I) control mode.
- 7 Enlist any two advantages of proportional-integral (PI) control mode.
- 8 Briefly explain instrument air system (IAS).
- 9 Explain briefly on pressure levels of an IAS.
- 10 What is control system?
- 11 What are benefits of industrial automation?
- 12 Differentiate: Direct and reverse action.

- Que 3 [A] Explain what floating control mode is. [05]  
[B] Discuss ON-OFF control mode. [05]

OR

- Que 3 [A] What are the drawbacks of two position control modes? Explain Multiposition control mode in detail. [05]  
[B] What do you mean by process equation? Explain it with necessary example. [05]

- Que 4 [A] Explain continuous control mode 'proportional control mode' in detail. [05]  
[B] Discuss PID control mode. [05]

OR

- Que 4 [A] Discuss integral (I) control mode in detail. [05]  
[B] Write on composite control mode 'proportional-derivative (PD) control mode' in detail. [05]

- Que 5 [A] What is compressor? Explain reciprocating type compressor with necessary diagram. [05]  
[B] What is dryer? Write on refrigeration type dryer. [05]

OR

- Que 5 [A] Discuss sliding vane rotary compressor with necessary diagram. [05]  
[B] Explain non-lubricated compressor in detail. [05]

- Que 6 [A] With necessary diagram, explain operating principle of magnetic wind instruments. Explain it in detail. [10]

OR

- Que 6 [A] Give an account of paramagnetic oxygen ( $O_2$ ) analyzer with necessary diagram. [10]

