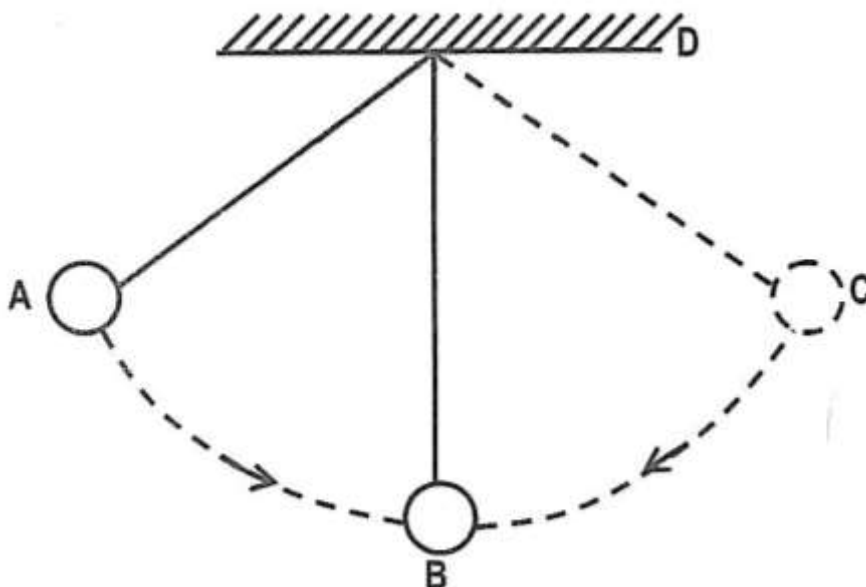


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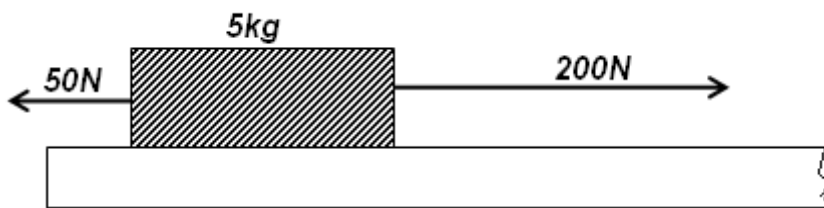
1. the diagram below shows a pendulum of length (L) moving from A to C and back to A



If the period of this pendulum is 0.5 seconds, then after 0.75 seconds the bob will be at which position of the pendulum?

2. On the velocity-time graph, the motion of a car travelling along a straight road with a uniform acceleration of 2m/s^2 would appear as a:
- Horizontal line
 - Straight line sloping upwards to the right
 - Straight line sloping downwards to the right
 - Curved line whose slope to the right increases with time
3. The mass of a body measures its ...
- Volume
 - Acceleration
 - Density
 - Inertia

4. To find the density of copper, a pupil weighed a piece of copper of volume 10cm^3 three times. The masses obtained were 88g, 87g and 89g. Using the average value of the masses, the density of copper is...
- a. 8.3g/cm^3
 - b. 8.8 g/cm^3
 - c. 8.9 g/cm^3
 - d. 88 g/cm^3
5. The figure below shows a block of mass 5kg being pulled along a horizontal bench by a force of 200N and is being opposed by a frictional force of 50N.

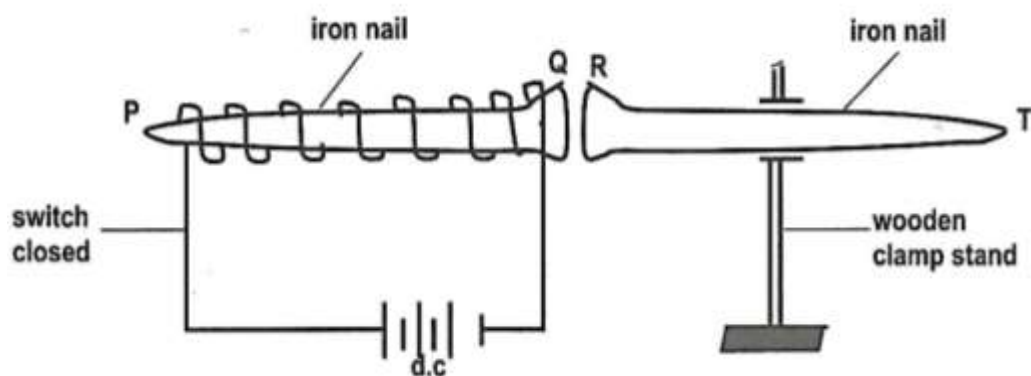


The acceleration of the block in m/s^2 is:

