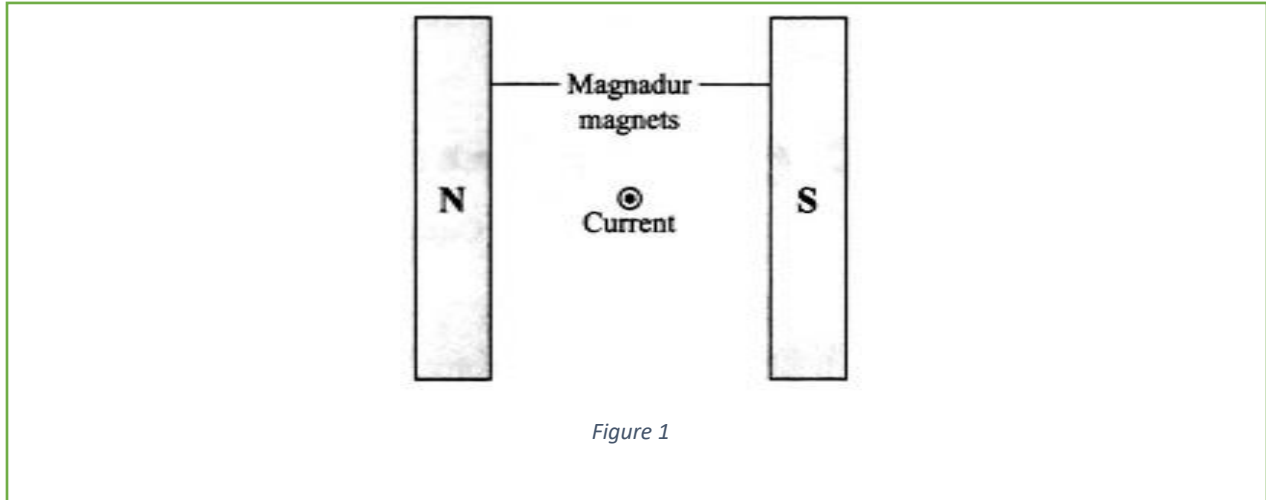


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Fleming's LH and RH Rule

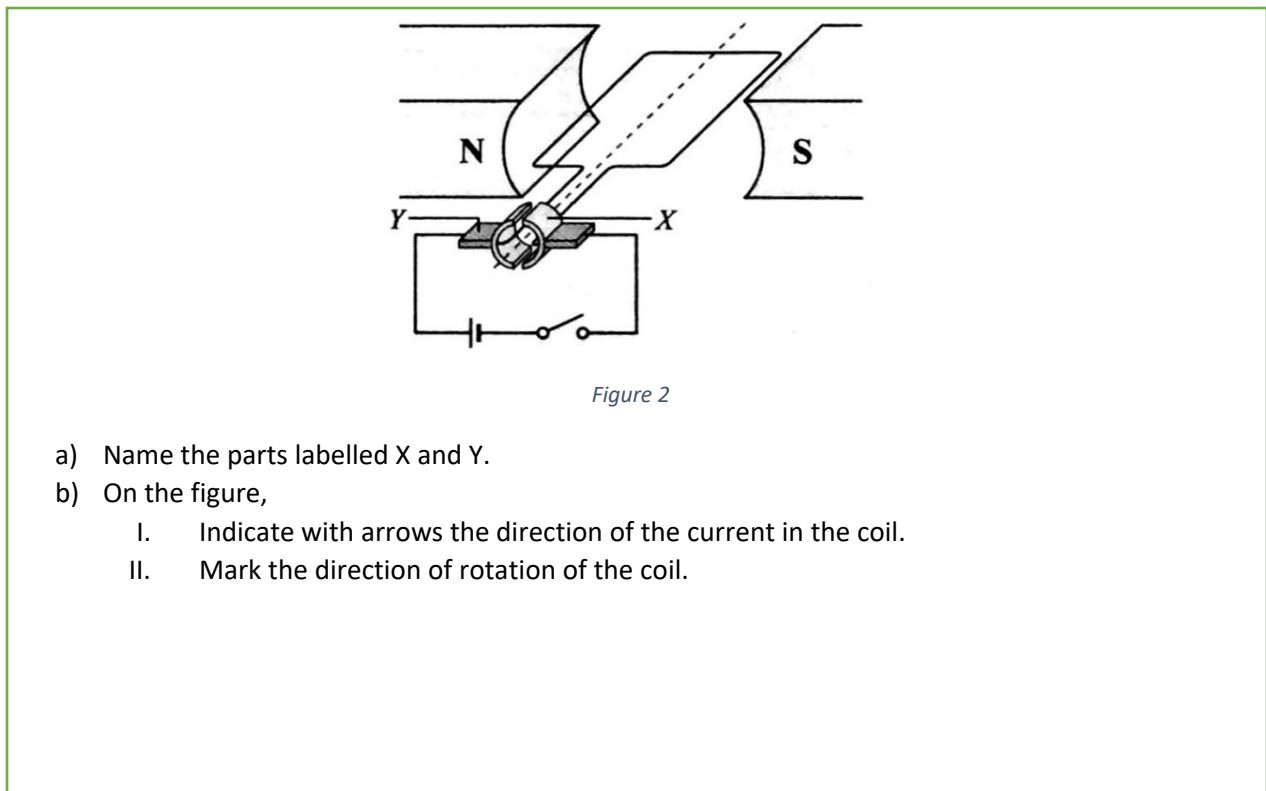
Q1.

