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## Question Paper Code: Q 2227

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2009.

Sixth Semester

(Regulation 2004)

Electrical and Electronics Engineering

## EI 1361 - MEASUREMENTS AND INSTRUMENTATION

(Common to B.E. (Part-Time) Fifth Semester Regulation 2005)

Time: Three hours \_\_\_\_\_\_ Maximum: 100 marks

## Answer ALL questions

PART A  $-(10 \times 2 = 20 \text{ marks})$ 

- 1. Differentiate Resolution from Threshold.
- 2. Define Static error. Classify the type, of matic error.
- 3. Distinguish between an ammete, and a voltmeter.
- Mention the adjustments required for an energymeter to read accurately with minimum possible error.
- Mention any four types on ... C bridges.
- 6. What are the main carries of earth loop current?
- 7. What are the mair parts of the Cathode Ray Tube?
- 9. What Transducer and an Inverse Transducer? Give an example for each.
- 10. Mention the performance parameters of Digital to Analog Converter.

## PART B - (5 × 16 = 80 marks)

11. (a) Define and explain the static characteristics of an instrument.

Or

- (b) (i) Classify and explain the different types of standards of measurements. (8)
  - Explain about the basic elements of a generalized measurement system with a neat diagram.
- 12. (a) Describe the constructional details and working of the electrodynamometer type wattmeter and also derive the torque equation and state the advantages and disadvantages of electrodynamometer type wattmeter.

Or

- (b) Explain in detail mechanical resonance type frequency meter and electrical resonance type frequency meter.
- 13. (a) Explain in detail the working of the following bridges and derive their balance equation.
  - (i) Wheatstone's bridge.
  - (ii) Maxwell's bridge.

(8 + 8)

Or

- (b) Write a short note on tech. ques used to reduce the ground loop interference signals.
- 14. (a) Describe the principle of the tion of LED and LCD display devices.

Or

- (b) Explain various coes of printers in detail giving all the important aspects of the a.
- 15. (a) What are the selection criteria for a transducer? Write a note on Inductive transducer and Piezoelectric transducer.

Or

(b) When near diagrams, explain any two types of analog to digital converters and any one type of digital to analog converter.