

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.