

# O P JINDAL SCHOOL, SAVITRINAGAR

## CLASS TEST & PRACTICE

CLASS X PHYSICS

TOPIC : MAGNETIC EFFECT  
OF CURRENT AND  
MAGNETISM

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- 1 For a current in a long straight solenoid N-pole and S-pole are created at the two ends. Among the following statements, the incorrect statement is  
(a) The field lines inside the solenoid are in the form of straight lines which indicates that the magnetic field is the same at all points inside the solenoid.  
(b) The strong magnetic field produced inside the solenoid can be used to magnetise a piece of magnetic material like soft iron, when placed inside the coil. 1  
(c) The pattern of the magnetic field associated with the solenoid is different from the pattern of the magnetic field around a bar magnet.  
(d) The N-pole and S-pole exchange position when the direction of current through the solenoid is reversed.
  - 2 Commercial electric motors do not use  
(a) an electromagnet to rotate the armature  
(b) effectively large number of turns of conducting wire in the current carrying coil 1  
(c) a permanent magnet to rotate the armature  
(d) a soft iron core on which the coil is wound
  - 3 The strength of magnetic field inside a long current carrying straight solenoid is  
(a) more at the ends than at the centre  
(b) minimum in the middle 1  
(c) same at all points  
(d) found to increase from one end to the other
  - 4 To convert an AC generator into DC generator  
(a) split-ring type commutator must be used  
(b) slip rings and brushes must be used 1  
(c) a stronger magnetic field has to be used  
(d) a rectangular wire loop has to be used
  - 5 The most important safety method used for protecting home appliances from short circuiting or overloading is  
(a) earthing  
(b) use of fuse 1  
(c) use of stabilizers  
(d) use of electric meter
  - 6 What should be the core of an electromagnet?  
(a) soft iron (b) hard iron 1  
(c) rusted iron (d) none of above
  - 7 Who has stated the Right hand Thumb Rule?  
(a) Orsted (b) Fleming 1  
(c) Einstein (d) Maxwell
  - 8 What is that instrument which can detect the presence of electric current in a circuit? 1  
(a) galvanometer (b) motor

(c) generator (d) none of above

9 Which device produces the electric current?

- (a) generator (b) galvanometer
- (c) ammeter (d) motor

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10 In the following questions, the Assertion and Reason have been put forward. Read the statements carefully and choose the correct alternative from the following:

- (a) Both the Assertion and the Reason are correct and the Reason is the correct explanation of the Assertion.
- (b) The Assertion and the Reason are correct but the Reason is not the correct explanation of the Assertion.
- (c) Assertion is true but the Reason is false.
- (d) The statement of the Assertion is false but the Reason is true. Assertion: Only a change in magnetic field lines linked with coil will induces current in the coil.

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Reason: The presence of large magnetic flux through the coil maintains a current in a closed circuit coil.

11 In the following questions, the Assertion and Reason have been put forward. Read the statements carefully and choose the correct alternative from the following:

- (a) Both the Assertion and the Reason are correct and the Reason is the correct explanation of the Assertion.
- (b) The Assertion and the Reason are correct but the Reason is not the correct explanation of the Assertion.
- (c) Assertion is true but the Reason is false.
- (d) The statement of the Assertion is false but the Reason is true. Assertion: When the direction of velocity of moving charge is perpendicular to the magnetic field, it experience a maximum force.

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Reason: Force on the moving charge does not depends on the direction magnetic field in which it moves.

12 In the following questions, the Assertion and Reason have been put forward. Read the statements carefully and choose the correct alternative from the following:

- (a) Both the Assertion and the Reason are correct and the Reason is the correct explanation of the Assertion.
- (b) The Assertion and the Reason are correct but the Reason is not the correct explanation of the Assertion.
- (c) Assertion is true but the Reason is false.
- (d) The statement of the Assertion is false but the Reason is true. Assertion: Fuse is a safety device which is installed to prevent electrical circuits and possible fires.

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Reason: Fuse consist of tin-plated copper wire having low melting point, which melts and breaks the circuit if the current exceeds a safe value.

13 In the following questions, the Assertion and Reason have been put forward. Read the statements carefully and choose the correct alternative from the following:

- (a) Both the Assertion and the Reason are correct and the Reason is the correct explanation of the Assertion.
- (b) The Assertion and the Reason are correct but the Reason is not the correct explanation of the Assertion.
- (c) Assertion is true but the Reason is false.
- (d) The statement of the Assertion is false but the Reason is true. Assertion: Steel core is used as an electromagnet.

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Reason: Steel gets permanently magnetised when the current flows through the coil wound around.

14 In the following questions, the Assertion and Reason have been put forward. Read the statements carefully and choose the correct alternative from the following:

- (a) Both the Assertion and the Reason are correct and the Reason is the correct explanation of the Assertion.
- (b) The Assertion and the Reason are correct but the Reason is not the correct explanation of the Assertion.
- (c) Assertion is true but the Reason is false.
- (d) The statement of the Assertion is false but the Reason is true. Assertion: It is fatal to touch a live electric wire as the person gets a severe electric shock. In some cases, electric shock can even kill a person.

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Reason: The electric current passes through the body to the earth forming a circuit and burns the blood.

15 In the following questions, the Assertion and Reason have been put forward. Read the statements carefully and choose the correct alternative from the following:

- (a) Both the Assertion and the Reason are correct and the Reason is the correct explanation of the Assertion.
- (b) The Assertion and the Reason are correct but the Reason is not the correct explanation of the Assertion.
- (c) Assertion is true but the Reason is false.
- (d) The statement of the Assertion is false but the Reason is true. Assertion: Strength of an electromagnet depends on the magnitude of current flowing through them.

Reason: Electromagnets are majorly used for lifting heavy weights.