

Code No. 3266/CORE

**FACULTY OF SCIENCE****M.Sc. IV Semester Examinations, May/June 2018****Subject: Physics (Spl: Elec. Instrumentation)****Paper: III Instrumentation for Measurement and Data Transmission****Time: 3 Hours****Max. Marks: 80****Note : Answer all questions from Part-A and Part-B. Each question carries 4 marks in Part-A and 12 marks in Part - B.****Part - A (8x 4 = 32 Marks)****(Short Answer Type)**

1. Describe active and passive transducers, in brief.
2. Write a short note on electrical transducers
3. What principle is used for pressure measurement in transduction method?
4. Give the classification of temperature measuring devices
5. Diagrammatically describe the closed-loop process control?
6. Write the configuration of IEEE 488 bus.
7. Write the different methods used for data transmission system.
8. Explain digital data transmission system.

**Part - B (4 x 12 = 48 Marks)****(Essay Answer Type)**

9. a) List the basic requirements of a transducer and explain variable inductance, transducer device in detail.  
**OR**  
b) Explain the theory and operation involved in strain-gauge. Describe Quarter Bridge, strain gauge circuits.
10. a) Describe the principle involved in resistance temperature and radiation methods?  
**OR**  
b) Give the classification of flow meters. Describe E.M. flow meter and ultrasonic flow meter in detail.
11. a) Explain open-loop and closed loop control of processes along with the block diagram.  
**OR**  
b) How transducer is interfaced with electronic control and measuring system? Explain how D to A multiplexing is made?
12. a) Describe the functional blocks of telemetry system in detail.  
**OR**  
b) Describe PAM and PCM telemetering system in detail.

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