

24358

B.Tech 6th Semester (ME) F-Scheme

Examination, May-2017

MEASUREMENT AND INSTRUMENTATION

Paper-ME-310-F

Time allowed : 3 hours]

[Maximum marks : 100

Note : Question No.1 is compulsory. Students have to attempt five questions in total selecting at least one question from each section.

1. (a) Define the hysteresis, dead band. 5
- (b) What is frequency domain transducer ? 5
- (c) What is motion measurement ? 5
- (d) Explain the total radiation pyrometer ? 5

Section-A

2. (a) What is instruments ? Explain the applications of instrument system ? 10
- (b) What are different classification of instruments ? 10
3. Explain the following :
 - (a) Response of first and second order system to step and harmonic function. 10
 - (b) Functional elements of measurement system. 10

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Section-B

4. (a) What are analog and digital transducer ? 10
(b) What are unbounded and bounded resistance strain gauge ? 10
5. (a) Explain the photo conductive transducer ? 10
(b) What is digital encoder ? 10

Section-C

6. (a) What are pneumatic and absolute motion devices ? 10
(b) Explain the hydraulic load cell and pneumatic load cell in detail. 10
7. Explain the following : 20
(a) Compensators.
(b) Electrical amplifying elements

Section-D

8. (a) Explain the positive displacement meter and flow rate meter in detail. 10
(b) What is electronic flow meter ? 10
9. Write short notes on the following : 20
(a) Pressure thermometer
(b) Electrical resistance thermometer.