

Mid-West University
Examinations Management Office
Surkhet, Nepal
Chance Examination-2079
Master of Business Studies (MBS)
Semester - IV

Subject: Derivatives and Risk Management

Course Code: FIN 547

Full Marks: 60 Pass Marks: 30

Time: 3: 00 Hours

You are required to answer in your own words as far as applicable. Figures in the margins indicate full marks.

SECTION A: CRITICAL THINKING QUESTIONS (10 X 1 = 10 MARKS)

Answer **ALL** the questions:

1. Define underlying assets.
2. What are the criticisms of derivatives?
3. What is the put-call parity relationship?
4. What do you mean by ATM option?
5. Set the possible strike price of the following Stocks if strike prices are set in Rs 20 increment for stock selling for less than Rs 1,000, Rs 30 increment for stock selling for in between Rs 1,000 and Rs 2,000 and Rs 40 increment for stock selling for more than Rs 2,000.
 - a. Stock selling for Rs 500.
 - b. Stock selling for Rs 2,500.
6. Given the following expiration cycles, prepare the expiration cycle of options written in January, and February for January expiration cycle:
 - a. January, April, July and October
 - b. February, May, August and November
 - c. March, June, September and December
7. Write the meaning of normal contango.
8. What are index options?
9. What is credit risk?
10. What are the benefits of implementing a risk management program in an organization?

SECTION B: SHORT ANSWER QUESTIONS (3 X 8 = 24 MARKS)

Answer any **THREE** questions:

11. What do you mean by derivatives? Explain the role of derivative market. [2+6]
12. Describe the key features of forward and futures contracts. Compare and contrast the two instruments in terms of their liquidity, standardization, and counterparty risk. [8]
13. Suppose, you have a call option to buy 100 shares of Nabil Bank Ltd. (NABIL) at Rs 2,750 before or on October 30. You paid Rs 10 per share to option writer. Currently, shares of NABIL are selling at Rs 2,800 a share.
 - a. What is the intrinsic or fundamental value of your options on the shares of NABIL? [2]
 - b. What will be the value of your option if the market price of the shares drops to Rs 2,740? [2]
 - c. What will be your maximum loss on your investment? [1]
 - d. When you will be in no loss and no gain position? [1]
 - e. Should you exercise your option when you are in no loss and no gain position? Why? [2]
14. The price of Shree common stock had been hovering around Rs 150 per share for a long time and Mr. Sharma considered purchasing July call and selling July put with a Rs. 160 exercise price for a

premium of Rs. 3 per share in case of July call and a premium of Rs. 2 in case of the July put. (Note 1 call or put is equal to 100 shares)

- a. What is the name of the position Mr. Sharma is considering?
 - b. What would be the total cost of Mr. Sharma aggregate position?
 - c. Construct a table showing Mr. Sharma gains and losses from his put and call options at Rs.10 stock price intervals for Shree common stock prices from Rs.140 to Rs.180 inclusive.
 - d. At what stock prices would Mr. Sharma break even on his combination of options? [1+2+4+1]
15. What is swap? Explain the different types of swaps. [2+6]

SECTION C: LONG ANSWER QUESTIONS (2 X 13 = 26 MARKS)

Answer any **TWO** questions:

16. Explain the key characteristics of call options and put options, and discuss the ways in which they can be used by investors to manage risk and speculate in financial markets. [13]
17. Hopkins Pharmaceuticals stock is currently priced at Rs. 400 per share. Six month from now its price will be either Rs. 440 or Rs. 360. If the price rises to Rs. 440, then six months later the price will be either Rs. 480 or Rs. 380. If however, the price initially falls to Rs. 360, then six months later the price will be either Rs. 440 or Rs. 340. The risk free rate is 6% over each six-months period. Using the binomial option pricing model, what is the fair value of a one year call option on Hopkins stock expiration and a Rs. 400 exercise price? [13]
18. The SKT Company plans to invest in the newly issued call option of AAT company's stock which is currently selling for Rs 58.875. The call option has an exercise price of Rs. 60 and a time to expiration of three months. The instantaneous variance of stock price is 0.22, and the risk free rate is 10 percent. What is the value of the call option? [13]

THE END