

**Question bank (G scheme)**

**Name of Subject: Chemical Process instrumentation and control**

**Subject code: 17561**

**Semester: Fifth**

**Course: CH**

**Unite test -II**

**Chapter 5:Flow Measurement(8 marks)**

**3 marks question**

1. State the principle of Positive Displacement Meter.

**4 marks question:**

2. Explain the working of rotating vane meter.

3. Explain the working of thermal flow meter.

**Chapter 6: Process control system and controller (14 marks)**

**3 marks question**

4. Give 2 differences between open loop and closed loop system.

5. Why D-controller is not used alone?

6. Draw system input for step, ramp and sinusoidal.

**4 marks question:**

7. With a diagram explain proportional controller.

8. Describe cascade control system.

9. Differentiate between pneumatic and electronic controllers (4 Points).

10. Explain servo and regulatory operation.

### **Chapter 7:Control Valve(14 marks)**

#### **3 marks question**

11. Give the function of valve actuator and valve positioner.
12. Draw the valve characteristics and state their equation.
13. Define distortion coefficient and rangeability.
14. List the various types of control valves.

#### **4 marks question:**

15. Draw schematic diagram of valve actuator and mark the parts.
16. What are factors to be considered while selecting control valve.
17. Explain why valve sizing is important.
18. Describe the basic elements of a control valve.

### **Chapter 8: Computer aided Measurement and control system (14 marks)**

#### **3 marks question**

19. Draw the block diagram of elements of computer aided measurement and control.
20. Draw the block diagram of PLC.

#### **4 marks question:**

21. State two applications each for PLC and DCS.
22. Describe the features of DCS.
23. Give the advantages of DCS.
24. Draw the block diagram of DCS and explain.
25. What are the parts or subsystems of Computer Aided Process Control Hardware?