SIMON FRASER UNIVERSITY
Faculty of Business Administration

Final Examination Questions

BUS 419
Advanced Derivative Securities

Rules for Submitting Final Exam: Answers to questions are to be typed, single spaced, of length 1 page ***each*** for all questions, 8"x11" standard paper, with 1" margin and type point not less than 14. (This assignment is typed in 14 point.) For questions with a) and b) parts, answer both parts. Violations will be subject to deductions. Assignment is due in my office on Aug. 3, 2005.

ALL QUESTIONS ARE REQUIRED: (All parts to be answered)

1. a) Outline the derivation of the Black-Scholes option pricing model. What assumptions are being made to derive the results?

b) What are the limitations of applying the model to actual options prices (being sure to identify what corrections have to made to the Black-Scholes formula to, e.g., incorporate dividend paying stocks)?

2. a) Describe the delta, gamma and theta for a put option.

b) A long stock position can be "protected" by buying a put. How can the payoff on this portfolio of a stock and option be replicated using "dynamic hedging" strategies involving portfolios which combine only stock and bond positions? Describe the various forms of portfolio insurance. How would these various forms of portfolio insurance perform in the face of discontinuous movements in equity prices such as the October 1987 market break?