**QUESTION BANK (I Scheme)**

**Name of subject: Electrical and Electronic Measurement**

**Course Title: EEM (22325)**  **Unit Test: II**

**Semester: 3I Program Code: EE**

**CHAPTER 4: Measurement of Electric energy (11 marks) (CO4)**

**2 marks**

1. State the working principle of single phase electronic energy meter.
2. State the various errors in single phase electronic energy meter.
3. State any two advantages of electronic energy meter?

**4 marks**

1. Explain the working of single phase electronic energy meter with sketch.
2. Draw a neat labelled diagram of 3-phase electronic energy meter.
3. Describe with circuit diagram, the calibration of single phase electronic energy meter using direct loading.
4. List any four errors in induction type energy meter. Give the method of compensation for each type of error.

**CHAPTER5: Measuring Instrument (26marks) (CO5)**

1. **Marks**
2. Give the classification of resistances stating their values.
3. State the working principle of phase sequence indicator.
4. Draw a neat block diagram of single beam CRO.
5. State the significance of function generator.
6. List any four applications of Digital multimeter.
7. State the working principle of single phase electronic energy meter.
8. List any four errors occurring in single phase electronic energy meter.
9. Draw a neat block diagram of single beam CRO.
10. State the significance of function generator.
11. What is the necessity of synchro scope in power system?
12. **Marks**
13. Explain the method of measuring medium resistance with neat diagram and

 equation of Wheatstone bridge at balance.

1. Explain the method of measuring low resistance with neat diagram and

 equation of Kelvin’s Double bridge at balance.

1. With neat sketch explain the construction and working of megger
2. Explain multimeter with neat block diagram.
3. Explain the working of L-C-R meter with suitable sketch.
4. A Kelvin’s double bridge has component resistances
5. Standard resistance = 100.03 µΩ
6. Inner ratio arms 100.31Ω and 200Ω
7. Outer ratio arms = 100.24 Ω and 200Ω
8. Resistance of the link connecting the standard and the unknown resistance = 700 µΩ

Calculate the unknown resistance to the nearest 0.01 µΩ.

1. Describe with a neat sketch the construction of ferromagnetic type frequency

 meter.

1. Explain the working of Synchroscope with neat sketch.
2. Explain the working of Infrared meter with neat sketch.
3. State the necessity and construction of earth tester with suitable sketch.
4. Draw the neat labelled diagram showing the controls available on front panel

 of CRO.

1. Draw a block diagram of CRO and state the function of each block.
2. Describe how the following measurements can be made with the use of

CRO :-

(i) Voltage measurement

 (ii) Time period measurement

1. Describe the functions of following components of CRT :

i) Electron gun ii) vertical amplifier iii) horizontal amplifier iv) time base generator

1. Describe with sketches the various blocks and working of signal generator.
2. Describe with block diagram, the working of function generator.
3. What is Trivector meter? Describe the constructional details of Trivector

 meter?