



Roll no.....

End Semester Examination, December 2024
B. Com (P)– V Semester
FINANCIAL DERIVATIVES AND RISK MANAGEMENT (SMMC647A)

Time: 2.5 hrs.

Max Marks: 50

Note: *All Questions are compulsory. Marks are indicated against each question.*

PART-A

5 x 2 = 10

Q.1 Attempt any five of the following.

- | | |
|--|----------------|
| (a) Define and differentiate between European and American options. | [CO-1] [L-1] 2 |
| (b) Explain the concept of basis risk and why firms choose to hedge. | [CO-1] [L-1] 2 |
| (c) List the key differences between forwards and futures contracts. | [CO-1] [L-2] 2 |
| (d) What is E-SOPs, and how do they function as derivatives? | [CO-1] [L-1] 2 |
| (e) Explain put-call parity and its significance in options pricing. | [CO-1] [L-2] 2 |
| (f) Describe the implications of early delivery in a forward contract. | [CO-1] [L-2] 2 |
| (g) Summarize the main features of derivatives trading in India. | [CO-1] [L-2] 2 |

PART-B

10 x 4 = 40

Q.2 Discuss the different types of options and the factors affecting their prices. Include an explanation of upper and lower bounds of options. [CO-2] [L-2] 10

OR

Illustrate with examples the concept of spreads and combinations as trading strategies involving options. [CO-2] [L-2] 10

Q.3 Explain the binomial model for option pricing for one and two periods. Provide an example for one period to illustrate. [CO-3] [L-3] 10

OR

A European call option on a stock is currently trading with the following parameters:

Current stock price (S): ₹100

Strike price (K): ₹105

Time to expiration (T): 0.5 years (6 months)

Risk-free interest rate (r): 5% per annum

Volatility of the stock (σ): 20% per annum

Using the Black-Scholes model, calculate the value of the call option and put option.

Q.4 Discuss the concept of delta hedging and how it is used for creating a delta-neutral portfolio.

[CO-5] [L-5] 10

OR

Explain the structure and functioning of Credit Default Swaps (CDS). Discuss how default probabilities are estimated from bond prices. [CO- 4] [L-4] **10**

Q.5 Given the following data, calculate the beta (β) of Asset X: [CO-5] [L-5] **10**

R_x (%)	R_m (%)
12	10
15	12
8	7
10	9

Variance of market returns: 0.0008

Covariance between Asset X and the market: 0.0012

OR

Discuss the concept and application of Value at Risk (VaR). Compare historical simulation and Monte Carlo simulation methods. [CO- 5] [L-5] **10**