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Roll No

MEPS-301 (A)

M.E./M.Tech., III Semester

Examination, June 2016

Power System Instrumentation (Elective-I)

Time : Three Hours

Maximum Marks: 70

- Note :** i) Attempt any five questions.
ii) Each question carry equal marks.
iii) Assume any missing data if required.

1. a) Describe speed and acceleration measurement transducer in brief.
b) Compare various display devices used in power system instrumentation system.
2. a) Name temperature measuring transducers and explain.
b) Describe volume measuring device in detail.
3. a) Explain the working of a Gas Analyzer with the help of suitable diagram.
b) Name the pollution monitoring devices and explain.
4. a) Draw the block diagram of D/A converter and explain its working in detail.
b) Describe data logger system with the help of suitable block diagram.

5. a) Explain single and multichannel data acquisition system.
b) Suggest the values of resistors and reference voltage if resolution required is 0.5V for 4-bit R/2R ladder type DAC.
6. a) Give the advantages and disadvantages of digital transmission over analog transmission.
b) Explain time division multiplexing with the help of suitable block diagram.
7. a) An 8-bit ADC outputs all 1's when $V_i = 5.1$ V. Find its
i) Resolution and
ii) Digital output when $V_i = 1.28$ V.
b) Classify transducers with example. Differentiate between sensors and actuators.
8. Write short notes (any two) :
a) Solar flux measuring device
b) Power factor measurement
c) Pressure measurement
