AB-3188

Third Year B. Sc. (Sem. V) Examination
March/April – 2015
Electronics : Paper - X
(Measurement Systems & Industrial Instrumentation)

Time :   Hours]   [Total Marks : 50

Instructions :

(1)

(2)   Q. 1 is compulsory.
(3)   Figures at extreme right indicate full marks.

1   Answer in brief :   8
    (a)   What is loading effect?
    (b)   What is steady state error?
    (c)   State first order measurement systems
    (d)   Name the output devices (data presentation element) in
        measurement systems.

2   (a)   Explain the electromagnetic flow meter along with its   7
        merits and demerits.
    (b)   Explain the ultrasonic flow measurement along with   7
        its merits and demerits.

OR

    (a)   What is operation transfer function? What are its   8
        advantages? Find operational transfer function in
        case of zero order, first order and second order
        measurement systems.
    (b)   Discuss, in detail, the electrical method to measure   6
        pressure.

3   (a)   Discuss the step and ramp response of first order   **8**
measurement systems.

      (b)   Discuss the high gain feed-back for correcting the   **6**
interfering inputs.

OR

3   (a)   Define the second order measurement systems and   **8**
discuss any two cases in detail.

      (b)   Discus the method of signal filtering to remove the   **6**
interfering inputs.

4   Write short notes : **(any two)**   **14**

    (a)   LVDT

    (b)   C-type Boardon tube

    (c)   Operational transfer function

    (d)   Frequency response of first order system.