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**PRESIDENCY UNIVERSITY  
BENGALURU**

**SCHOOL OF ENGINEERING  
MID TERM EXAMINATION - NOV 2023**

**Semester :** Semester V - 2021

**Course Code :** EEE2012

**Course Name :** Sem V - EEE2012 - Electrical and Electronics Measurements and Instrumentation

**Program :** B. TECH

**Date :** 3-NOV-2023

**Time :** 11:30AM -  
1:00PM

**Max Marks :** 50

**Weightage :** 25%

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**Instructions:**

- (i) Read all questions carefully and answer accordingly.
  - (ii) Question paper consists of 3 parts.
  - (iii) Scientific and non-programmable calculator are permitted.
  - (iv) Do not write any information on the question paper other than Roll Number.
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**PART A**

**ANSWER ALL THE QUESTIONS**

**(5 X 2 = 10M)**

1. While conduction of experiment, Mr Rahul is expecting to observe a value of 5 Amperes in the ammeter. Identify what type of value that 5 amperes is?  
(CO1) [Knowledge]
2. What are the functional elements of an instrument, and how do they contribute to its accuracy in measurements?  
(CO2) [Knowledge]
3. List the components used in Moving Iron Instruments,  
(CO2) [Knowledge]
4. List the instruments having a non uniform scale  
(CO2) [Knowledge]
5. Explain the concept of Multi-Range Ammeter and Voltmeter. How are these instruments designed to measure a wide range of currents and voltages?  
(CO3) [Knowledge]

**PART B**

**ANSWER ALL THE QUESTIONS**

**(2 X 10 = 20M)**

6. In a survey of 15 owners of a certain model of car, the following figures for average petrol consumption were reported.

25.5, 30.3, 31.1, 29.6, 32.4, 39.4, 28.9, 30.0, 33.3, 31.4, 29.5, 30.5, 31.7, 33.0, 29.2

- a) Identify the unknown parameters that could be computed from the given data  
b) Compute the unknown parameters

(CO1) [Comprehension]

7. A multirange DC mA with a basic meter having a resistance 75 Ohms and full scale deflection for the current of 2 mA. It is desired to operate at ranges of 0-10 mA, 0-50 mA, 0-100 mA.

- a) Identify the unknown parameters that could be computed with the given data  
b) Compute the unknown parameters

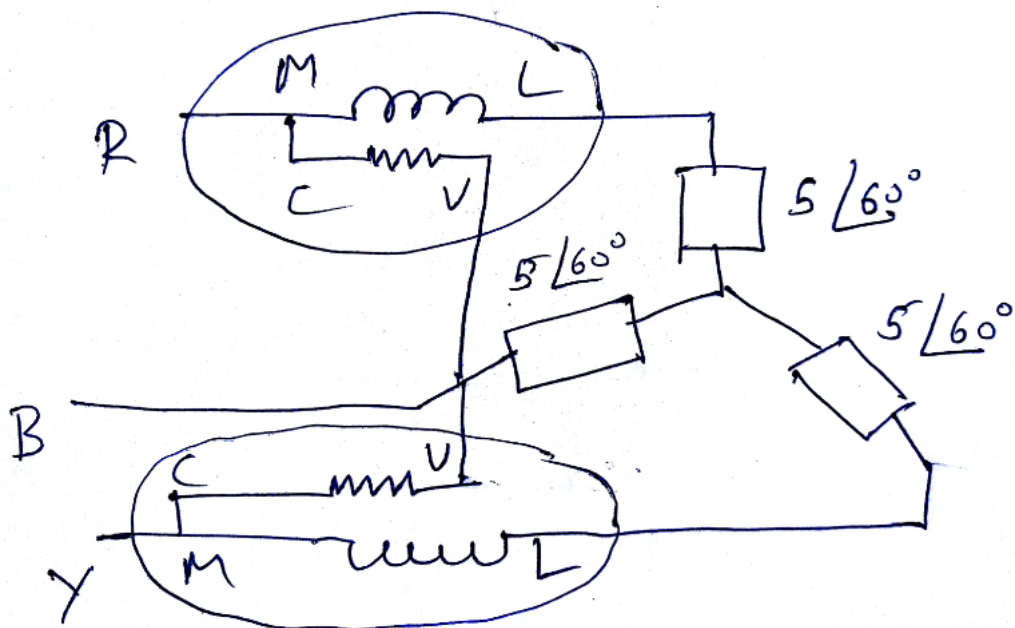
(CO2) [Comprehension]

**PART C**

**ANSWER THE FOLLOWING QUESTION**

**(1 X 20 = 20M)**

8. The line to line input voltage to a 3 phase 50 Hz star connected balanced AC circuit shown in figure below is 100 V and two watt meters are connected at the input which are indicated by the circled portion in the figure given below, What would be the wattmeter readings if the phase sequence is RYB?



(CO2) [Application]