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C14–M–605

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BOARD DIPLOMA EXAMINATION, (C–14)

JUNE—2019

DME-SIXTH SEMESTER EXAMINATION

MEASUREMENT AND CONTROL SYSTEMS

Time : 3 hours] [*Total Marks* : 80

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. List out the various dynamic characteristics of instruments.

2. Define the terms measurement and measurand.

3. Differentiate between systematic and ramdom errors.

4. What are the functions of a transducer?

5. Write any three advantages and disadvantages of strain gauges.

6. Briefly explain A.C. tachometer generator.

7. What is seebeck effect?

8. Write any three advantages and disadvantages of thermo couples.

9. Write short note on servomechanism.

10. Give any three differences between pneumatic and hydraulic actuators.

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. Give the classification of instruments and explain any four,

12. Explain the following with suitable example

(a) Operational error

(b) Environmental errors.

13. Explain the working principle of semiconductor strain gauge with a neat sketch.

14. Explain passive transducer and active transducer with an example each.

15. Explain Dragcup tachometer and tachogenerator with neat sketch.

16. With a neat sketch explain the construction and working of total radiation pyrometer.

17. Discribe the working principle of C-type and helical type bourdon tube pressure gauges with neat sketches.

18. Explain the working of pneumatic actuator with a neat sketches.

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