

CUET Physics 2026 May 18 Shift 2

Question Paper (Memory-Based)

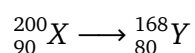
Conducted by National Testing Agency (NTA)



General Instructions

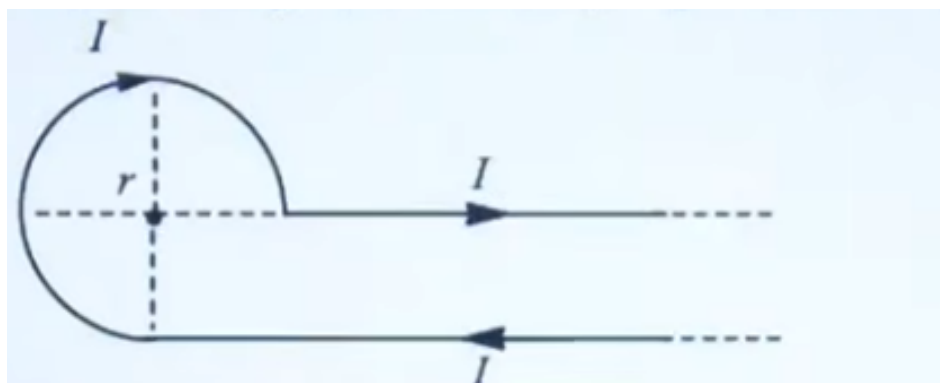
- (i) The examination will be conducted in Computer-Based Test (CBT) mode.
- (ii) Each question carries +5 marks for correct answer and -1 mark for wrong answer.
- (iii) The total number of questions are 50.
- (iv) Duration of the exam is 1 hour (60 minutes).

1. What are the respective numbers of α and β particles emitted respectively in the following radioactive decay?



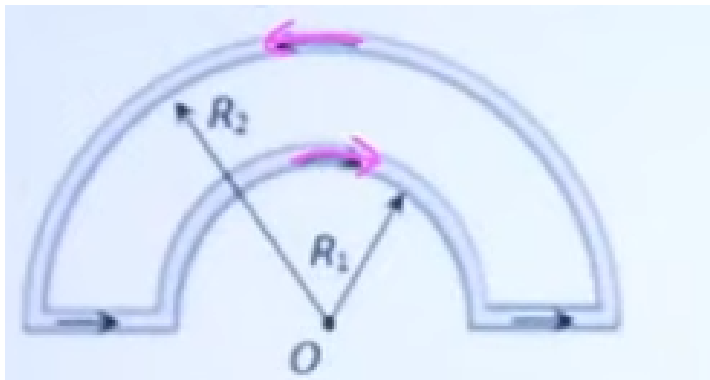
- (A) 8 and 8
- (B) 8 and 6
- (C) 6 and 8
- (D) 6 and 6

2. Current I is flowing in conductor shaped as shown in the figure. The radius of the curved part is r and the length of straight portion is very large. The value of the magnetic field at the centre O will be



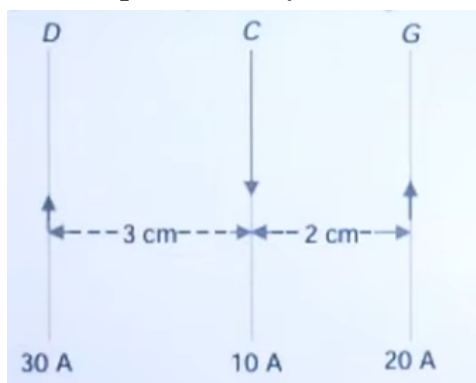
- (a) $\frac{\mu_0 I}{4\pi r} \left(\frac{3\pi}{2} + 1 \right)$
 (b) $\frac{\mu_0 I}{4\pi r} \left(\frac{3\pi}{2} - 1 \right)$
 (c) $\frac{\mu_0 I}{4\pi r} \left(\frac{\pi}{2} + 1 \right)$
 (d) $\frac{\mu_0 I}{4\pi r} \left(\frac{\pi}{2} - 1 \right)$

