



C14-M-605

4761

**BOARD DIPLOMA EXAMINATION, (C-14)**  
**MARCH/APRIL—2018**  
**DME—SIXTH SEMESTER EXAMINATION**  
**MEASUREMENT AND CONTROL SYSTEMS**

Time : 3 hours ]

[ Total Marks : 80

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**PART—A**

3×10=30

**Instructions** : (1) Answer **all** questions.  
(2) Each question carries **three** marks.  
(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. Explain briefly the term 'hysteresis'.
2. Differentiate between accuracy and precision.
3. What are the most common causes of random errors?
4. Define gauge factor of a transducer.
5. Give the classification of strain gauges.
6. Write any three differences of tachoscope and clutch tachometer.
7. Write any six advantages of ultrasonic flow meter.
8. List out the factors to be considered while selecting a tachometer.

- \* 9. What are the elements of control systems?
10. Write any six advantages of pneumatic controllers.

**PART—B**

10×5=50

**Instructions** : (1) Answer *any five* questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. What are the different measurement methods? Explain any one briefly with an example.
12. Explain briefly the factors to be considered for selecting an instrument.
13. What are rosettes? Explain with neat sketches the different forms of it.
14. Explain analog transducer and a digital transducer with an example.
15. Explain briefly the following thermometers :
- (a) Bimetallic thermometer
- (b) Liquid in glass thermometer
16. Explain the working principle of non-contact type of electric tachometer.
- \* 17. With a neat sketch, explain the working principle of an optical pyrometer.
18. Explain briefly the basic elements of the control system with a neat sketch.

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