In the figure below, opposite poles of a pair of magnetur magnets face each other with a current-carrying conductor in the magnetic field. The current flows out of the paper. On the figure, draw the resultant catapult field.



Q2.

The figure below shows a d.c. motor.



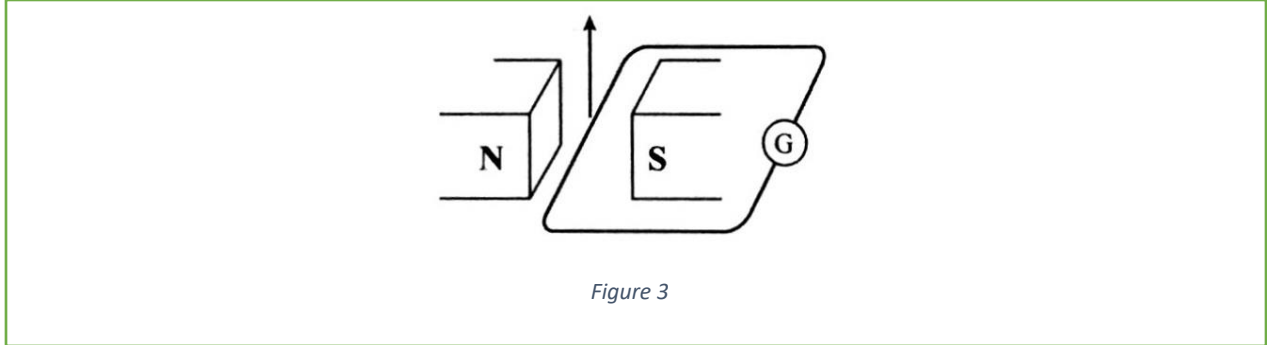
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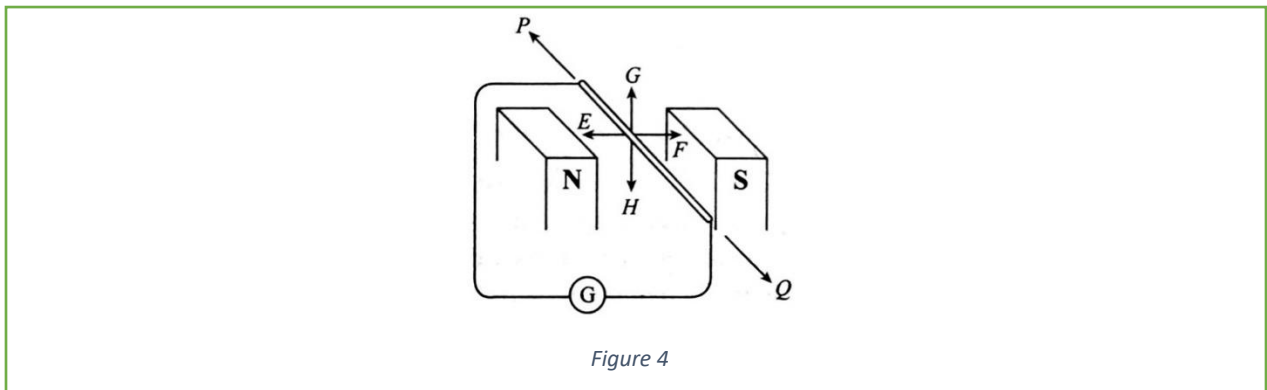
Q3.

Draw the direction of induced current.



