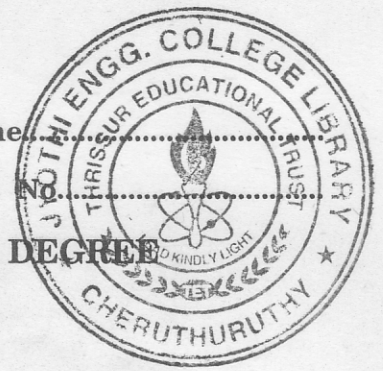


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Name

Reg. No.



**SEVENTH SEMESTER B.TECH. (ENGINEERING) DEGREE
EXAMINATION, JUNE 2010**

**AI 04 704—ADVANCED INSTRUMENTATION
(2004 Admissions)**

Time : Three Hours

Maximum : 100 Marks

Part A

*Answer all questions.
Each question carries 5 marks.*

1. (a) Explain how a moisture and humidity is measured.
- (b) Write short notes on Nanosensors.
- (c) Briefly explain the measurement of time using digital techniques.
- (d) Define a term peak frequency.
- (e) List out the sources of noise and their causes.
- (f) State advantages and disadvantages of virtual instrumentation.
- (g) Discuss briefly the requirements of GPIB.
- (h) Draw the software architecture of virtual instrument software.

(8 × 5 = 40 marks)

Part B

Each question carries 15 marks.

2. (a) With the neat diagram, explain dry and wet bulb psychrometer.
Or
(b) Describe in detail the operation of semiconductor sensors. List out the merits and limitations of semiconductor sensors.
3. (a) How the capacitance is measured ? Explain in detail.
Or
(b) Describe in detail the measurement of frequencies.
4. (a) Explain in detail the operation of ADCS. State its limitations.
Or
(b) Sketch and explain the architecture of Virtual instrumentation.
5. (a) Compare different common instrument interfaces.
Or
(b) With the diagram explain SCPI.

(4 × 15 = 60 marks)