Time allowed: 2 Hrs 30 Min
Max Marks: 50

Roll No: _____

Instruction: Students are required to write Roll No on every page of the question paper, writing anything except the Roll No will be treated as **Unfair Means.** All other instructions on the reverse of Admit Card should be followed meticulously.

Sections	No. of Questions to attempt	Marks	Total Marks
A	3 question with internal choices	3*10	30
B	Compulsory Case Study	20	20
			50

Section A: Please attempt the following questions with internal choice for each (10 marks each)

Q1. (CILO 2)
A. How are options different from Future contracts? Explain clearly with examples, what are "In-the-money", "At-the-money" and "Out-of-the-money" for <u>both</u> call & put option scenarios.
Or
B. Explain clearly the terms below and provide examples:
   i.   Contango (2 marks)
   ii. Backwardation (2 marks)
   iii. Cash and carry arbitrage (2 marks)
   iv. Reverse cash and carry arbitrage (2 marks)
   v.   When the futures price of a commodity appears underpriced in relation to its spot price, which arbitrage strategies should you follow (2 marks)

Q2. (CILO 2)
A. Explain what is "basis" in Commodity Markets? Explain: "strengthening of basis" and "weakening of basis" very clearly with examples?
Or
B. Answer <u>both</u> (i) & (ii) below (5 marks each):
   i.   A trader buys a three-month put options on 4 unit of gold with a strike of Rs.50,000 per 10 gms at a premium of Rs.100 per 10 gms. Unit of trading is 1kg. On the day of expiry, the spot price of gold is Rs.48,000 per 10 gms. What is his total net payoff?
   ii. The price of silver futures contract with 2 months maturity is trading at Rs 56,340. Interest rate, from 2 months to 3 months is 5% p.a. continuously compounded. If the market price for 3 months silver futures contract is Rs 56,890, is there an arbitrage opportunity? If so, which Arbitrage strategy would you adopt?

Q3. (CILO 1)
A. Explain:
   i.   Functions of Commodity exchanges. (2 marks)
   ii.   Functions of Clearing House. (2 marks)
   iii. CME Group. (2 marks)
   iv. Cost of carry (2 marks)
   v.   Why must future prices converge with spot on maturity? (2 marks)
Or
B. A gold producer takes a long put position to deliver 500 ounces of gold after 3-months at a price of USD 1,534 per ounce. Simultaneously, the gold producer takes a short call position for 3-month maturity at USD 1,590 per ounce for 500 ounces. The premium it paid for the long put is compensated with premium it received for the short call position i.e. it is a zero-cost option. What is the total net gain/loss to the gold producer on 500 ounces of gold if spot price on the option expiry date is USD 1,625 per ounce.

Section B: (CILO 1 & 3) **Case-Study (20 marks)**

- A gold jeweller buys 20 kg of gold bullion in spot on 1st Dec @ 50,000 per 10 gms.

- His gold jewellery will be ready in next 15 days.

- He decides to hedge his exposure on jewellery sale.

- December Futures are priced at Rs 51,600 per 10 gms. Each contract is for 1 kg.

- He goes ahead and hedges his entire position through Futures contracts.

- On 5th Dec, the Futures contract is priced at Rs 50,900 per 10 gms whereas the prevailing spot on 5th Dec is Rs 50,500 per 10 gms.

- On the December Futures expiry date, spot price is Rs 52,000.

Answer the following:
1) Has he gone Long or Short in Futures and why? (2 marks)
2) What is the Total Net Gain/Loss if he were to cancel his hedged position contracts on 5th Dec (5 marks)
3) What is the Effective price he has been able to realize by canceling his position on 5th Dec (4 marks)
4) What would be the Net Gain/Loss if he were to cancel his hedged contract on the December Futures expiry date (5 marks)
5) What is the Effective Price he has been able to realize on December Futures expiry date (4 marks)

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