

**Chapter -2 Structure of Atom**

- Q1. Give reason for failure of circular path of Bohr's atomic model.
- Q2. Explain the following :
- (i) Black body radiation (ii) Scintillation effect.
- Q3. A microscopic particle travels distance equal to its wavelength in one second then Find its velocity.
- Q4. Why orbits are known as stationery path?
- Q5. Line spectrum is known as fingerprint of elements. Explain.
- Q6. Electron cannot locate in nucleus explain according to Heisenbergs uncertainty principle.
- Q7. Write drawback of Bohr's theory of atom.
- Q8. Explain giving example De-Broglie equation has no significance in daily life.
- Q9. Write difference in orbit and orbital.
- Q10. Explain Heisenberg's uncertainty principle for moving microscopic particle.

**Case base study question:**

Read the following passage and give answer of following questions:

Heisenberg found for moving microscopic particles, we cannot find momentum and position at appoint of time and accurately if one we find accurate then other becomes un accurate. This concept applied for electron moving in stationery path then found it velocity becomes infinite and with infinite velocity electron cannot revolve in circular path so concept of orbit take position at the place of orbit.

- (i) An electron is moving with 40% light velocity then its uncertainty in position will be:
- (a)  $2.46 \times 10^{-26}$  (b)  $2.8 \times 10^{-27}$   
(c)  $1.65 \times 10^{-24}$  (d) None of these
- (ii) If electron enters into nucleous the its velocity will be:
- (a) More than light velocity (b) Less than light velocity  
(c) Infinite (d) Zero
- (iii) An microscopic particle is moving with equal position and momentum then its velocity in Terms of mass and 'h' are:
- (a)  $\frac{1}{2m} \sqrt{\frac{h}{\pi}}$  (b)  $\frac{1}{m} \sqrt[3]{h}$   
(c)  $\frac{h}{m \sqrt{2\pi}}$  (d) None of these