

KEAM 2026 Pharmacy April 20

Question Paper

Conducted by CEE Kerala



General Instructions

- (i) **Duration:** The total duration of the examination is 3 hours (180 minutes).
- (ii) **Total Marks:** The complete paper carries a maximum of 600 marks.
- (iii) **Structure:** The paper has 3 Sections:
 - **Section A:** 45 Multiple Choice Questions (Physics).
 - **Section B:** 30 Multiple Choice Questions (Chemistry).
 - **Section B:** 75 Multiple Choice Questions (Mathematics).
- (iv) **Compulsory Questions:** All 150 questions are compulsory.
- (v) Each question has four options. Only **one** option is correct.
- (vi) **Correct Answer:** +4 marks.
- (vii) **Incorrect Answer:** -1 (Negative marking).
- (viii) **Unanswered/Marked for Review:** 0 marks.

PHYSICS

1. The electromagnetic waves travel with

- (A) the same speed in all media
- (B) the speed of sound in free space
- (C) the speed of light $c = 3 \times 10^8 \text{ ms}^{-1}$ in solid medium
- (D) the speed of light $c = 3 \times 10^8 \text{ ms}^{-1}$ in fluid medium

(E) the speed of light $c = 3 \times 10^8 \text{ ms}^{-1}$ in free space

2. The de Broglie wavelength and kinetic energy of a particle is $2000 \text{ \AA}$ and 1 eV respectively. If its kinetic energy becomes 1 MeV , then its de Broglie wavelength is

- (A) $2 \text{ \AA}$
 - (B) $1 \text{ \AA}$
 - (C) $4 \text{ \AA}$
 - (D) $10 \text{ \AA}$
 - (E) $5 \text{ \AA}$
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3. A plane electromagnetic wave travels in free space along X-direction. If the value of B (in tesla) at a particular point in space and time is $1.2 \times 10^{-8} \hat{k}$. The value of E (in Vm^{-1}) at that point is

- (A) $1.2 \hat{j}$
 - (B) $3.6 \hat{k}$
 - (C) $1.2 \hat{k}$
 - (D) $3.6 \hat{j}$
 - (E) $0.4 \hat{i}$
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4. The magnetic flux (in weber) linked with a coil of resistance $10 \text{ }\Omega$ is varying with respect to time t as $\phi = 4t^2 + 2t + 1$. Then the current in the coil at time $t = 1$ second is

- (A) 0.5 A
 - (B) 2 A
 - (C) 1.5 A
 - (D) 1 A
 - (E) 2.5 A
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5. The work functions of two metals are 2.75 eV and 2 eV respectively. If these are irradiated by photons of energy 3 eV , the ratio of maximum momenta of the photoelectrons emitted respectively by them is

- (A) 1:2
 - (B) 1:3
 - (C) 1:4
 - (D) 2:1
 - (E) 4:1
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6. If the potential at A is zero, potential at B is

- (A) 0 V
 - (B) 4 V
 - (C) 6 V
 - (D) 2 V
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CHEMISTRY

1. From the following pairs of ions which one is not an iso-electronic pair?

- (a) Na, Mg^{2+}
 - (b) Mn^{2+} , Fe^{3+}
 - (c) Fe^{2+} , Mn^{2+}
 - (d) O^{2-} , F
-

2. The correct sequence of bond enthalpy of 'C-X' bond is:

- (a) $\text{CH-F} > \text{CH-Cl} > \text{CH-Br} > \text{CH-I}$
 - (b) $\text{CH-F} < \text{CH-Cl} > \text{CH-Br} > \text{CH-I}$
 - (c) $\text{CH-Cl} > \text{CH-F} > \text{CH-Br} > \text{CH-I}$
 - (d) $\text{CH-F} < \text{CH-Cl} < \text{CH-Br} < \text{CH-I}$
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3. $\text{CHCHBr} \rightarrow (\text{aq. KOH}) \rightarrow \text{A} \rightarrow (\text{PCl}) \rightarrow \text{B}$

Final product B:

- (A) CHCHOH
 - (B) CHCHCl
 - (C) CHCHBr
 - (D) CHCHO
 - (E) CHCHCOOH
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4. One mole of an alkene on ozonolysis gives a mixture of one mole pentan-3-one and one mole methanal. The alkene is (2024)

- (a) 3-ethylbut-1-ene
 - (b) 2-methylpent-1-ene
 - (c) 2-ethylbut-1-ene
 - (d) 4-methylpent-2-ene
 - (e) 4-methylpent-1-ene
-

5. Correct order of acidic strength:

- (A) Phenol > Ethanol > Acetic acid
 - (B) Acetic acid > Phenol > Ethanol
 - (C) Ethanol > Phenol > Acetic acid
 - (D) Phenol > Acetic acid > Ethanol
 - (E) Acetic acid > Ethanol > Phenol
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6. Arrange the following amines in the decreasing order of their basic strength : Aniline (I), Benzylamine (II), p-toluidine (III)

- (a) $\text{I} > \text{II} > \text{III}$
- (b) $\text{III} > \text{II} > \text{I}$
- (c) $\text{II} > \text{I} > \text{III}$

(d) $\text{III} > \text{I} > \text{II}$

(e) $\text{II} > \text{III} > \text{I}$
