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?

$$^{200}_{90}X \longrightarrow {}^{168}_{80}Y$$

(A) 8 and 8

(B) 8 and 6

(C) 6 and 8

(D) 6 and 6

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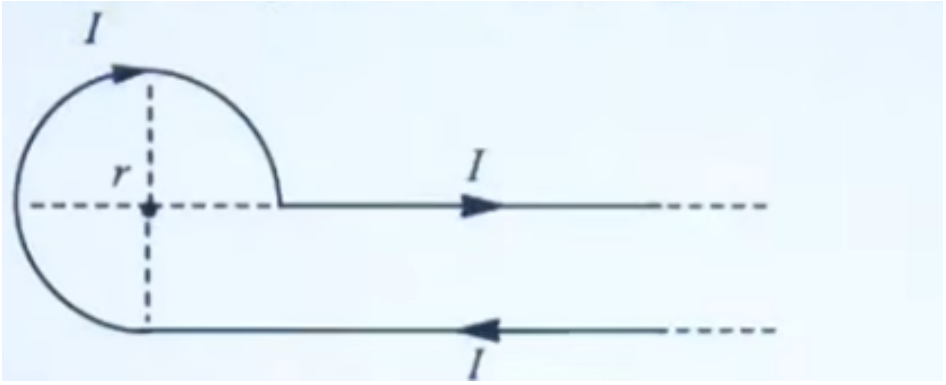
2. Current I is flowing in conductor shaped as shown in the figure. The radius of the curved part is r and the length of straight portion is very large. The value of the magnetic field at the centre O will be



(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) $\frac{\mu_0 I}{4\pi r}\left(\frac{\pi}{2}-1\right)$

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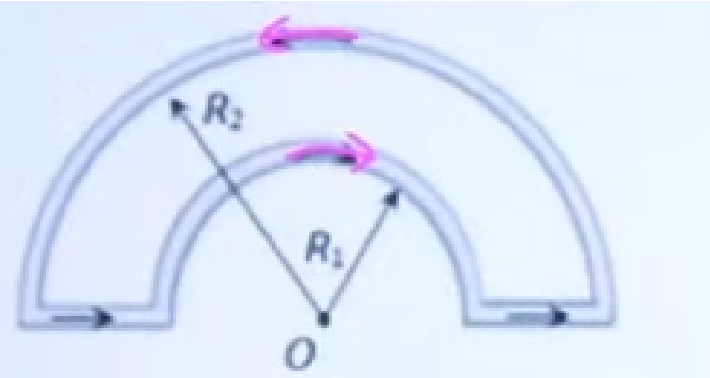
3. The magnetic induction at the centre O in the figure shown is



(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) $\frac{\mu_0 i}{4}(R_1+R_2)$

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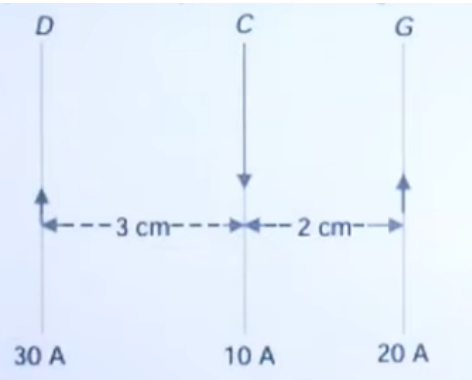
4. Three long, straight parallel wires, carrying current, are arranged as shown in figure. The force experienced by a 25 cm length of wire C is



(a) 10^{-3} N

(b) 2.5×10^{-3} N

(c) Zero

(d) 1.5×10^{-3} N

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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

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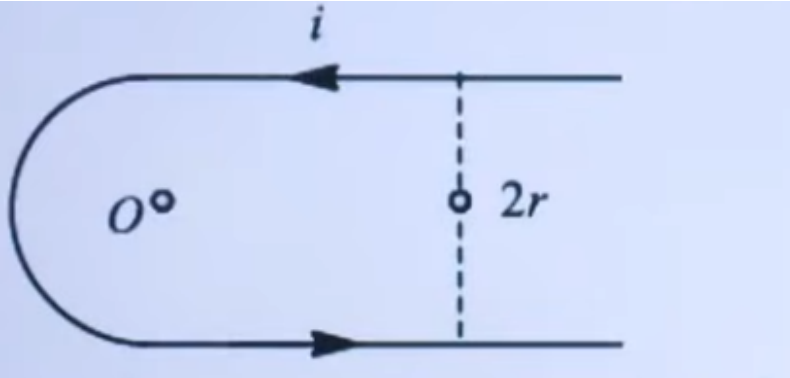
6. In the figure shown, the magnetic field induction at the point O will be



(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) $\frac{\mu_0 i}{4\pi r}(\pi-2)$

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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 2.5×10^{22} m s^{-2}. Then the magnitude of the acceleration of a proton under the action of same force is nearly

(a) 1.6×10^{-19} m s^{-2}

(b) 9.1×10^{31} m s^{-2}

(c) 1.5×10^{19} m s^{-2}

(d) 1.6×10^{27} m s^{-2}

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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
