



RN-7389

**B. E. - IV (Sem. - VII) (ECC) Examination**  
**May / June - 2010**  
**Electronics Instrumentation**

Time : 3 Hours]

[Total Marks :

**Instruction :**

|  |                      |
|--|----------------------|
| नीचे दर्शाविए निशानीवाणी विगतो उत्तरवही पर अवश्य कभवी.<br>Fillup strictly the details of signs on your answer book.                            | Seat No. :           |
| Name of the Examination :  | <input type="text"/> |
| <input type="text" value="B. E. - 4 (SEM. - 7) (ECC)"/>  | <input type="text"/> |
| Name of the Subject :  | <input type="text"/> |
| <input type="text" value="ELECTRONICS INSTRUMENTATION"/>   | <input type="text"/> |
| Subject Code No. : <input type="text" value="7"/> <input type="text" value="3"/> <input type="text" value="8"/> <input type="text" value="9"/> |                      |
| Section No. (1, 2,.....) : <input type="text" value="1&amp;2"/>  |                      |

**SECTION - I**

- Q.1 A Write down answer of following questions 10
- (1) What is CMRR and Ad
  - (2) What is operating range of current transmission
  - (3) Why linearization required
  - (4) What is the use of sample and hold circuit
  - (5) Why V to V converter is requiring?
- B Explain modified Howland circuit 5
- C Explain optical isolation method 5
- Q.2 A Explain active power measurement method 8
- B Explain floating ground linearization method 7
- OR**
- A Explain reactive power measurement method 8
- Explain common ground linearization method 7
- Q.3 Write down answer of any three question 15
- A Flip flop method for phase angle
  - B Flip flop method for the lead and lag detector
  - C Design R to V converter for  
i/p 200  $\Omega$  to 1K $\Omega$   
o/p 1V to 9V
  - D Differential amplifier using two op-amp inverting mode
  - E Sample and hold method

**SECTION - II**

- Q.4 A Define following terms 10
- (1) Sampling time
  - (2) Aperture time
  - (3) Resolution
  - (4) Accuracy
  - (5) Dynamic error
- B Digital frequency meter 5
- C Multichannel DAS using single ADC. 5
- Q.5 A Explain theory of operation of resistance based strain gauge 8
- B Application of hall sensor for power measurement 7
- OR**
- A Application of hall sensor for displacement measurement 8
- B Explain variable capacitance transducer 7
- Q.6 Write down answer of any three question 15
- A Ramp type DVM
  - B Piezo electronic transducer
  - C Programmable gain amplifier
  - D Compare analog and digital instrumentation
  - E Dot matrix printer
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