

Topic: Quantum Mechanics

Question for 1 mark-

1. In photoelectric effect the kinetic energy of ejected electrons -----with increase in wavelength.
2. The waves having permitted frequencies, which do not exhibit interference are known as stationary waves. True/False
3. The energy associated with each quantum for a particular frequency is $E = \text{----}$.
4. Ejection of electron by visible light from the metal surface is called ----- effect.
6. The perfect black body is only absorber of electromagnetic radiation. True/False.

Question for 2 marks-

1. What is Heisenberg's uncertainty principle?
2. Define the term photoelectron.
3. Why Black body is perfect absorber and emitter.
4. What is quantum of radiation?
5. Give the statement for Photoelectric effect.
6. Give the expression for Schrodinger wave equation.

Question for 4 marks-

1. What is Stefan-Boltzmann 4th power law?
2. Write a note on Black body radiation.
3. What is de Broglie hypothesis?

Question for 5 marks-

1. Explain in brief photoelectric effect.
2. Write a note on Compton Effect.
3. State and explain Heisenberg's uncertainty principle

Question for 6 marks-

1. Describe in detail de Broglie hypothesis.
2. Explain photoelectric effect on the basis of quantum theory.

Question for 8 marks-

1. What is photoelectric effect? Give its characteristics. How it is explained on the basis of Plank's quantum theory?
2. What is Schrodinger wave equation? Explain Physical significance of wave function ψ and ψ^2 .