(Pages : 2) **2511**

Reg. No. : .....

Name : .....

Sixth Semester B.Tech. Degree Examination, May 2013

(2008 Scheme)

Branch : Electronics & Communication

08.666 (Elective II) : ELECTRONIC INSTRUMENTATION (T)

Time : 3 Hours Max. Marks : 100

PART – A

Answer **all** questions. **Each** question carries **4** marks.

1. Explain the terms accuracy and precision.
2. Explain the principle of operation and typical applications of potentiometric and resistance strain gauge transducers.
3. An LVDT produces an RMS output voltage of 1.2 V for a displacement of 1 micro meter. Compute its sensitivity.
4. Explain how the measurement of displacement is done.
5. Explain the principle of vibration measurement.
6. Explain the working of piezo electric type acceleration pickups.
7. Explain the working of a photo electric tachometer.
8. Explain the working of Maxwell bridge.
9. A bridge is balanced at 1 KHz and has the following constants :
   AB 0.2 μ F pure capacitance; BC 500 Ω pure resistance; CD, unknown, DA, R = 300 Ω in parallel with C = 0.1 Ω F. Find the R and C or L constants of arm CD, considered as a series circuit.
10. Distinguish between dual beam and dual trace oscilloscopes.

(10×4=40 Marks)

P.T.O.

PART – B

Answer **any two** questions from **each** Module. **Each** question carries **10** marks.

MODULE – I

11. Explain the construction of inductive transducer and explain how it is used for measurement of force.

12. Describe the construction of a LVDT and explain its use in measurement of force. Also draw its performance characteristics.

13. Explain the construction and application fo synchros.

MODULE – II

14. Explain the construction and usage of capacitive transducers for measurement of displacement.

15. Explain the construction and working of cantilever beam type load cells.

16. Explain the construction and working of strain gauge base accelero meters.

MODULE – III

17. Explain, with the help of a block diagram, the functioning of a DMM.

18. Explain the functioning of DSOs. What are their merits ?

19. Explain the working of a spectrum analyzer. **(6×10=60 Marks)**