

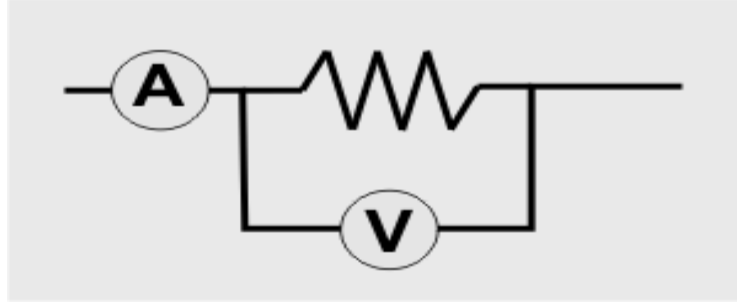
## **Physics Test Paper:**

- 1). An insulator can gain a positive charge by:
  - a). Gaining protons
  - b). Gaining electrons
  - c). Losing protons
  - d). Losing electrons
  
- 2). A charge of 2000 coulomb per hour is flowing from a conductor the electric current will be:
  - a). 0.55
  - b). 2.9
  - c). 160
  - d). 2000
  
- 3). The flow of current through an electrolyte is due to the motion of:
  - a). Flow of electron
  - b). Flow of protons
  - c). Movement of negative ions
  - d). Motion of both the positive & negative charges
  
- 4). Electrostatic charge can be dangerous when putting fuel into an aircraft because:
  - a). Electrostatic fuel will make the aircraft go too fast
  - b). The aircraft will not be able to stop
  - c). A spark can cause a fire
  - d). Electrostatic fuel will not burn proper

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- 5). The diagram to the right represents a part of a circuit containing a resistor, a voltmeter and an ammeter. If the reading on the ammeter A increases the reading on voltmeter V will:
  - a). Increases in the same ratio
  - b). Increases, but not in the same ratio
  - c). Remains unchanged.
  - d). Decreases in the same ratio.



A dolphin emits an ultrasonic wave with a frequency of 150,000 Hz. The speed of the ultrasonic wave in water is 1500m/s, the wavelength of this wave in water is:

- a).0.0001m
- b).0.01m
- c).0.1m
- d).10m

6). The amplitude and frequency of a sound wave are both increased. How are the loudness and pitch of sound affected:

**Loudness**

- a). Increased
- b). Increased
- c). Increased
- d). Decreased

**Pitch**

- Raised
- Unchanged
- Lowered
- Lowered

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7). The table shows examples of transverse and longitudinal waves. Which line in the table is correct:

**Transverse waves**

- a). Sound waves
- b). Light waves
- c). Gamma waves
- d). Sound waves

**Longitudinal waves**

- Gamma rays
- X-rays
- Sound waves
- Water waves

- 8). The defect of short sightedness in human eye can be corrected by using:
- Convex lens
  - Concave lens
  - Combine lens
  - Simple glass
- 9). In electrical circuits ammeter is always connected in:
- Parallel
  - Series
  - Both ways
  - Before circuit breaker
- 10). Two wires of same length but different diameters are used in electrical winding:
- Both will offer same resistance
  - Same amount of current will flow from both wires
  - Thick wire will offer low resistance
  - Thick wire will offer high resistance
- 11). If voltage supply is of 240 volts and power consume by a heater is 3000W then the suitable value of fuse will be:
- 13A
  - 3000A
  - 14A
  - 240A
- 12). An insulator can gain a positive charge by:
- Gaining protons
  - Gaining electrons
  - Losing protons
  - Losing electrons

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- 13). The function of circuit breaker is based upon:
- Temperature
  - Specific resistance
  - Electromagnetism
  - Fuse

14). 100 Watt & 240 Volts are written on an electric bulb ,the resistance of the bulb will be:

- a). 5.5 Ohm
- b). 600 Ohm
- c). 240 Ohm
- d). 100 Ohm

15). Light is:

- a). Longitudinal wave
- b). A transverse wave
- c). Not a wave at all
- d). A dense material

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**Structured Questions:**

- Q.1 (a). Define P.D & formulate its units (2 marks)
- (b). State three properties of parallel OR series combination of resistances with formula? (3 marks)

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- Q.2 (a). What do you mean by the term Specific resistance ? On What factors does it depend? Give its units. (5 marks)

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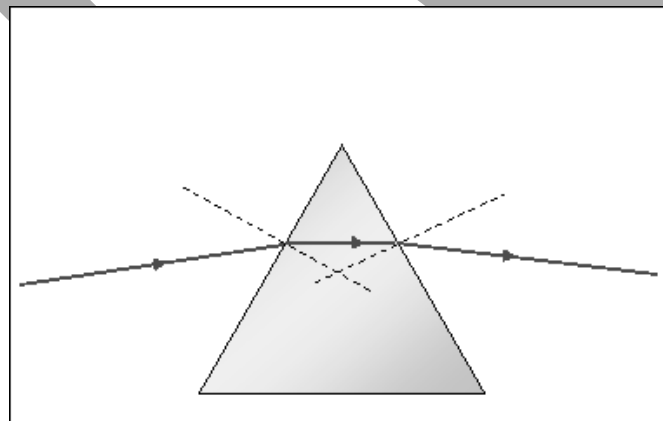
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Q.2 (b) A light ray is shown which is passing through an optical fiber. write the phenomena which the light ray is following with its conditions: (5 marks)



