

Reg. No.



**MANIPAL ACADEMY OF HIGHER EDUCATION**  
(Deemed University)



**III Sem I & C Engineering, Make up Examination**

**INSTRUMENTATION AND TRANSDUCER- ICE 203**  
(09-01-2007)

Time: 3 Hrs].

[Max. Marks: 100

**.Note:**

- Answer any FIVE full questions.
- All questions carry equal marks.

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- (a) Compare the electrical and mechanical systems with one suitable example for each. (10)
- (b) Explain the methods of elimination of modifying and interfering inputs . (6)
- (c) Crisply explain the classification of transducer based on process parameter. (4)
2. (a) Errors and its classification – Explain briefly with example , also mention the elimination methods (10)
- (b) Explain briefly about the static and dynamic characteristics . (7)
- (c) Write a short note on variable resistance transducer. (3)
3. (a) Write about the Sensitivity and linearity of strain gauge with respect to sketch. (5)
- (b) Explain about the loading effect of pottentiometric transducer. (5)
- (c) With a neat sketch of the bridge explain the operation of a strain gauge. (10)
4. (a) With the frequency response explain the operation of the piezo electric transducer. (8)
- (b) Briefly explain the operation of the LVDT with a neat sketch . (10)
- (c) Explain the principle LDR photo transducer. (2)

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5. (a) Explain the photo diode and photo transducer briefly. (10)
- (b) Need for synchros , crisply explain its operation with a sketch. (6)
- (c) Principle of Hall effect , mention some sensors based on this principle. (4)
6. (a) With a neat sketch explain the operation of brush type optical encoder. (10)
- (b) Mention and explain the classification of encoders and decoders. (10)

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