

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

Paper Code: PS04EMTH13	Total Credit: 4
Title Of Paper: Financial Mathematics - II	

Unit	Description in detail	Weighting (%)
I	Interest rates and present value analysis, rate of return, continuously varying interest rates.	25%
II	Variations in Blach-Scholes-Merton formulae to include constant dividends, discrete dividends, jump conditions, currency options.	25%
III	Greek letters: Delta, Theta, Gamma, Vega, Rho, Phi, Binomial models for valuing European options, examples.	25%
IV	Binomial models for valuing American options, Estimating Greek letters using Binomial model, finite difference method, examples.	25%

Basic Text & Reference Books:-

- P. Wilmott, S. Howison and J. Dewynne, The mathematics of financial derivatives, Cambridge Uni. Press, 1995.
- G. D. Smith, Numerical solution of partial differential equations: finite difference methods, 3rd edition, Oxford Uni. Press, 1985.
- John C. Hull, Options, futures and other derivatives, 7th edition, Prentice Hall.
- Gupta S. L., Financial derivatives: theory, concepts and problems, Prentice Hall of India