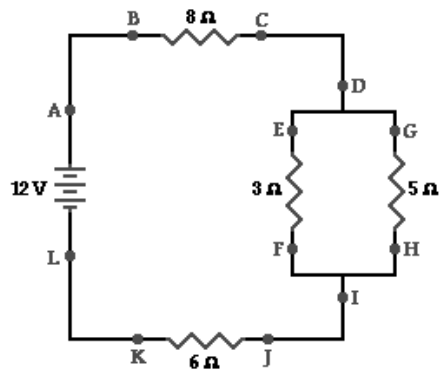
Q.4 Label the ray diagram and measure the angles: (6 marks)

- i). Angle of incidence:      ii). Angle of Deviation      iii). angle of prism:



Q.5 A ray of light passes from kerosene to glass. The angle of incidence of the light is  $45^\circ$  and the relative refractive index from kerosene to glass is 1.08. Calculate the angle of refraction in the glass. Draw the ray diagram also (6 marks)

Q.6 A combination circuit is shown in the diagram. Use the diagram to answer the following questions. (7 marks)



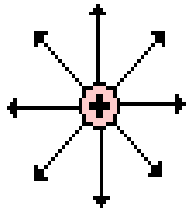
- a). The current at location A is \_\_\_\_\_ (greater than, equal to, less than) the current at location B.
- b). The current at location B is \_\_\_\_\_ (greater than, equal to, less than) the current at location E.
- c). The current at location G is \_\_\_\_\_ (greater than, equal to, less than) the current at location F.
- d). The current at location E is \_\_\_\_\_ (greater than, equal to, less than) the current at location G.
- e). The current at location B is \_\_\_\_\_ (greater than, equal to, less than) the current at location F.
- f). The current at location A is \_\_\_\_\_ (greater than, equal to, less than) the current at location L.
- g). The current at location H is \_\_\_\_\_ (greater than, equal to, less than) the current at location I.

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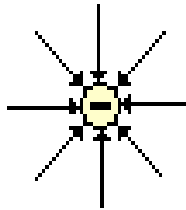
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Q.6 Electric field line patterns are shown in the diagrams below. State the properties of each pattern: Which of these patterns are incorrect? Explain what is wrong with all incorrect diagrams. (6 marks)

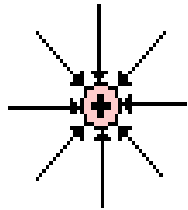
**Diagram A**



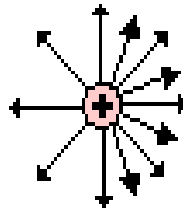
**Diagram B**



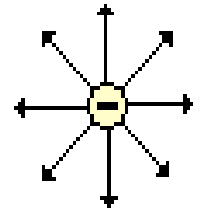
**Diagram C**



**Diagram D**



**Diagram E**

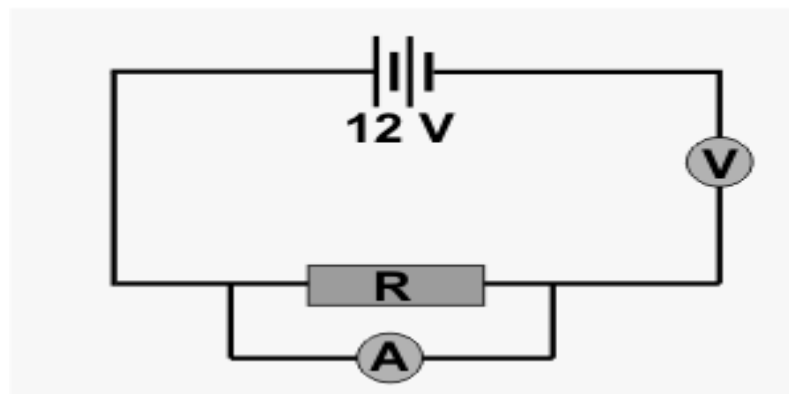


Ans:

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Q.7\_A student connects a circuit as shown in the diagram in which the student uses a source of electricity of 12 V. Which one of the following best gives the ammeter and voltmeter readings which the learner is most likely to get with this circuit: (5 marks)



- a). Ammeter & Volt meter read Zero
- b). Ammeter reads zero while Voltmeter reads 12 Volt
- c). Ammeter reads 12 A while Voltmeter reads zero
- d). Both meter read 12 A and 12 Volt

Explain your answer by giving suitable reason:

Ans:

Q.8 In a factory two heavy electric motors of 15kw are installed ,both remain in use for 10 hours daily .Calculate the energy consumed in kwh per month. Also the monthly expenditure if the cost of one commercial unit of electricity is Rs.10/=

(5 marks)