- a. 0.04
 - b. 10
 - c. 30
 - d. 40
6. Eating a banana enables a person to perform about $4 \times 10^4\text{J}$ of work. To what vertical height does eating a banana enable a 50kg woman to climb? ($g = 10\text{m/s}^2$)
- a. 50m
 - b. 60m
 - c. 70m
 - d. 80m
7. One advantage of alcohol over mercury as a thermometric liquid is that....
- A. it has a greater expansion
 - B. it has a higher boiling point
 - C. it freezes at $-39\text{ }^\circ\text{C}$
 - D. its thread does not break

8. A beaker of hot water was left on a table. After 10 minutes the temperature of water was found to have dropped. The heat was lost to the surrounding air by...
- A. radiation only
 - B. cooling and evaporation
 - C. evaporation and radiation
 - D. cooling and convection
9. Radio waves of frequency 10^5 Hz have a wavelength of...
- A. 1×10^2 m
 - B. 3×10^2 m
 - C. 3×10^3 m
 - D. 1×10^6 m
10. Mary hears the sound of a lightning flash, 6.0 seconds after the flash; How far was she from the lightning source? Take the speed of sound in air to be 320 m/s
- A. 63 m
 - B. 320 m
 - C. 1920 m
 - D. 1980 m
11. Light goes from medium A to medium B at an angle of Incidence of 40° . The angle of refraction is 30° . The speed of light in B...
- A. is less than that in A
 - B. is the same as that in A
 - C. is greater than that in A
 - D. maybe greater or less than that in A
12. When a magnetised bar is strongly heated, its magnetic field...
- A. becomes stronger .
 - B. becomes weaker
 - C. is unchanged
 - D. reverses its direction

13. The diagram below shows a circuit used to magnetise an Iron nail.



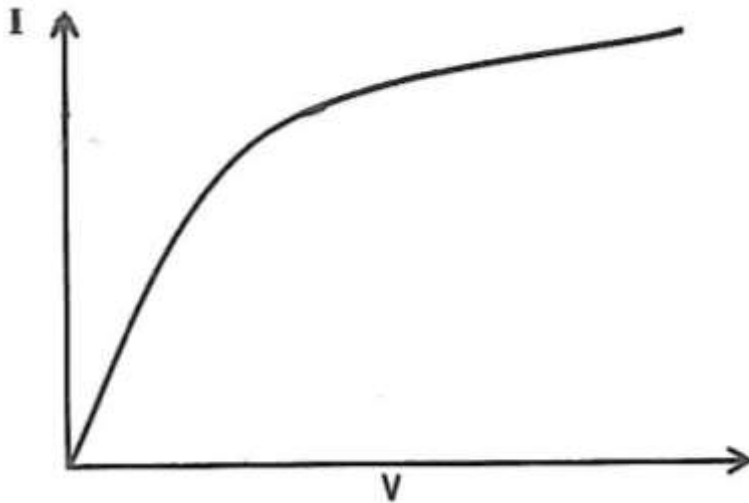
Which of the following gives the correct set of poles?

- | | P | Q | R | T |
|----|---|---|---|---|
| A. | N | S | N | S |
| B. | S | N | S | N |
| C. | S | S | N | S |
| D. | S | N | N | S |

