SARDAR PATEL UNIVERSITY
Programme & Subject: M.Sc (Mathematics)
Semester: IV
Syllabus with Effect from: November-2013

Paper Code: PS04EMTH18	Total Credit: 4
Title Of Paper: Quantum Mechanics - II	

Unit	Description in detail	Weighting (%)
I	Basic operator theory and Hilbert space, bounded and unbounded operators, self adjoint and symmetric operators, tensor product of Hilbert spaces.	25%
II	Operator formalism, postulates of quantum mechanics and its consequences, correspondence principle, derivation of Newton's law of motion, commutation rules and uncertainty relations.	25%
III	Simultaneous eigenvalues, spherically symmetric potentials, spherical harmonics, angular momentum-three dimensional oscillator.	25%
IV	Many particle system, hydrogen atom, matrix representation, angular momentum and spin. Identical particles.	25%

Basic Text & Reference Books:-

➢ J.L.Powell and B.Crasemann,Quantum Mechanics, Narosa, 1998.
➢ P.M.Mathew and K.Vankatesan, A text book of Quantum Mechanics, McGraw Hill, 1997.
➢ L.Schiff, Quantum Mechanics, McGraw Hill, 1968.