

KEAM 2024 June 5 (Day 1) Answer Key (Unofficial)

Q. 1

If $|\vec{A} \cdot \vec{B}| = |\vec{A} \times \vec{B}|$. Then angle between \vec{A} and \vec{B}

Answer: 45 degrees

Q. 2

20. Identify the isotopes from the following pairs.
A) ${}^2_1\text{H}$ and ${}^3_1\text{H}$ B) ${}^{197}_{79}\text{Au}$ and ${}^{198}_{80}\text{Hg}$ C) ${}^3_2\text{He}$ and ${}^3_1\text{H}$ D) ${}^{235}_{92}\text{U}$ and ${}^{238}_{92}\text{U}$
E) ${}^{35}_{17}\text{Cl}$ and ${}^{37}_{17}\text{Cl}$

Answer: B

Q. 3

19. Centre of circle $(x-3)(x+1) + (y-1)(y+3) = 0$
A) (3, -1) B) (-1, -3) C) (3, -3) D) (-1, 1) E) (1, -1)

Answer: E

Q. 4

26. $\cos A \cos 2A$ is equal to
A) $\frac{\sin 4A}{4 \sin A}$ B) $\frac{\cos 2A}{2 \sin A}$ C) $\frac{\cos 2A}{\sin 3A}$ D) $\frac{\sin 2A}{\sin A}$ E) $\frac{\sin 4A}{2 \sin A}$

Answer: A

Q. 5

28. Total number of 4 digit numbers greater than 7000 using the digits 2, 5, 7, 8, 9
A) 370 B) 375 C) 475 D) 575 E)

Answer: B

Q. 6

The electromagnetic radiations used in LASIK surgery and cell phone are respectively

Answer: UV rays

Q. 7

An object in free fall covers 80m in first 4 seconds. The distance covered in next 4 seconds is

Answer: 35m

Q. 8

A body, taken above the surface of the Earth, loses 20% of its weight. The height to which the body is taken is

Answer: approximately 751.418km

Q. 9

A ray of light passes through a medium with frequency 4×10^{14} Hz and wavelength 450nm. The refractive index of the medium is

Answer: 1.67

Q. 10

21. The de-Broglie wavelength associated with an electron accelerated by a potential difference of 3V lies in which region of the electromagnetic spectrum?

Answer: X-ray region of the electromagnetic spectrum.