Code No.: ME723OE | R20 | H.T.No. | | | 8 | R | | | | |

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
IV–B.TECH–I–Semester End Examinations (Supply) - April- 2024
MEASURING INSTRUMENTS
(Common for CSD, CSM, IT)

[Time: 3 Hours]   [Max. Marks: 70]

Note: This question paper contains two parts A and B.
   Part A is compulsory which carries 20 marks. Answer all questions in Part A.
   Part B consists of 5 Units. Answer any one full question from each unit. Each question
   carries 10 marks and may have a, b, c as sub questions.

PART-A   (20 Marks)

1. a) Write a note on time and frequency standards.   [2M]
   b) Define Precision and Accuracy.   [2M]
   c) List the applications of potentiometers.   [2M]
   d) State the purpose of sensors.   [2M]
   e) Distinguish between Surface roughness and Flatness.   [2M]
   f) Write about relative velocity.   [2M]
   g) Classify transducers.   [2M]
   h) Define pressure.   [2M]
   i) List the types of flow meters.   [2M]
   j) Define Buoyancy.   [2M]

PART-B   (50 Marks)

2. Discuss in detail about forms and methods of measurement.   [10M]
OR
3. Explain the class of standards available for use and calibration process.   [10M]

4. Explain the construction and working of inductive sensors.   [10M]
OR
5. Illustrate the construction, working principle and characteristics of Thermistors. [10M]

6. Explain in detail about optical methods for length and displacement measurements.   [10M]
OR
7. List the types of Accelerometers. Explain any one type of accelerometers in detail. [10M]

8. Illustrate the working principle of gyroscopic force measurement.   [10M]
OR
9. Discuss classification and principle of transducers in detail.   [10M]

10. Explain in detail about strain gauge load cell method.   [10M]
OR
11.a) Explain the construction and working of rota meter.   [5M]
   b) Describe the principle of any one positive displacement flow meter.   [5M]
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