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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) $\sqrt{\frac{h}{2\pi}}$

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

(1) 1×10^{5} cm s^{-1} (2) 1×10^{11} cm s^{-1}

(3) 1×10^{9} cm s^{-1} (4) 1×10^{6} cm s^{-1}

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

(1) 5.79×10^{5} m s^{-1} (2) 5.79×10^{6} m s^{-1}

(3) 5.79×10^{7} m s^{-1} (4) 5.79×10^{8} m s^{-1}

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ANSWER KEY

Ques.	1	2	3								
Ans.	3	3	2								