Max Marks: 10

Year :X

Name: _____

Date: _____

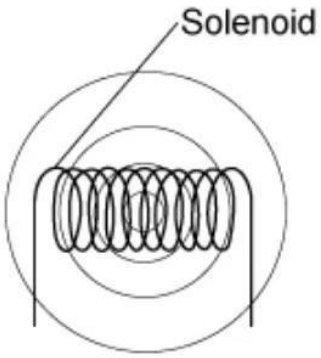
Subject: Physics

Question 1

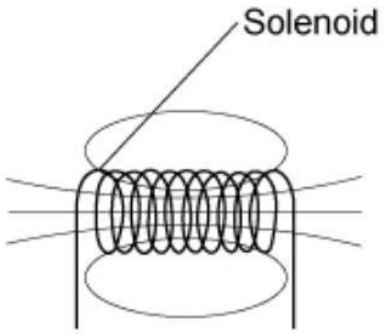
Four students, of varying ability in physics, draw what they believe to be the field pattern of a current-carrying solenoid.

Which of them is correct?

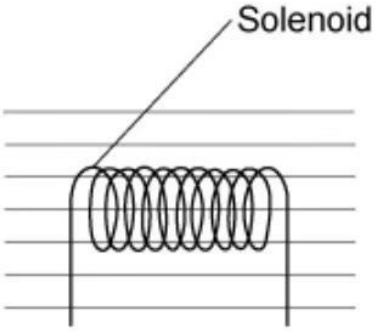
A



B



C



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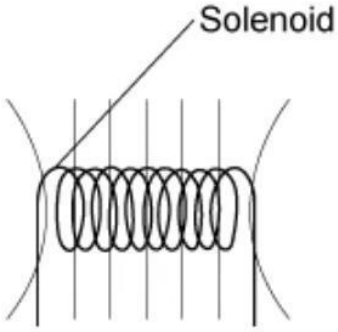
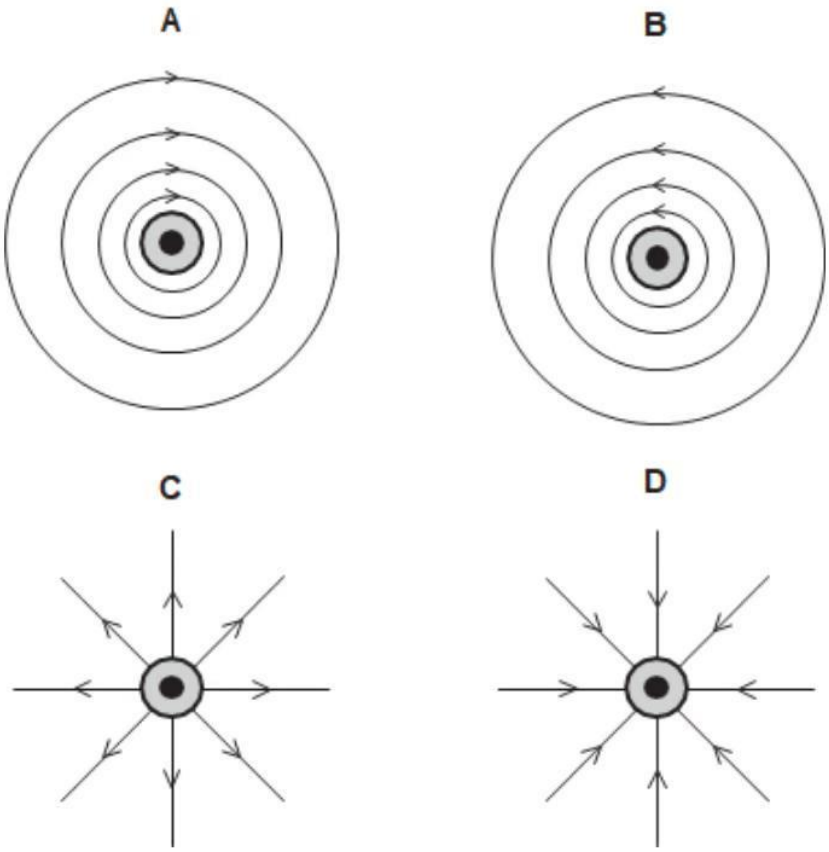


[1 mark]

Question 2

Four students are asked to draw the magnetic field pattern of a current-carrying wire. The wire is carrying the current out of the page.

The diagrams they draw are shown below.



Which is correct?

[1 mark]

Question 3

Which device uses a split ring commutator?

