K22P 1444

Reg. No. : .....

Name : .....

III Semester M.Com. Degree (CBSS – Reg./Sup./Imp.) Examination, October 2022
(2019 Admission Onwards)
COM3C14 : DERIVATIVES AND RISK MANAGEMENT

Time : 3 Hours

Max. Marks : 60

SECTION – A

Answer **any four** questions in this Section. **Each** question carries **1** mark for Part **(a)**, **3** marks for Part **(b)** and **5** marks for Part **(c)**.

1. a) Define the term, '*Derivatives*'.
   b) From the following data, calculate the Optimal Hedge Ratio :
   Correlation Coefficient between ΔS and $\Delta F = 0.93$.
   Standard Deviation of $\Delta S = \sigma_S = 0.04$.
   Standard Deviation of $\Delta F = \sigma_F = 0.06$.
   c) Distinguish between Hedging and Speculation.
2. a) Clarify the meaning of the terms, '*Contango*' and '*Backwardation*'.
   b) What is meant by '*Value at Risk*' ? State its significance.
   c) From the following information, determine the Put Option value using the Black and Scholes formula :
   S = ₹ 280/-
   E or X = ₹ 260/-
   r = 8% p.a.
   t = 0.6667
   $N(d_1)$ = 0.6336
   $N(d_2)$ = 0.4470
   Assume that no dividend is expected during the life of the option.

P.T.O.

3. a) Who are '*Arbitrageurs*' ?
   b) Compare Options from Swaps.
   c) The present value of the NIFTY Index is 3,150. The three-month interest rate is 12% p.a. the dividend yield on this index is estimated to be 6%, compute the fair value of Futures with 90 days remaining for maturity.
4. a) Define 'Swaps'.
   b) Distinguish between OTC Derivatives and Exchange-traded Derivatives.
   c) A put and a call option, each has an expiration date of 6 months hence and, an exercise price of ₹ 10. The interest rate for the 6 months period is 3%.
      i) If the put has a market value of ₹ 2 and the share is worth ₹ 9 per share, calculate the value of the call.
      ii) If the call has a market value of ₹ 5 and market price of the share is ₹ 12 per share, compute the value of the put.
5. a) What are '*Currency Futures*' ?
   b) Highlight the economic functions of Swaps.
   c) Shares of Ram Ltd. are being sold at ₹ 3,000/-, following options are available for one month duration.

Call Options		Put Options	
Strike Price (₹)	**Premium (₹)**	**Strike Price (₹)**	**Premium (₹)**
2,900	120	3,100	125
3,000	35	3,000	40
3,100	5	2,900	10

   Determine the Intrinsic Value and the Time Value of Call and Put Options.
6. a) Calculate the expected rate of return for an underlying asset from the given information : $R_f = 12\%$; $R_m = 16\%$; $\beta = 1.25$.
   b) Examine the measures taken by SEBI to protect the investors in the Derivative Market.
   c) Define the concept of '*Risk Managemenf*'. Outline its functions. **(4×9=36)**

SECTION – B

Answer the **two** questions in this Section. **Each** question carries **12** marks.

7. a) "Derivatives are financial products for managing exchange risk". Elaborate on the economic functions and risks faced in the Derivative market in India.
   OR
   b) Discuss in detail the fundamental option strategies with suitable examples.
8. a) "Futures are improvised versions of Forwards". Elucidate the features and advantages of the Futures contract and how it outfits over the limitations of the Forward contract.
   OR
   b) Critically evaluate the implications of the Binomial Option Pricing Model in the valuation of options. **(2×12=24)**
