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C14–M–605

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BOARD DIPLOMA EXAMINATION, (C–14)
OCT/NOV DME—SIXTH SEMESTER EXAMINATION

MEASUREMENT AND CONTROL SYSTEMS

Time : 3 hours]

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. What are meant by contact and non-contact type measurements?

2. List out the main functions of measuring instruments.

3. Distinguish between systematic errors and random errors of measuring instruments.

4. Distinguish between passive and active transducers.

5. Define rosettes and mention the types of rosettes.

6. Describe the working principle of thermistor.

7. Write the classification of tachometers.

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8. What are the advantages and limitations of Bourdan tube pressure guage?

9. Differentiate between open and closed loop control systems.

10. Sketch hydraulic control system and label the components.

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. Explain static characteristics of measuring instruments.

12. Discuss the factors that are considered for selecting a measuring instruments.

13. Explain the principle of working, advantages and limitations of bonded metal wire strain gauges.

14. Explain principle, working of following transducers :

(a) Resistive transducers

(b) Piezoelectric transducers

15. Sketch the block diagram of optical pyrometer and explain its principle of working.

16. Explain hot wire anemometer with constant current method.

17. Explain drag cup tachometer, tachogenerator with neat sketch.

18. Draw a line sketch of pneumatic control system and explain its working.

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