

D 50564

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Name

Reg.



SEVENTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION
NOVEMBER 2013

AI 09 702—ADVANCED INSTRUMENTATION

Time : Three Hours

Maximum : 70 Marks

Part A

Answer all questions.

- I. (a) State the principle of a Wet bulb psychrometer.
- (b) State the principle of working of a dew point meter.
- (c) State the significance of quality factor of a coil.
- (d) What is a buffer circuit ?
- (e) State *two* features of $M \times I$ bus.

(5 × 2 = 10 marks)

Part B

Answer any four questions.

- II. (a) Explain the working of wire electrode type hygrometer.
- (b) Write notes on smart sensors.
- (c) Explain the measurement of peak frequency of a signal.
- (d) Explain the working of auto-zero circuit.
- (e) Write notes on electromagnetic interference in instrumentation.
- (f) Explain on VME extensions for instrumentation.

(4 × 5 = 20 marks)

Part C

Answer all questions.

- III. (a) Explain a method to measure density of liquids.

Or

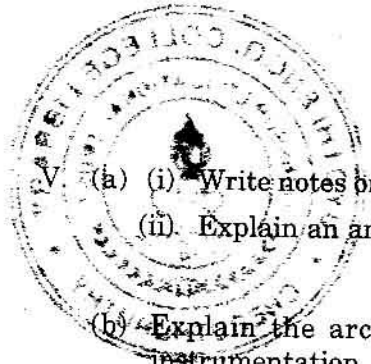
- (b) Explain about :
 - (i) Semiconductor sensors.
 - (ii) MEMS.

- IV. (a) Explain a method to measure capacitance of a capacitor.

Or

- (b) Explain a method to measure time interval between *two* events.

Turn over

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- (a) (i) Write notes on Noise sources.
(ii) Explain an analog to digital conversion circuit.

Or

- (b) Explain the architecture of a virtual instrument. Explain an application of virtual instrumentation.

VI. (a) Explain the following interfaces :

- (i) RS 232 C.
(ii) RS 485 A.

Or

(b) Write notes on :

- (i) USB.
(ii) GPIB.

(4 × 10 = 40 marks)