

# **ELECTRIC CURRENT AND MAGNETISM BASED GENERAL SCIENCE MCQ PRACTICE QUESTIONS AND ANSWERS PDF WITH EXPLANATION**

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**Created By [Careericons](#) Team**

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**Q1.** Fluorescent tubes are fitted with a choke. The choke coil :

- a) reduces current in the circuit
  - b) steps up the line voltage
  - c) steps-down the line voltage
  - d) chokes low frequency current
- 

**Q2.** In semiconductors, at room temperature

- a) the valence band is partially empty and the conduction band is partially filled
  - b) the valence band is completely filled and the conduction band is partially filled
  - c) the conduction band is completely empty
  - d) the valence band is completely filled
- 

**Q3.** Nickel-Cadmium (Ni-Cd) battery is used in

- a) Transistors
  - b) Calculator
  - c) Cordless electronic appliances
  - d) All of the above
- 

**Q4.** Zener breakdown takes place if

- a) doped impurity is high
- b) less impurity in n-part
- c) doped impurity is low

d) less impurity in p-part

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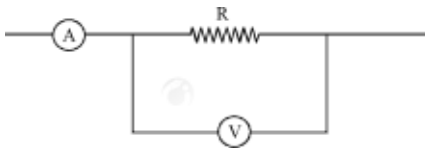
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**Q5.** When n-type semiconductor is heated

- a) number of holes increases while that of electrons decreases
- b) number of electrons and holes remain same
- c) number of electrons increases while that of holes decreases
- d) number of electrons and holes increases equally

**Q6.** In the circuits shown below the ammeter A reads 4 amp. and the voltmeter V reads 20 volts. The value of the resistance R is



- a) slightly less than 5 ohms
- b) exactly 5 ohms
- c) slightly more than 5 ohms
- d) None of these

**Q7.** Due to the earth's magnetic field, charged cosmic ray particles

- a) can never reach the equator
- b) require greater kinetic energy to reach the equator than the poles
- c) require less kinetic energy to reach the equator than the poles
- d) can never reach the poles

**Q8.** Electromagnets are made of soft iron because soft iron has

- a) low retentivity and low coercive force
  - b) low retentivity and high coercive force
  - c) high retentivity and high coercive force
  - d) high retentivity and low coercive force
- 

**Q9.** The current in the armature of a motor is reversed at every half cycle due to the action of a(n)

- a) field coil
  - b) brush
  - c) armature
  - d) commutator
- 

**Q10.** What gases are filled in fluorescent tube?

- a) Mercury
  - b) Neon
  - c) Sodium
  - d) Mercury and neon
- 

**Q11.** When a forward bias is applied to a p-n junction, it

- a) reduces the majority carrier current to zero.
  - b) lowers the potential barrier.
  - c) raises the potential barrier.
  - d) None of these
- 

**Q12.** Two spheres A and B of exactly same mass are given equal positive and negative charges respectively. Their masses after charging

- a) mass of A > mass of B

- b) mass of A mass of B
- c) remains unaffected
- d) nothing can be said

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**Q13.** Which one of the statements given below is not correct?

- a) The degree to which the magnetic field can penetrate a medium is known as the relative permeability of the medium
- b) A vertical plane passing through the axis of a freely suspended magnet is called the magnetic meridian
- c) A vertical plan passing through the axis of rotation of the Earth is called the geographical meridian
- d) The relative permeability is not a dimensionless quantity

**Q14.** Which of the following is an artificial magnet?

- a) Magnetic needle
- b) Bar magnet
- c) Horse-shoe magnet
- d) All of the above

**Q15.** Which one among the following is used to make periscope?

- a) Plane mirror
- b) Concave lens
- c) Concave mirror
- d) None of the above

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## Answers to the above questions :

**Q1. Answer: (a)**

**Q2. Answer: (b)**

In semiconductors, the conduction band is empty and the valence band is completely filled at 0 K. No electron from valence band can cross over to conduction band at 0K.

But at room temperature some electrons in the valence band jump over to the conduction band due to the small forbidden gap.

i.e. 1 eV.

**Q3. Answer: (d)**

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**Q4. Answer: (a)**

Zener breakdown can occur in heavily doped diodes. In lightly doped diodes the necessary voltage is higher, and avalanche multiplication is then the chief process involved.

**Q5. Answer: (d)**

Due to heating, when a free electron is produced then simultaneously a hole is also produced.

**Q6. Answer: (c)**

**Q7. Answer: (a)**

**Q8. Answer: (d)**

Soft iron has high retentivity and low coercive force.

**Q9. Answer: (d)**

**Q10. Answer: (d)**

**Q11. Answer: (b)**

**Q12. Answer: (b)**

A loses electrons and B gains electrons. Therefore, mass of A mass of B.

**Q13. Answer: (d)**

**Q14. Answer: (d)**

**Q15. Answer: (a)**

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