14. Electric charge is measured in...

- A. coulombs
- B. volts
- C. amperes
- D. ohms

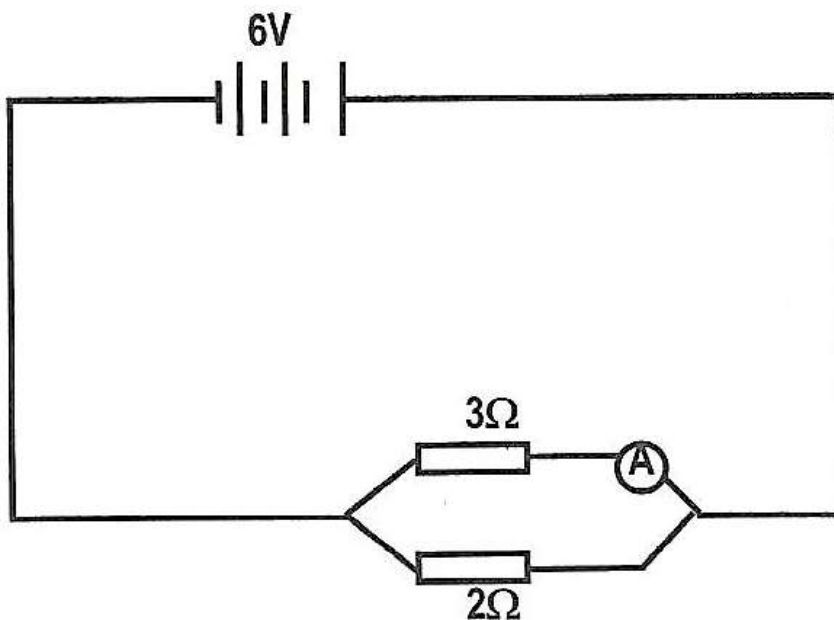
15. The graph in the figure below shows how the current (I) changed with the voltage {V} applied to a sample of a material.



From the graph, it can be deduced that the..

- A. material used was copper
- B. material used was a good Ohmic conductor
- C. resistance of the material increased as the voltage increased
- D. current through the material decreased as the voltage increased

16. A circuit is arranged as shown below.



The current measured by the ammeter is.,

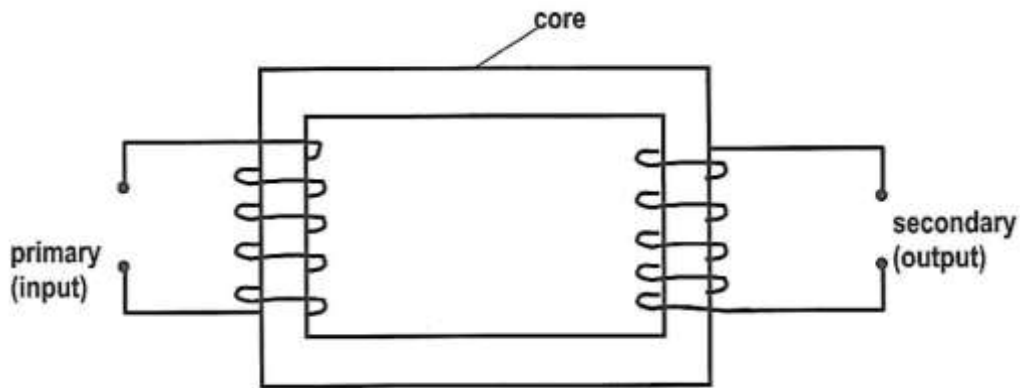
- A. 1A
- B. 1.2A

- C. 2A
- D. 0.3A

17. An eclectic appliance is rated 4000W, 250V. What is the cost of using this appliance for 8 hours if electrical energy costs K2000.00 per unit?

- A. K1560.00
- B. K16000.00
- C. K32000.00
- D. K64000.00

18. The figure below shows the set up a transformer.

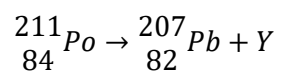


In order to produce less voltage in the secondary coil, the input current, the core and the number of turns should be...

| <i>Input current</i> | <i>Core</i> | <i>Number of turns in secondary</i> |
|------------------------|-------------|-------------------------------------|
| A. direct current | steel | more than primary |
| B. alternating current | iron | less than primary |
| C. alternating current | steel | equal to primary |
| D. direct current | iron | less than primary |

19.

20. Polonium disintegrates to lead (Pb) accompanied by an emission of some radiation Y. The equation is shown below.



The radiation Y is...

- A. gamma ray
 - B. x-ray
 - C. C alpha particle ,
 - D. P. beta particle
21. An atom of a radioactive element has 86 electrons. If its nucleon number is 222, the number of neutrons is...
- A. 86
 - B. 136**
 - C. **222**
 - D. 308