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**M. B. A. (Third Semester) Examination,
Nov.-Dec. 2020**

(New Scheme)

(Management Branch)

(Specialization : Finance Management)

CORPORATE RISK MANAGEMENT

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 32

***Note : Part (a) of each question is compulsory
having 2 marks. Attempt any two parts from
(b), (c) and (d) carry 7 marks each.***

Unit-I

1. (a) Define Risk.

- (b) Explain the risk management approaches in brief.
- (c) Describe Taylor Series Expansions.
- (d) What is meant by the gamma of an option position?
What are the risks in the situation where the gamma of a position is large and negative and delta is zero?

Unit-II

2. (a) How are “dollar duration” and “dollar convexity” defined?
- (b) Why are US Treasury rates significantly lower than other rates that are close to risk free?
- (c) What is implied volatility? What does it mean if different options on the same asset have different implied volatilities?
- (d) What is the difference between expected shortfall and VaR? What is the theoretical advantage of expected shortfall over VaR?

Unit-III

3. (a) What assumption is being made when VaR is

calculated using the historical simulation approach and 500 days of data?

- (b) Describe three ways of handling interest-rate-dependent instruments when the model-building approach is used to calculate VaR.
- (c) A bank has portfolio of options on an asset. The delta of the options is -30 and the gamma is -5 . Explain how these numbers can be interpreted. The asset price is 20 and its volatility of 1% per day. Using the quadratic model, calculate the first three moments of the change in the portfolio value. Calculate a one day 99% VaR using (i) the first two moments and (ii) the first three moments.
- (d) Explain why the linear model can provide only approximate estimates of VaR for a portfolio containing options.

Unit-IV

4. (a) What is Credit Risk Mitigation?
- (b) Explain the difference between the Vasieek’s model, Credit Risk Plus model, and Credit Metrics as far

as the following are concerned :

- (i) When a credit loss is recognized and
 - (ii) the way in which default correlation is modeled.
- (c) Explain the two ways a credit default swap can be settled.
- (d) How does CDO work?

Unit-V

5. (a) What distributions are commonly used for loss frequency and loss severity?
- (b) Give two ways Sarbanes-Oxley affects the CEOs of public companies. When is a trading loss classified as a market risk and when is it classified as an operational risk?
- (c) Explain how liquidity black holes occur. How can regulation lead to liquidity black holes?
- (d) "For structured products, traders mark to model. They do not mark to market". Explain this remark.