

MM : 30  
HR.

**X SCIENCE TEST ON ELECTRICITY**

TIME: 1

1. Define 1 ampere. 1
2. Name the instrument which is used to maintain the potential difference. 1
3. Write two factors on which the resistance of a material depends. 1
4. When a 12 volt battery is connected across an unknown resistor, there is a current of 2.5 mA in the circuit. Find the value of the resistance. 2
5. A radio set draws a current of 0.36 A for 15 minutes. Calculate the amount of electric charge that flows through the circuit. 2
6. Give two reasons why nichrome alloy is used for making the heating elements of electrical appliances. 2
7. Define resistivity. Write an expression of the resistivity of a substance. Give the meaning of each symbol which occurs in it. 2
8. Give the symbols of a fix resistance, variable resistance, a cell and a wire joint. 2
9. The resistance of a metal wire of length 1m is  $26\Omega$ . If the diameter of the wire is 0.3 mm, what will be the resistivity of the metal. 3
10. A 4 Ohm resistance wire is doubled up by folding. Calculate the new resistance of the wire. 3
11. Define electric circuit. Draw the labelled diagram of an electric circuit comprising of a cell, a resistor, an ammeter, a voltmeter and a close switch. 3
12. The potential difference between the terminals of an electric heater is 60 V when it draws a current of 4 ampere from the source. What current will the heater draw if the potential difference is increase to 120 V? 3
13. With the help of a labelled diagram explain the experiment to verify Ohm's law. 5