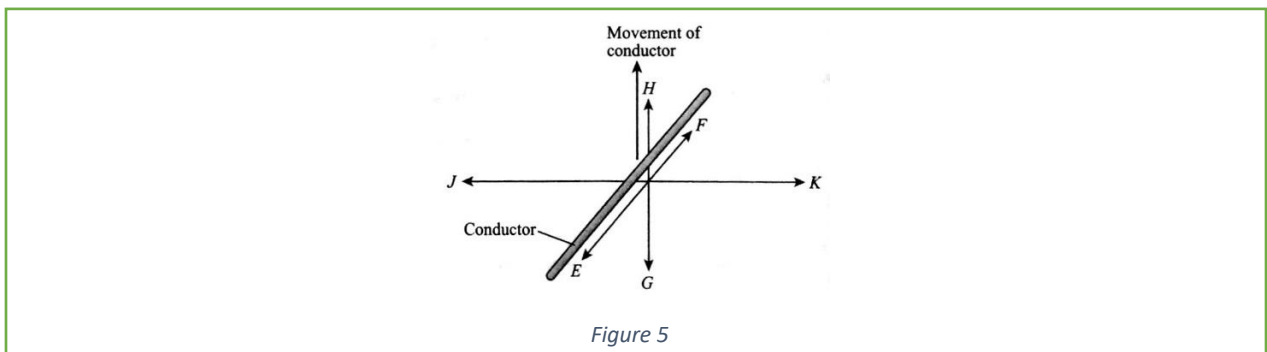
Q4.

In the figure below, which direction of movement of the conductor will result in a momentary deflection in the galvanometer?



Q5.

The figure below shows a conductor moving in a magnetic field. The galvanometer shows a deflection. Which of the following is a possible direction of the magnetic field?



Signature: Name: Marks: **Q6.**

The diagram shows the structure of a moving-coil ammeter.

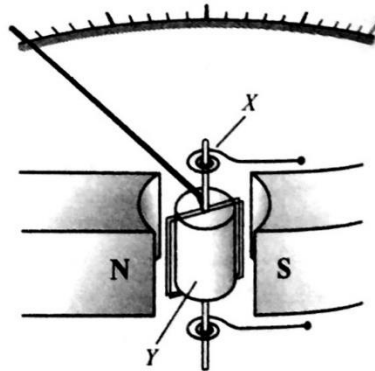


Figure 6

- a) i) Name the parts labelled X and Y.
 ii) State the function of parts X and Y respectively.
- b) When a current flows in the coil, forces act on the coil to make it rotate. The diagram below shows a coil and two magnets where the direction of current in the coil is shown using arrows. On the diagram, draw and label arrows as F to show the directions of the forces acting on the coil to make it rotate.

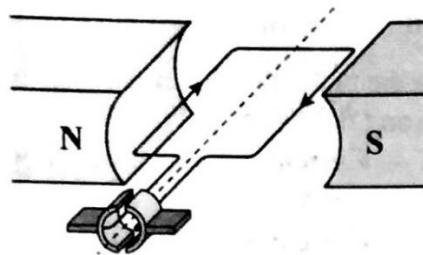


Figure 7

- c) State the relationship between the magnitude of the current and the force acting on the coil.

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Q7.

When a current-carrying wire is placed in a magnetic field, it experiences a force. The diagram shows the magnetic field formed between the poles of a permanent magnet and a current-carrying wire is placed in the field.

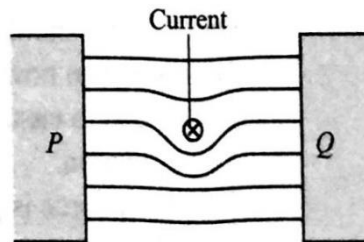


Figure 8

- a)
 - i) Name this type of magnetic field.
 - ii) On the diagram, show with an arrow and label it as F, the direction of the force acting on the wire.
- b)
 - i) Name the rule that can be used to determine the direction of the magnetic field in the diagram.
 - ii) Using the rule named in 4bi) determine the magnetic poles P and Q.
- c) Name one device that functions based on the principle illustrated in the diagram.

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Q8.

The diagram shows a current-carrying conductor placed in the magnetic field between a North pole and a South pole.

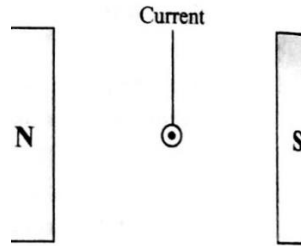


Figure 9

- What type of magnetic field is obtained between the magnetic poles without the current-carrying wire?
- Name the type of magnetic field formed when the current-carrying wire is placed between the poles.
- On the diagram, draw the resultant magnetic field due to the magnetic poles and the current-carrying wire. Name the rule used to determine the direction of the resultant force.

Q9.

A current-carrying coil placed in a uniform magnetic field will rotate about its axis. The diagram shows a coil placed in a magnetic field. You are required to design a dc electric motor based on the information given in the diagram. Your answer should include the following aspects:

- Steps on how the dc power supply is connected to the coil
- Steps to ensure that the coil continues to rotate in the same direction
- How force is produced to rotate the coil
- How to increase or decrease the speed of the motor
- How the direction of rotation can be reversed.

Signature:

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