

NEET STRUCTURE OF ATOM — HEISENBERG UNCERTAINTY PRINCIPLE — PYQS

Max. Marks: 12
Questions: 3

Section A (MCQ) — 3 questions

Q.1 If uncertainty in position and momentum are equal, then uncertainty in velocity is [AIPMT 2008]

- (1) $\frac{1}{m} \sqrt{\frac{h}{\pi}}$ (2) $\sqrt{\frac{h}{\pi}}$
 (3) $\frac{1}{2m} \sqrt{\frac{h}{\pi}}$ (4) $\sqrt{\frac{h}{2\pi}}$

Scan or tap for the full solution



Q.2 The measurement of the electron position is associated with an uncertainty in momentum, which is equal to $1 \times 10^{-18} \text{ g cm s}^{-1}$. The uncertainty in electron velocity is (mass of an electron is $9 \times 10^{-28} \text{ g}$) [AIPMT 2008]

- (1) $1 \times 10^5 \text{ cm s}^{-1}$ (2) $1 \times 10^{11} \text{ cm s}^{-1}$
 (3) $1 \times 10^9 \text{ cm s}^{-1}$ (4) $1 \times 10^6 \text{ cm s}^{-1}$

Scan or tap for the full solution



Q.3 Given : The mass of electron is $9.11 \times 10^{-31} \text{ kg}$, Planck constant is $6.626 \times 10^{-34} \text{ J s}$, the uncertainty involved in the measurement of velocity within a distance of 0.1 Å is [AIPMT 2006]

- (1) $5.79 \times 10^5 \text{ m s}^{-1}$ (2) $5.79 \times 10^6 \text{ m s}^{-1}$
 (3) $5.79 \times 10^7 \text{ m s}^{-1}$ (4) $5.79 \times 10^8 \text{ m s}^{-1}$

Scan or tap for the full solution



ANSWER KEY

Ques.	1	2	3								
Ans.	3	3	2								