A A DC motor

B A transformer

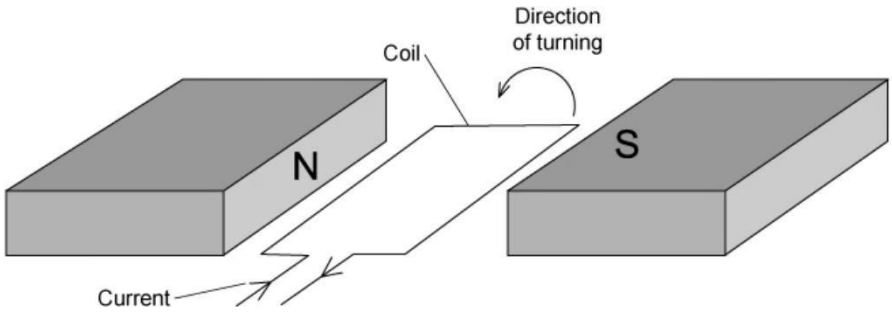
C A relay

D An AC generator

Question 4

A simple DC electric motor is shown in the diagram.

[1 mark]



Which of the following changes would make the coil turn more quickly?

A Reducing the strength of the magnetic field.

B Reversing the direction of the current AND swapping the magnetic poles

C Swapping the magnetic poles.

D Increasing the current in the coil.

[1 mark]

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Question 5

The number of turns in the primary coil and secondary coil of a transformer is N_p and N_s respectively.

Which of the following statements represents a step-up transformer?

A. $N_p = N_s$

B. $N_p < N_s$

C. $N_s < N_p$

D. $N_p > N_s$

[1 mark]

Question 6

Which of the following methods could be used to demagnetise a permanent magnet?

A Cool it to a very low temperature.

B Put it in a coil of wire and pass direct current through the wire.

C Stroke it in a single direction with a permanent magnet.

D Heat it to a high temperature

[1 mark]

Question 7

After being produced at a power station, electrical voltage is increased significantly for transportation across the country via the national grid.

What is the advantage of transmitting electricity at very high voltages?

A It makes the electricity flow more quickly.

B It increases the efficiency of the electricity transfer.

C It produces more power.

D It is safer to transmit electricity at high voltage.

[1 mark]

Max Marks: 10

Year :X

Name: _____

Date: _____

Subject: Physics

Question 8

When a wire is moved through a magnetic field, an e.m.f. is induced in that wire.

This rather remarkable effect allows which device to operate?

A An electric motor

B An electrical generator

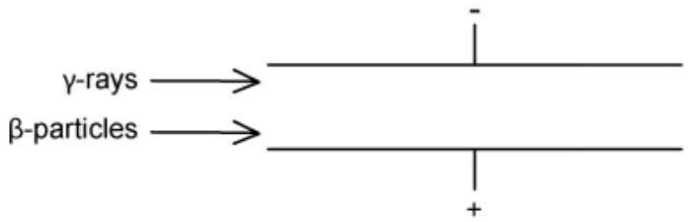
C A photon accelerator

D A transformer.

[1 mark]

Question 9

Beta and gamma radiation are passed through two charged metal plates as shown in the diagram below.



Which direction, if any, would the **β**-particles and **γ**-rays be deflected?

	β-particles	**γ-rays**
A	into the page	continue straight
B	towards the negative plate	out of the page
C	continue straight	towards the negative plate
D	towards the positive plate	continue straight

[1 mark]

Max Marks: 10

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Name: _____

Date: _____

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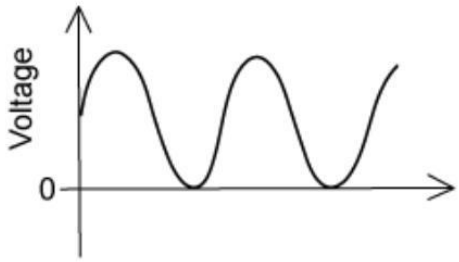
Question 10

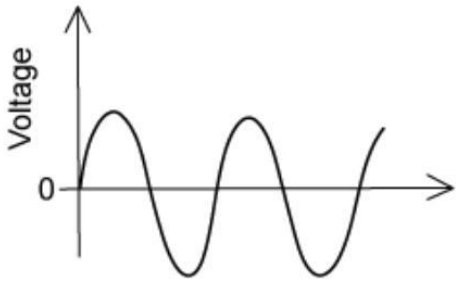
One of the diagrams below represents the output of a simple A.C. generator.

Which one is correct?

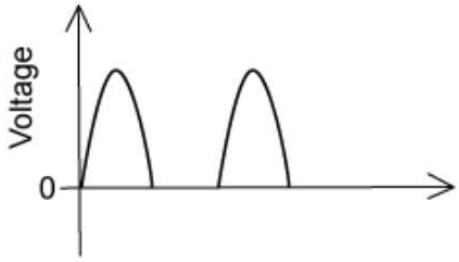
A



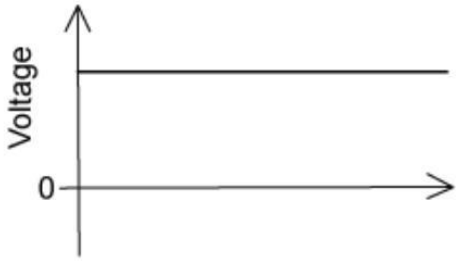
B



C



D



[1 mark]