**SCHOOL OF ENGINEERING AND TECHNOLOGY**

D.C. COURT JUNCTION, DIMAPUR

**End term EXAMINATION, June 2017**

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| **Course Code:** | EC4T05 | **Semester:** | IV | **Total Marks** | 60 |
| **Course Name:** | Electronic measurement and instrumentation | **Time:** | 3hrs |

 **Part A**

1. **Choose the correct answer: 5X1=5**
2. Threshold with respect to measuring instrument is
3. The maximum signal that can be measured.
4. The value of sensitivity on the highest scale
5. The value of sensitivity on the lowest scale
6. The smallest signal which results in a detectable output.
7. Desirable static characteristics of a measuring system are
8. Accuracy and reproductively.
9. Accuracy, sensitivity and reproductively.
10. Low static error
11. Low drift/dead zone
12. The following is a measure of reproductively in a measurement system.
13. Efficiency
14. Fidelity
15. Precision
16. Drift
17. PMMC instrument can be used for measurement of
18. High frequency
19. Both ac and dc
20. Low frequency
21. only dc
22. A moving PMMC instrument has
23. Uniform scale
24. Non linear scale
25. Its deflection is proportional to current
26. Its deflection is proportional to current
27. **Fill up the blanks 5X1=5**
28. In CRO clouds of electrons are absorbed by a material called as \_\_\_\_\_\_\_\_\_
29. The input output characteristic of a variable capacitor transducer has \_\_\_\_\_\_\_\_ characteristics.
30. An example of absolute instrument is \_\_\_\_\_\_\_\_\_\_\_\_
31. 4$^{3}/\_{4}$ digit display will have maximum count of \_\_\_\_\_\_\_\_\_\_
32. LED works on the principle of ­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_

**Part B**

1. **Write short notes on (Any TWO) 2X4=8**
2. LVDT
3. Average responding voltmeter
4. AC and DC probes
5. **Answer any FOUR 4X3=12**
6. What is the function of delay line in CRO
7. Derive the balance condition of AC bridge
8. What is the operating principle of LCD display? Write the advantage of LCD over LED.
9. List various types of Pressure transducer
10. A capacitive transducer consist of two circular plates of diameter 3cm separated by an air gap of 1mm. Calculate the displacement sensitivity of the transducer for small axial displacement.

**Part C**

1. What are instruments? Explain the different types of instrument. **8**
2. Draw the circuit topology of Scherings Bridge and explain its operation. **8**
3. What are harmonic detectors? With the help of a block diagram explain the working of a spectrum analyzer.

 OR 7

Explain the working and construction of an RC phase shift oscillator.

1. Explain the essential components of CRT in a CRO.

 **OR 7**

Explain R-2R DAC? Write the performance characteristics of DAC.