Question Bank (G scheme)

Name of subject: Process Instrumentation

Subject code : 17540 **Unit Test: I**

Semester : V **Course : IS5G**

CHAPTER 1 Process Instrumentation System (12 marks)

3 marks

1) Define controlled variable and controlling variable.
2) Name the elements of a process control system.

4 marks

3) Define the term process control system. Name any four process industry.
4) Name the characteristics that need to be considered while designing a control system. Define the term self-regulation w. r to process.
5) Draw and explain temperature control loop for a tank containing liquid to be heated by steam.

CHAPTER 2 Signal transmission and Transmitter (24marks)

3 marks

6) Define the term process control system. Name any four process industry
7) What are the standard ranges of pneumatic and electronic transmission?
8) State the benefits of Foundation field bus protocol.
9) Differentiate between transmitter and transducer.
10) What do you mean by multi drop wiring?

4 marks

11) Compare Electronic & Pneumatic transmission system for any four points.
12) Draw a neat diagram of Flapper Nozzle amplifier. Describe its working. Draw its characteristics.
13) Describe HART communication technique with relevant diagrams.
14) Draw a neat block diag. of SMART transmitter. Explain each functional block.
15) With a neat schematic, explain working of electronic flow transmitter.
16) Draw a neat diag. of Force balance type DP transmitter. Label its element.
17) Draw a diagram of temperature transmitter with RTD. Describe its working.
18) Explain the method of field calibration of DP transmitter.

CHAPTER 4 Control Panel (16 marks)

3 marks

19) Write three advantages of graphic panels
20) State the need of enclosure for electrical equipment
21) List any three specifications of control panel

4 marks

22) State the need for panels. Draw the diagram of operate console and explain.
23) Explain protection provided to instrument by NEMA enclosures?
24) Explain the ergonomic considerations of control room
25) Give the classification of control panel. Explain break front panel with a neat Sketch
26) Define IP classification. Explain meaning of following IP codes
    (i) IP X4 (iii) IP 65

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