



# TEST PAPER: PHYSICS

Time: 45 Minutes

Class: ICSE 10

Max. Marks: 30 Marks

Date: 12<sup>th</sup> December 2018

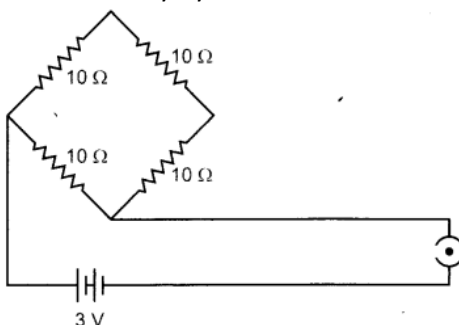
**Marking Scheme:** All questions carry 10 marks each. Subparts (A) and (B) carry 3 marks each and subpart (C) carries 4 marks.

## Question 1:

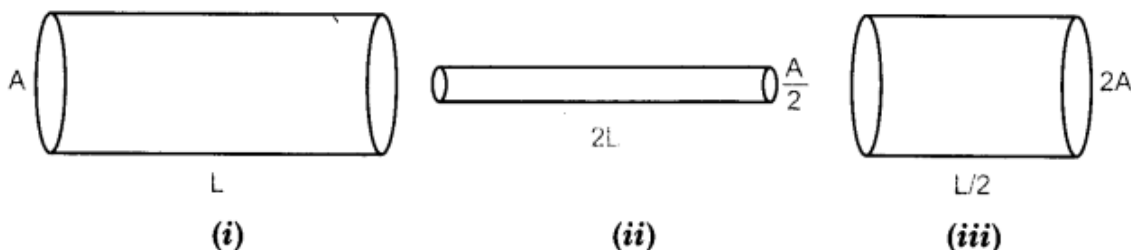
- Explain how an electric cell converts chemical energy to electrical energy with the help of a diagram.
- Define resonance and demonstrate it with the help of an experiment.
- State Ohm's law.
  - How many 176 ohm resistors (in parallel) are required to carry 5 A current on a 220 V line.

## Question 2:

- Find the current drawn from the battery by the network of four resistors Shown in the figure.



- The figure below shows three cylindrical copper conductors along with their face areas and lengths. Discuss in which geometrical shape the resistance will be highest.



- A heating coil is immersed in a calorimeter of heat capacity  $50 \text{ J/}^\circ\text{C}$  containing 1 kg of liquid of specific heat capacity  $450 \text{ K/kg } ^\circ\text{C}$ . The temperature of liquid rises by  $10^\circ\text{C}$  when 2 A current is passes for 10 minutes. Find
  - The resistance of the coil
  - The potential difference across the coil.

## Question 3:

- State the three characteristics based on which two sounds can be distinguished from one another. Explain all the three characteristics in detail
- State three differences between natural vibrations and damped vibrations
- What is echo?
  - State three conditions which must be satisfied in order to hear a distinct echo.