K. J. SOMAIYA INSTITUTE OF MANAGEMENT STUDIES AND RESEARCH

Program:PGDM(Exec), V Trim (Batch 2017-2018)
Subject: Strategic Risk Management
(End Term examination)

Maximum Marks: 50
Duration: 3 hours

Date: December 31, 2018

Notes:
Question 1 is compulsory. Attempt any 3 of the rest. Make suitable assumptions if required and state them.

Question 1
(20 Marks)

(a) An investment bank has a portfolio of USD 150 million equally invested in S&P500 and bitcoin. Daily data of prices of S&P 500 and bitcoin for the past six months is given in the excel sheet. Compute daily VaR for the portfolio using the Historical Simulation method at 95% confidence level. (10 marks)

(b) Explain the process of Strategic Risk Management with the example of a firm in the Oil and Gas industry. (10 marks)

Question 2
(10 Marks)

(a) Explain the Normal Linear VaR method of computing value-at-risk. What are the merits and demerits of this method? (5 marks)

(b) What are the impediments or hurdles to the implementation of strategic risk management in a company? (5 marks)

Question 3
(10 Marks)

(a) Explain with suitable examples how the use of the technique of Monte Carlo Simulation can improve strategic risk management in the context of an automobile manufacturing company. (5 marks)

(b) Explain the bearish put spread strategy and the situation in which it can be applied. (5 marks)

Question 4
(10 Marks)

A pension fund has invested Rs.20 crore in securities that yield 6% p.a. with a standard deviation of 8% p.a. This investment is made for 20 years at the end of which the pension fund is required to meet a liability of Rs.75 crore. Simulate 1000 trials using Monte Carlo Simulation to show the growth of the initial investment over 20 years. Also find the probability of the pension fund not being able to meet its liability at the end of

20 years.

Question 5
(10 Marks)

(a) A company which imports engineering goods from the US expects to pay USD 100,000 for its shipment after 2 months. The USDINR spot rate is Rs.69.97 on December 28. How should the company hedge against the currency risk using options? Two-month call options with a strike price of 69.75 are traded at Rs.1.30 and put options with the same strike and maturity are available at 65 paise. Show the pay-off profile at expiry if the USDINR spot rate on expiry is (i) Rs.67.50 (ii)Rs.69.50 (iii) Rs.71.50 and (iv) Rs.73.50. (5 marks)

(b) Explain the 'strangle' strategy and the situation in which this strategy may be applied. (5 marks)