

- N.B. : (1) Question No. 1 is compulsory.  
 (2) Out of remaining questions, attempt any three questions.  
 (3) Assume suitable additional data if required.  
 (4) Figures in brackets on the right hand side indicate full marks.  
 (5) Write your answers in Ink only.

1. (A) Draw block diagram for generalized measurement system and explain its components. (05)  
 (B) A strain gauge with gauge factor of 2 is fastened to a metallic member subjected to a stress of  $1000 \text{ kg/cm}^2$ . The modulus of elasticity of the metal is  $2 \times 10^6 \text{ kg/cm}^2$ . Calculate the percentage change in the resistance of the strain gauge? What is the value of poisson's ratio? (05)  
 (C) Explain the significance of X-1/2 digit displays. (05)  
 (D) Describe the various types of sweeps used in CRO. (05)
2. (A) Compare and explain different types of ADCs. (10)  
 (B) Draw and explain the block diagram of general purpose CRO. (10)
3. (A) Describe how  $Q$  meter is used for the measurement of low impedance. What are the various sources of error in  $Q$  meter? (10)  
 (B) Explain with neat diagram the working principle of LVDT. Give its application. (10)
4. (A) What is the basic principle of wave analyzer? Explain heterodyne type wave analyzer with application. (10)  
 (B) Explain the principle of operation of dual slope DVM. (10)
5. (A) Draw and explain the block diagram of DSO. Describe various modes of operation in it. (10)  
 (B) Derive an expression for inductance measurement using Hay bridge. (05)  
 (C) Brief out classification of Errors in measurements. (05)
6. (A) Brief out Classification of transducers. (07)  
 (B) Explain electro-dynamometer type wattmeter. (07)  
 (C) Derive an expression for resistance measurement using Wheatstone bridge. (06)

# Electronic Instruments And Measurements Sample Question Paper

**D Keegan**



## **Electronic Instruments And Measurements Sample Question Paper:**

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