QUESTION BANK (I Scheme)

Name of subject: Electrical and Electronic Measurement
Course Title: EEM (313334) Unit Test: I
Semester: 3I Program Code: EE

UNIT 1: Fundamentals of measurement (10 marks) (CO1)

2 marks

1. Define Measurement and its significance.
2. State the necessity of measurement?
3. State the types of errors in Measurement (Any four).
4. State the meaning of i) Deflecting Torque ii) Damping Torque
5. State the meaning of the following:
   (i) Sensitivity (ii) Controlling torque
6. List differences between absolute and secondary instrument
7. Define the term 'calibration' and state its need for measuring instruments.
8. Sate the advantaged of PMMC instrument.

4 marks

1. Define Static and dynamic characteristics of measuring instrument in brief.
2. State the differences between analog instruments and digital instruments.
3. State the types of errors in measuring instruments and reasons of occurrence of errors.
4. Define the following terms.
   (i) Precision (ii) Drift (iii) Resolution (iv) Back lash
5. Explain instrumental errors and observational error in measuring instruments.
6. Explain the construction and working of PMMC meter with neat sketch.
7. Explain the construction and working of MI meter with neat sketch.
8. Explain the general procedure for calibration.
9. List out comparisons between CT's and PT's (Any four).
10. Give the classification of resistances stating their values.

UNIT 2: Measurement of Power and Energy (14marks) (CO2)

2 Mark

1. What is multiplying factor of the wattmeter?
2. State the working principle of single phase electronic energy meter.

3. State the various errors in single phase electronic energy meter.
4. State any two advantages of electronic energy meter?
5. Explain the basic concept of smart energy meter.

4 Marks

1. With the neat sketch explain working of Dynamometer type wattmeter.
2. Comparison between different wattmeter methods (1 wattmeter, 2 wattmeter and 3 wattmeter) for 3-phaseActive Power measurement
3. Explain the working of maximum demand indicator with a neat sketch.
4. Describe with neat diagram 4-Quadrant meter.
5. State the working principle of induction type single phase energy meter.
6. Describe with circuit diagram, single phase digital energy meter using**.**
7. Explain with block diagram operation of Smart energy meter.