***SUBJECT NO-PH41010, SUBJECT NAME- Quantum Mechanics-II***

***LTP- 3-0-0,CRD- 3***

**SYLLABUS :-**

**Identical Particles and Spin, Time dependent perturbation theory, Fermi s Golden rule, transition probabilities. Quantum theory of scattering - cross sections , partial wave analysis, phase shifts , optical theorem. Schrodinger s equation as an integral equation, Green s function, Lippman Schwinger equation, Born s approximation , Coulomb scattering. Relativistic wave equations-Klein-Gordon and Dirac equations, covariant form of Dirac equation , bilinear covariants, discrete symmetries of Dirac equation. Fine structure of Hydrogen atom. Interaction picture, S-matrix, T- matrix. Introduction to second quantization, quantization of free fields.**