

SL No of QP : 9995

Unique Paper Code (UPC)

: 2923070016

Name of the Paper

: Advanced Derivatives

Name of the Course

: BBA(FIA)

Semester

: VII

Duration

: 3 hours

Maximum Marks

: 90 Marks

Instructions:

1. Use of a scientific (non-programmable) calculator is permitted.
2. No negative marking.
3. Marks are indicated against each question.
4. All questions are compulsory.

Question 1: Given:

- $C = 10$
- $P = 8.50187343847605$
- $K = S$
- $r = 3\%$
- σ (daily volatility) = 2%
- T (time to expiry) = 1 month

Calculate:

(5 Marks Each:40 marks)

1. Call Delta
2. Put Delta
3. Gamma
4. Call Vega
5. Call Theta
6. Put Theta
7. Call Rho
8. Put Rho

Question 2: Explain the following

(20 Marks)

1. Call on Call Option
2. Call on Put Option
3. Knock-in Barrier Option
4. Knock-out Barrier Option
5. Bermuda Option

Question 3: Explain the Interest Rate and Currency swap. Suppose two companies, “ABC Ltd” (US) and “BCD Ltd” (IND), wish to borrow \$1 lakh and 90 lakhs INR for 3 years (USDINR = 90 rupees). But company ABC Ltd wants money in INDIA and company BCD Ltd in the USA.

COMPANY	USA	DURATION	IND
ABC Ltd	7%	3 years	10.6%
BCD Ltd	9%	3 years	11%

Questions:

(10 Marks)

1. In which country does company ABC Ltd. have a comparative advantage, and why?
2. In which country does company BCD Ltd. have a comparative advantage, and why?
3. What is the total comparative advantage they have?
4. If they share the comparative advantage in the ratio of 40% ABC and 60% BCD, what will be the effective interest rate for these companies in their respective preferred countries?

Question 4: Explain the concept and its significance:

(10 Marks)

1. Weather Derivatives
2. HDD (Heating Degree Days)
3. CDD (Cooling Degree Days)
4. Electricity Derivatives: Define the meaning and explain the markets where they can be traded.

Question 5: Write short notes on the following:

(10Marks)

1. Credit default swaps
2. Interest rate cap and floor
3. Insurance Derivatives
4. Energy Derivatives