Graphic Era
HILL UNIVERSITY
Established by an Act of the State Legislature of Uttarakhand (Adhiniyam Sankhya 12 of 2011)
University under section 2(f) of UGC Act, 1956

End Term (Even) Semester Examination May-June 2025

Roll no.....

Name of the Course and semester: B. Com (H) & VI
Name of the Paper: Financial Derivatives
Paper Code: BCH 604 (F10)
Time: 3 - hour Maximum Marks: 100

Note:

(i) All the questions are compulsory.
(ii) Answer any two sub questions from a, b and c in each main question.
(iii) Total marks for each question is 20 (twenty).
(iv) Each sub-question carries 10 marks.
(v) Please specify COs against each question.

Q1. (2X10=20 Marks)

a. Discuss the different types of derivative instruments and explain how each is used for hedging, speculation, and arbitrage.CO1

b. Explain the concept of currency futures. How can businesses and investors use currency futures to hedge against exchange rate risk? CO2

c. Critically evaluate the pros and cons of each contract modification option (early delivery, extension, cancellation) from the perspective of both a hedger and a speculator.CO1

Q2. (2X10=20 Marks)

a. Describe the Black-Scholes Option Pricing Model and its significance in the valuation of financial derivatives.CO2

b. Mr. Alex has purchased (i) a 3-months call with exercise price of Rs.70 at a premium of Rs. 4 and (ii) a 3-months put with the same exercise price at a premium of Rs. 3. Find out his net payoff if the share price goes up to Rs. 75 or goes down to Rs. 65 on the date of expiration.CO3

c. Discuss the concept of a covered call strategy. How is it constructed. Analyze the risks and rewards of this strategy and provide a numerical example to show potential outcomes.CO3

Q3. (2X10=20 Marks)

a. Explain the concept of Delta in options. How does it help traders and portfolio managers in hedging strategies? CO2

b. Describe Gamma and its role in options trading. How does Gamma influence the stability of Delta over time? CO2

c. A portfolio manager has created a portfolio around shares and options on the shares of BPCL Ltd. as Follows: - CO4

Positions	**Delta**
Short 1500 shares	-1.00
Long Calls 400(K=Rs. 150)	+0.378
Short puts 600 (K=Rs. 185)	+0.268
Long Puts 200 (K= 155)	-0.335

Find out the portfolio delta. What will happen to the portfolio value if the share price increase by Rs. 7. If the portfolio manager wants this portfolio to be delta-Neutral. What action he should take. Explain.

Q4. (2X10=20 Marks)

a. Explain interest rate swap agreement. Illustrate your answer with an example involving two parties—one with a fixed-rate loan and the other with a floating-rate loan. How can both parties

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benefit from entering into an interest rate swap? CO4

b. Define credit derivatives. Discuss in detail the various types of credit derivatives. Provide suitable examples to illustrate their applications.CO1

c. Define the term protection buyer, protection seller, credit event and credit risk. CO2

Q5. (2X10=20 Marks)

a. Explain the complete process of trading, clearing, and settlement in options and futures markets.CO5

b. What is the role and function of clearing entities in the trading of futures and options? CO1

c. What is a Trader Workstation (TWS), and how does it support the needs of professional and institutional traders.CO1