BRAINWARE UNIVERSITY

Term End Examination 2018 - 19

Programme – Bachelor of Commerce (Honours) in Banking & Financial Accounting

Course Name – Basic Derivative and Risk Management

Course Code –BCM604A

(Semester – 6)

Time allotted: 3 Hours **Full Marks: 70**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group –A

(Multiple Choice Type Question) 10 x 1 = 10

1. *Choose the correct alternative from the following*

(i) By hedging a portfolio, a bank manager

a. reduces interest rate risk.
b. increases reinvestment risk.
c. increases exchange rate risk.
d. increases the probability of gains

(ii) A disadvantage of a forward contract is that

a. it may be difficult to locate a counterparty.
b. the forward market suffers from lack of liquidity.
c. these contracts have default risk.
d. all of the above

(iii) The amount paid for an option is the

a. strike price.
b. premium.
c. discount.
d. commission.

(iv) An option that can be exercised at any time up to maturity is called a(n)

a. swap.
b. stock option.
c. American option.
d. European option.

(v) One advantage of using swaps to eliminate interest rate risk is that swaps

a. are less costly than futures.
b. are less costly than rearranging balance sheets.
c. are more liquid than futures.
d. have better accounting treatment than options.

(vi) A contract that requires the investor to buy securities on a future date is called a

a. short contract.
b. hedge
c. long contract
d. cross

(vii) The price specified on an option that the holder can buy or sell the underlying asset is called the

a. Premium
b. Strike Price
c. Exercise Price
d. Both a and b

(viii) The seller of an option has the

a. right to exchange one payment stream for another.
b. ability to reduce transaction risk.
c. right to buy or sell the underlying asset.
d. the obligation to buy or sell the underlying asset.

(ix) If you buy a call option on treasury futures at 110, and at expiration the market price is 115,

a. the call will be exercised
b. the put will be exercised.
c. the call will not be exercised.
d. the put will not be exercised.

(x) Hedging risk for a long position is accomplished by

a. taking another long position.
b. taking a short position.
c. taking additional long and short positions in equal amounts
d. taking a neutral position.

Group – B

(Short Answer Type Questions) 3 x 5 = 15

Answer any *three* from the following

2 The following data relate to Anand Ltd.'s share price: 5

Current price per share	Rs. 1,800
6 months future's price/share	Rs. 1,950

Assuming it is possible to borrow money in the market for transactions in securities at 12% per annum, you are required to calculate the theoretical minimum price of a 6-months forward purchase; and explain arbitrage opportunity.

3 Explain Value at Risk in brief. 5

4 Suppose that the risk-free interest rate is 10% per annum with continuous compounding and that the dividend yield on a stock index is 4% per annum. The index is standing at US $ 400, and the futures price for a contract deliverable in four months is US$ 405. Describe the arbitrage opportunities, if any. 5

5 Underline the determinants of foreign exchange rate. 5

6 If, 5
– Spot rate: Rs. 42.0010 = $ 1
– 6 month forward rate: Rs. 42.8020 = $ 1
– Annualized interest rate on:
6 month rupee: 12 %
6 month dollar: 8%
Calculate the arbitrage possibilities.

Group – C

(Long Answer Type Questions) 3 x 15 = 45

Answer any *three* from the following

7 XYZ Ltd. shares are presently quoted at Rs.100. The 3 Month's Call Option carries a premium of Rs.15 for an Exercise Price of Rs.120 and a 3 Month's put option carries a premium of Rs.20 for a strike price Rs.120. If the spot price on the expiry date is in the range of Rs.90 to Rs.160 with an interval of Rs.5, calculate Net Pay-Off along with graph for both call option and put option from the option buyer's perspective and option writer's perspective. 15

8 (a) Explain Delta Hedging 5

(b) Consider a European call option on a stock when there are ex-dividend dates in two months and five months. The dividend on each ex-dividend date is expected to be Rs. 0.50. The current share price is Rs. 40, the exercise price is Rs. 40, the stock price volatility is 30% per annum, the risk-free rate of interest is 9% per annum, and the time to maturity is six months. Find out the European call price. 10

9 Sensex futures are traded at a multiple of 50. Consider the following quotations of Sensex futures in the 10 trading days during February, 2019: 15

Day	High	Low	Closing
05-02-19	3,306.40	3,290.00	3,296.50
06-02-19	3,298.00	3,262.50	3,294.40
07-02-19	3,256.20	3,227.00	3,230.40
08-02-19	3,233.00	3,201.50	3,212.30
09-02-19	3,281.50	3,256.00	3,267.50
12-02-19	3,283.50	3,260.00	3,263.80
13-02-19	3,315.00	3,286.30	3,292.00
14-02-19	3,315.00	3,257.10	3,309.30
15-02-19	3,278.00	3,249.50	3,257.80
16-02-19	3,118.00	3,091.40	3,102.60

Abhishek bought one Sensex futures contract on February, 05. The average daily absolute change in the value of contract is Rs.10,000 and standard deviation of these changes is Rs. 2,000. The maintenance is 75% of Initial margin. Determine the daily balances in the margin account and payment on calls if any.

10 (a) Describe Market to Market using suitable example. 7

(b) Explain Cash-and-Carry and reverse Cash-and-Carry arbitrage. 8

11 (a) Explain in brief the evolution of derivatives in India 7

(b) Identify the major recommendations of Dr. L.C. Gupta Committee. 8
