|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **DAY** | **TOPIC / SUB – TOPIC** | **RPK / OBJECTIVES** | **TEACHER – LEARNER ACTIVITIES** | **T/LSM** | **CORE POINTS** | **EVALUATION / REMARKS** |
| Thursday | MEASUREMENTS AND INSTRUMENTS | **RPK**  Students know how to do simple measurement using available means such as measuring length of wood, cut of rice etc.  **Objectives**  By the end of the lesson, the student will be able to;   * Explain the operation of moving coil instrument. * Describe the use of galvanometer to measure resistance. * Outline advantages and disadvantages of using moving coil instruments. * Convert a moving coil galvanometer to an ammeter and voltmeter | Secure the attention of students by showing them a tape measuring tool and asking them what it is used for.  Assist students to describe the operation of a moving coil instrument.  Using illustrations, help students to discuss the use of galvanometer to measure resistance.  Assist students to know the advantages and disadvantages of using moving coil instruments over other moving instruments  Assist students to convert galvanometer into an ammeter and voltmeter. | Chalkboard illustration | **Moving Coil Instruments**  The moving coil instrument uses the principles of electromagnetism where the repulsion and attraction cause a pointer to move on a scale.  **Galvanometer as an ohmmeter**  It is done by connecting an adjustable resistance and a cell in series with galvanometer.  **Advantages of moving coil instrument**  - Linear scale  - Accurate Measurement  **Moving coil instrument as a voltmeter and Ammeter**  A moving coil instrument can be used as a voltmeter by connecting a series resistor. On the hand, it can be use as an ammeter by connecting a shunt resistor across it. | 1. Explain the operation of a moving coil instrument. 2. With the aid of a diagram explain how the galvanometer can be used as an ohmmeter. 3. State 2 advantages of moving coil instruments over other moving instruments 4. Describe how the galvanometer can be used as an ammeter and also as a voltmeter. |
| **DAY** | **TOPIC / SUB – TOPIC** | **RPK / OBJECTIVES** | **TEACHER – LEARNER ACTIVITIES** | **T/LSM** | **CORE POINTS** | **EVALUATION / REMARKS** |
| Friday | MEASUREMENTS AND INSTRUMENTS | **RPK**  Students are abreast with terminologies of moving coil instruments and how to convert galvanometer to voltmeter and ammeter.  **Objectives**  By the end of the lesson, the student will be able to;   * explain the operations of moving iron instrument * state the advantages and disadvantages of moving iron instrument. * describe the construction of a moving iron instrument. * solve problems involving shunts and multipliers. | Secure the attention of students by showing them a galvanometer and them how to use it as a voltmeter or ammeter.  Assist students to explain the operation of a moving iron instrument.  Assist students to know the advantages and disadvantages of using moving iron instruments over the moving coil instrument.  Assist students to understand the construction of a moving iron instrument.  Assist students to calculate and select appropriate shunt and multiplier resistors for a galvanometer. | Chalkboard illustration  Realia:  Galvanometer  Scientific calculator | **Moving Iron Instruments**  The moving iron instrument uses the principles of electromagnetism where the repulsion and attraction cause a pointer to move on a scale.  **Advantages of moving iron instrument**  - Easy to construct  - Very cheap  **Shunt Resistor**  Galvanometer can be converted to ammeter by adding a shunt resistor  Rsh  **Multiplier Resistor**  The galvanometer can be converted to voltmeter by connecting a series resistor called a multiplier.  Rm | 1. Explain the operation of a moving iron instrument. 2. State 2 advantages of moving iron instruments over moving coil instruments 3. A moving-iron meter gives fsd with 15mA and has a resistance of 5Ω. How can the meter be used as; a. an ammeter capable of measuring 2A (FSD) b. a voltmeter capable of measuring 100V (FSD) |