CUET 2026 May 22 Shift 1 Physics

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. An electromagnetic wave travels in free space along the x-direction. At a particular point in space and time,

$$\vec{B} = 2 \times 10^{-7}\,\hat{j}\,\text{T}$$

is associated with this wave. The value of corresponding electric field $\vec{E}$ at this point is _____ V/m.

(A) $60\hat{k}$

(B) $-60\hat{k}$

(C) $30\hat{k}$

(D) $-600\hat{k}$

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2. Two resistors of $200\,\Omega$ and $400\,\Omega$ are connected in series with a battery of $100\,\text{V}$. A bulb rated at $200\,\text{V}, 100\,\text{W}$ is connected across the $400\,\Omega$ resistance. The potential drop across the bulb is _____ V.

(A) 25

(B) 50

(C) 66.6

(D) 100

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3. Two point charges $8\,\mu C$ and $-2\,\mu C$ are located at $x = 2$ cm and $x = 4$ cm, respectively on the x-axis. The ratio of electric flux due to these charges through two spheres of radii 3 cm and 5 cm with their centers at the origin is _____.

(A) 4 : 1

(B) 3 : 4

(C) 4 : 3

(D) 4 : 5

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4. A circular current loop of radius R is placed inside a square loop of side length L $(L \gg R)$ such that they are co-planar and their centers coincide. The permeability of free space is μ_0. The mutual inductance between circular loop and square loop is _____.

(A) $2\sqrt{2}\dfrac{\mu_0 L^2}{R}$

(B) $\sqrt{2}\dfrac{\mu_0 L^2}{R}$

(C) $\sqrt{2}\dfrac{\mu_0 R^2}{L}$

(D) $2\sqrt{2}\dfrac{\mu_0 R^2}{L}$

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5. The binding energy per nucleon of $^{209}_{83}\text{Bi}$ is _____ MeV.

$$\text{Given: } m\left(^{209}_{83}\text{Bi}\right) = 208.980388\,u, \quad m_p = 1.007825\,u, \quad m_n = 1.008665\,u,$$

$$1u = 931\,\text{MeV}/c^2$$

(A) 7.48

(B) 7.84

(C) 8.79

(D) 6.94

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6. Match the LIST-I with LIST-II:

List-I		List-II	
A.	Planck's constant	*I.*	ML^2T^{-2}
B.	Stopping potential	*II.*	T^{-1}
C.	Work function	*III.*	$ML^2T^{-2}A^{-1}$
D.	Threshold frequency	*IV.*	$ML^2T^{-3}A^{-1}$

Choose the correct answer from the options given below:

(A) A-III, B-IV, C-I, D-II

(B) A-I, B-II, C-III, D-IV

(C) A-IV, B-III, C-I, D-II

(D) A-I, B-IV, C-III, D-II

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7. Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R.

Assertion A: In electrostatics, a conductor does not store any net charge inside.

Reason R: Inside the capacitor (with no dielectric medium), the free charge carriers, if placed between the plates of capacitor, experience force and drift.

Choose the correct answer from the options given below:

(A) Both A and R are true and R is the correct explanation of A

(B) Both A and R are true but R is NOT the correct explanation of A

(C) A is true but R is false

(D) A is false but R is true

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8. A solenoid has a core made of material with relative permeability 400**. The magnetic field produced in the interior of solenoid is** 1.0 **T. The magnetic intensity in SI units is** $\alpha \times 10^5$**. The value of** α **is _____.**

Given: $\mu_0 = 4\pi \times 10^{-7}$ SI units

(A) $\frac{25}{\pi}$

(B) $\frac{1}{16\pi}$

(C) $\frac{1}{\pi}$

(D) $\frac{1}{4\pi}$

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9. A magnetic field vector in an electromagnetic wave is represented by

$$\vec{B} = B_0 \sin\left(2\pi\nu t - \frac{2\pi x}{\lambda}\right)\hat{j}$$

Its associated electric field vector is _____.

(A)

$$\vec{E} = -\nu\lambda B_0 \sin\left(2\pi\nu t - \frac{2\pi x}{\lambda}\right)\hat{k}$$

(B)

$$\vec{E} = -\nu\lambda B_0 \sin\left(2\pi\nu t - \frac{2\pi x}{\lambda}\right)\hat{i}$$

(C)

$$\vec{E} = \nu\lambda B_0 \sin\left(2\pi\nu t - \frac{2\pi x}{\lambda}\right)\hat{k}$$

(D)

$$\vec{E} = \nu\lambda B_0 \sin\left(2\pi\nu t - \frac{2\pi x}{\lambda}\right)\hat{i}$$

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10. A convex lens is made from glass material having refractive index of 1.4 with same radius of curvature on both sides. The ratio of its focal length and radius of curvature is _____.

(A) 0.5

(B) 2.5

(C) 0.8

(D) 1.25