

(b) Explain fully Hartree-Fock self-consistent field method for a molecule.

29. (a) Derive expressions for the transition probabilities per unit time for absorption and induced emission using perturbation theory.

Or

(b) Discuss the interaction of an atom with electromagnetic radiation and find an expression for the transition probability.

30. (a) Discuss the classical formulation of Lagrangian and Hamiltonian equations of motion.

Or

(b) Explain fully the quantisation of non-relativistic Schrodinger equation.