

## M.Com. (HPP) (FFS) Sem.-4 Examination

CC-16

## Financial Derivatives

April-2025

Time : 2-30 Hours]

[Max. Marks : 70

**Q.1** Define Financial Derivative. Explain the Uses and Critiques of Financial Derivatives. 14

OR

**Q.1(A)** Anokhi Ltd. has a plan to raise an amount of ₹ 25,00,000 for a period of 3 x 6 FRA from now. The current rate of interest is 9% but it may rise in 6 months' time. The company wants to hedge itself against the increase in interest rate. Bank of Rajkot as quoted a forward rate agreement (FRA) at 9.1% per annum. Find out the effect of FRA and actual interest cost to Anokhi Ltd., if the actual rate after 6 months happens to be 9.5% or 8.5%. 7

**Q.1 (B)** Explain types of Forward Contracts. 7

**Q.2** The following data is related to NM Ltd.:

Spot price per share ₹ 900

Assuming it is possible to borrow or lend money in the market at 8% simple rate of interest per annum and the expected dividend in this time period is ₹ 6.

You are required:

- (i) to calculate the theoretical minimum price of a 2-months futures contract; and
- (ii) to explain the arbitrage process in both the following cases and to find sure shot profit out of it, if 2-months futures contract price is;
  - (a) ₹ 800 or
  - (b) ₹ 1,000

14

OR

**Q.2 (A)** Explain Commodity Derivatives. 7

**Q.2 (B)** Explain in detail Initial Margin and Maintenance Margin in Futures contract. 7

**Q.3** The equity share of Lemon Ltd. is quoted at ₹420. A 3-month call option is available at a premium of ₹12 per share and a 3-month put option is available at a premium of ₹10 per share.

- (i) Ascertain the net payoffs to the option holder of a call option and a put option.
- (ii) Ascertain the net payoffs to the option writer of a call option and a put option.
- (iii) Ascertain Breakeven point if both the options are purchased having same strike price.
- (iv) Also indicate the price range at which the call and the put options may be gainfully exercised.

Additional information:

- (a) the strike price in both cases in ₹440; and
- (b) the share price on the exercise day is ₹400,420,440,460,480.

14

OR

**Q.3 (A)** Discuss the various types of options. 7

**Q.3 (B)** Differentiate between Options and Futures contracts. 7

**Q.4** X Ltd. and Y Ltd. both wish to raise US 25,00,000 dollar's loan for 2 years. X Ltd. has the choice of issuing fixed rate debt at 7.50% or floating rate debt at SOFR + 25 basis points. On the other, Y Ltd., which has a lower credit rating, can issue fixed rate debt of the same maturity at 8.45% or floating rate at SOFR + 37 basis points. X Ltd. prefers to issue floating rate debt and Y Ltd. prefers fixed rate debt with a lower coupon. Yankee Bank is in the process of arranging an interest rate swap between these two companies.

X Ltd. negotiates to pay the Bank a floating rate of SOFR flat while the Bank agrees to pay X Ltd. a fixed rate of 7.60%. Y Ltd. agrees to pay the Bank a fixed rate of 7.75% while the Bank pays Y Ltd. a floating rate of SOFR flat.

Required:

- (i) Draw a schematic diagram.
- (ii) How much interest savings would be made by each company?
- (iii) How much would Yankee Bank receive? 14

**OR**

**Q.4 (A)** Write detailed note of Interest rate SWAPs. 7

**Q.4 (B)** Write a detailed note of Currency SWAP. 7

**Q.5** Select the appropriate alternative :( **Attempt any Seven out of given**) 14

- (1) The price at which option holder buys the right from the option writer is called \_\_\_\_\_.
  - (a) Strike price
  - (b) Option premium
  - (c) Option discount
  - (d) Selling price
- (2) \_\_\_\_\_ indicates that it has no independent value, i.e., its value is entirely derived from the value of the underlying asset.
  - (a) REPO
  - (b) Derivative
  - (c) Net assets
  - (d) Forward contract
- (3) Financial derivatives include \_\_\_\_\_.
  - (a) Stock
  - (b) Bonds
  - (c) Futures
  - (d) None of these
- (4) In Futures contract the lot size is \_\_\_\_\_.
  - (a) Fixed
  - (b) Fluctuating
  - (c) Both (a) & (b)
  - (d) None of the above
- (5) The Purpose of trading in Futures contract is \_\_\_\_\_.
  - (a) Speculation
  - (b) Hedging
  - (c) Both (a) & (b)
  - (d) None of the above

- (6) Index futures contracts are usually subject to \_\_\_\_\_.  
(a) Initial Margin  
(b) Maintenance Margin  
(c) Both (a) & (b)  
(d) None of the above
- (7) An \_\_\_\_\_ is a particular type of a contract between two parties where one person gives the other person the right to buy or sell a specific asset at a specified price within a specific time period.  
(a) Forward  
(b) Futures  
(c) Option  
(d) Option premium
- (8) The price at which option holder buys the right from the option writer is called \_\_\_\_\_.  
(a) Strike price  
(b) Option premium  
(c) Option discount  
(d) Selling price
- (9) When the underlying futures price is lesser than the strike price, the call option will be \_\_\_\_\_.  
(a) In-the money  
(b) Out-the money  
(c) At-the money  
(d) Off-the money
- (10) In the \_\_\_\_\_ swap, one party with a floating interest rate liability is exchanged with fixed rate liability.  
(a) Currency swap  
(b) Commodity swap  
(c) Plain vanilla swap  
(d) Plain interest swap
- (11) \_\_\_\_\_ are combination of the features of two derivative instruments, i.e., option and swap.  
(a) Extendable swap  
(b) Equity swap  
(c) Combination swap  
(d) Swaptions
- (12) An \_\_\_\_\_ swap is a financial agreement between the two parties who wish to change the interest payments or receipts in the same currency on assets or liabilities to a different basis.  
(a) Financial swap  
(b) Commodity swap  
(c) Interest rate swap  
(d) Equity swap