3. The magnetic induction at the centre O in the figure shown is



- (a) $\frac{\mu_0 i}{4} \left(\frac{1}{R_1} - \frac{1}{R_2} \right)$
 (b) $\frac{\mu_0 i}{4} \left(\frac{1}{R_1} + \frac{1}{R_2} \right)$
 (c) $\frac{\mu_0 i}{4} (R_1 - R_2)$
 (d) $\frac{\mu_0 i}{4} (R_1 + R_2)$

4. Three long, straight parallel wires, carrying current, are arranged as shown in figure. The force experienced by a 25 cm length of wire C is



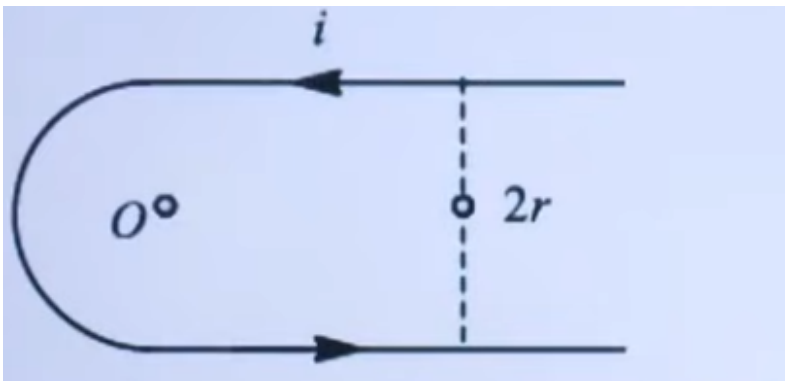
- (a) 10^{-3} N
 (b) 2.5×10^{-3} N
 (c) Zero
 (d) 1.5×10^{-3} N

5. A steady current / flow through a long straight wire of radius ' a '. The current is uniformly

distributed across its cross section. The ratio of the magnetic fields due to the wire at distance $\frac{a}{4}$ and $3a$ respectively from the axis of the wire is

- (a) 3 : 4
 - (b) 4 : 3
 - (c) 2 : 3
 - (d) 1 : 4
-

6. In the figure shown, the magnetic field induction at the point O will be



- (a) $\frac{\mu_0 i}{2\pi r}$
 - (b) $\left(\frac{\mu_0}{4\pi}\right)\left(\frac{i}{r}\right)(\pi + 2)$
 - (c) $\left(\frac{\mu_0}{4\pi}\right)\left(\frac{i}{r}\right)(\pi + 1)$
 - (d) $\frac{\mu_0 i}{4\pi r}(\pi - 2)$
-

7. The nucleus of helium atom contains two protons that are separated by a distance 3.0×10^{-15} m. The magnitude of the electrostatic force that each proton exerts on the other is

- (a) 20.6 N
 - (b) 25.6 N
 - (c) 15.6 N
 - (d) 12.6 N
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8. Under the action of a given coulombic force the acceleration of an electron is $2.5 \times 10^{22} \text{ m s}^{-2}$. Then the magnitude of the acceleration of a proton under the action of same force is nearly

- (a) $1.6 \times 10^{-19} \text{ m s}^{-2}$
- (b) $9.1 \times 10^{31} \text{ m s}^{-2}$
- (c) $1.5 \times 10^{19} \text{ m s}^{-2}$

(d) $1.6 \times 10^{27} \text{ m s}^{-2}$

9. If the charge on an object is doubled then electric field becomes

- (a) half
 - (b) double
 - (c) unchanged
 - (d) thrice
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10. Which of the following statements is not true about electric field lines?

- (a) Electric field lines start from positive charge and end at negative charge.
 - (b) Two electric field lines can never cross each other.
 - (c) Electrostatic field lines do not form any closed loops.
 - (d) Electric field lines cannot be taken as continuous curve
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