

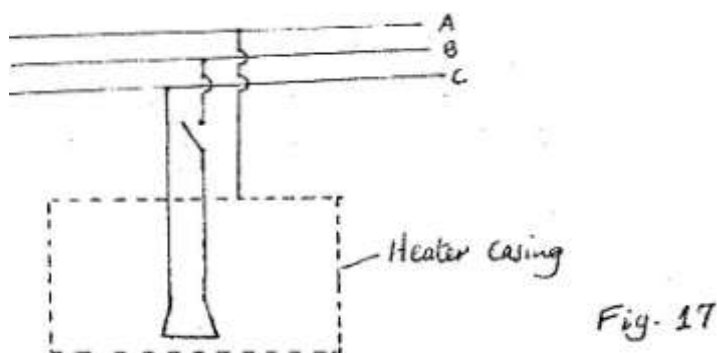
NAME _____ INDEX NUMBER _____

SCHOOL _____ DATE _____

MAINS ELECTRICITY

1. 1999 Q34 P1

Figure 17 shows the electric wiring of an electric heater A, B, C are the main wires.



Identify A, B, and C.

A.....

B.....

C.....

2. 2001 Q32 P1

A 60W bulb is used continuously for 36 hours. Determine the energy consumed. Give your answer in kilowatt hour (kWh).

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3. 2002 Q18P1

An electric bulb with a filament of resistance 480Ω is connected to a 240V mains supply. Determine the energy dissipated in 2 minutes (3marks).

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4. **2002 Q30 P1**

The following table shows electrical appliances to be used in a house. The electrical rating for each appliance is shown. The following fuses are available, 5A, 15A, 30A and 45A.

Appliances	Voltage (V)	Power (W)
T.V	250	300
Iron box	250	750
Electrical kettle	250	2,000

Determine which one of the fuses is suitable for the house.

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5. **2003 Q17 P1**

An electric bulb is rated 75W, 240V. Determine the resistance of the bulb

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6. **2004 Q20 P1**

An electric heater is connected to the mains supply. A fault in the mains reduces the supply potential slightly.

Explain the effect on the rate of heating of the heater.

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7. **2005 Q19 P1**

A hair drier is rated 2500W, 240V. Determine its resistance. (3marks)

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8. **2006 Q21b P2**

Determine the cost of using an electric iron rated 1500W, for a total of 30 hours given that the cost of electricity per kWh is Kshs8.

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9. **2010 Q6 P2**

Explain why electric power is transmitted over long distances at high voltages.

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10. **2011 Q13 P2**

State the reasons why electric power is transmitted over long distance at a very high voltages. (1 mark)

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11. **2012 Q12 P2**

State why alternating current (a.c) is used for transmitting electricity over long distances (1 mark)

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12. **2012 Q16 P2**

- (a) **Figure 15**, shows two coils A and B placed close to each other. A is connected to a steady D.C. supply and a switch, B is connected to a sensitive galvanometer.

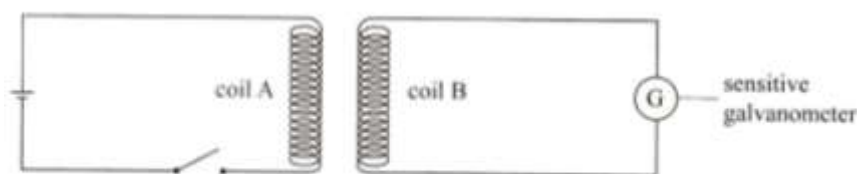


Figure 15

- i. The switch is now closed. State the observation made on the galvanometer

(2marks)

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- ii. Explain what would be observe dif the switch is then opened (2marks)

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b) The primary coil of a transformer has 1000 turns and the secondary coil has 200 turns.
The primary coil is connected to a 240V a.c.. mains, supply

- i. Explain how an e.m.f is induced in the secondary coil. (2marks)

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- ii. Determine the secondary voltage (2marks)

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- iii. Determine the efficiency of the transformer given that the current in the primary coil is 0.20A and in the secondary coil it is 0.80 A. (3marks)

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