Question Bank (G scheme)

Name of subject: EIM

Subject code :17317 **Unit Test :1**

Semester : 3 **Course : EJ/IS/IE**

Chapter1. Basics of measurement(12M)

3 MARKS

1. Define (any 3)
   a. Accuracy
   b. Precision
   c. Reproducibility
   d. Linearity
   e. Static error
   f. Dead zone
   g. Tolerance
2. Define
   a. Dynamic error
   b. Speed of response
   c. Lag
3. Define error? Write formula for % error
4. What do you mean by calibration? Give the types(
5. Give the comparison between primary & secondary standard
6. The value of voltage of across resistor is 50v. but in measurement voltage is 49.5 v so calculate a. static error, b. % error, c. relative accuracy, d. % accuracy

4 marks

7. Explain the classification of error. Why do they occur?
8. State & explain classification of standard.
9. Describe the calibration of transducers.

Chapter2. Analog DC & AC Meters (24M)

3 marks

10. Describe basic DC voltmeter with value of series resistance
    4 marks
11. **Define**
    a. RMS value b. Average value with formula.
12. Describe construction & working of PMMC with advantages &disadvantages.
13. Explain basic DC ammeter with ckt. Diagram.
14. Explain Multi range DC Ammeterckt. Diagram.
15. Explain Universal DC Ammeter ckt. Diagram.
16. Draw the neat circuit multi range DC voltmeter. Explain it measure different voltages.
17. Draw & explain AC voltmeter
18. Convert basic meter with internal resistance of 50 Ω &full scale deflection current of 2mA into multi range dc voltage with voltage ranges of 0-10v, 0-50v, 0-100v, 0-250v
19. Convert basic meter with internal resistance of 50 Ω &full scale deflection current of 2mA into multi range dc voltage with voltage ranges of 0-10v, 0-50v, 0-100v, 0-250v with sensitivity formula
20. Design a multi range DC mille ammeter using basic movement having internal resistance of 100Ω and full scale deflection current of 2mA. The required current ranges are 0-20ma , 0-100ma & 0-200ma
21. Design a universal shunt to provide ammeter with the current ranges 2A, 10A, & 15A. The basic meter has internal resistance Rm=50Ω and full scale deflection current of 1mA

Chapter 3Digital Meter3 marks(10M)

3 marks

22. Define accuracy, sensitivity of digital display
23. Give advantages of digital instrument over analog instrument.
24. Comparison between digital voltmeter over analog voltmeter.

4 marks

25. Explain block diagram of DFM
26. Describe the working of SAR with block diagram.