Time: 2 ½ Hours **Total Marks: 75**

Note:

1. **All questions are compulsory. (Subject to internal Choice)**
2. **Figures to the right indicate full marks.**
3. **Use of non-programmable calculator, is allowed and mobile phones are not allowed.**
4. **Support your answers with diagrams / illustrations, wherever necessary.**

Q. 1: A: Multiple choice questions: (Any 8) **(08)**

1. _____Trading in food and other agricultural products, metals and energy products is not a new phenomenon. A) Commodity B) Equity C) Canada D) Futures
2. ____________ Commodities are classified as, agricultural products such as corn, wheat etc.
   A) Hard B) soft C) complex D) future
3. The ___________ is a central place where market participant's trade standardized futures contracts.
   A) Exchange B) hedging C) brokers D) scalpers.
4. Current size of a lot of bank Nifty is of ________ share.
   A) 50 B) 15 C) 30 D) 35
5. For liquid securities, the VAR margins are based on the ________ of the Security.
   A) volatility B) returns C) liquidity D) exposure limit
6. MTM stands for__________
   A) Mark-to-market B) Money to market C) Market to Market D) Major-to Market
7. If the contract size is 100 selling price is 720 buying price is 800 there will be a______
   A) Loss 8000 B) profit 8000 C) loss of 80 D) profit of 80
8. CBOT stands for _________________
   A) Chicago board of trade B) China board of trade
   C) Chicago D) Chicago bench of trade
9. _____ Order is used to limit loss on a trade.
   A) Immediate or cancel B) Stop loss C) Daily D) Formal
10. Elimination of riskless profit opportunities in the futures market is _______
    A) Diversification. B) Arbitrage. C) Speculation D) Hedging.

Q.1 (B) State whether the statement is true or false: (Any 7) **(07)**

1. Commodities markets involve the trading of tangible goods such as agricultural products, metals, and energy resources.
2. The derivatives market originated as a means for managing agricultural commodity price risk.
3. Commodities traded in India include agricultural products like wheat and rice, metals like gold and silver, and energy products like crude oil and natural gas.
4. The structure of commodities markets in India includes both cash and derivative segments.

5. Participants in commodities markets include producers, consumers, traders, and speculators.
6. Derivatives markets originated as a means for managing risk in agricultural commodity prices.
7. Elements of a derivative contract include the underlying asset, contract size, expiration date, and contract price.
8. Factors driving growth in the derivatives market include increased financial innovation and the need for risk management tools.
9. Future price refers to Spot price + cost of carry.
10. Binomial model breaks down the time to expiration into number of time intervals.

Q.2 Answer the following:

a) Explain the structure of commodities market? **(08)**

b) What is derivatives market; explain the factors driving growth of derivatives market? **(07)**

OR

Distinguish between forwards & futures? **(08)**

Discuss the participants in derivatives market? **(07)**

Q.3 Answer the following:

a) Explain the following terminologies. **(08)**

1) Cost of carry   2) Basis

2) Ask price   4) Futures price

b) Distinguish between Speculation and Arbitration? **(07)**

OR

c) If the cost of 10gm 24k Gold in the spot market is ₹54000 and the locker rent is ₹1000. For 3 months insurance is ₹500 and interest rate is 7% p.a. calculate fair value for 3 months futures contract on gold. **(07)**

d) Mr. Hisham takes a short position on a call option of TUBA industries limited at an exercise price of ₹100 with the premium of ₹30.

e) Calculate the profit or loss on the option position for Mr. Hisham if the spot price on expiry is as follows. ₹60, 70, 80, 90, 100, 110, 120, 130, 140, 150, also draw the pay of diagram for the same. **(08)**

Q.4 Answer the following:

a) What are the different factors effecting option premium? **(08)**

b) Distinguish between Binomial option pricing model and Black Scholes options pricing model. **(07)**

OR

c) The spot price of SILVER is ₹4,200, locker rent is ₹700 p.a. and insurance is ₹550 for six months, interest rate on borrowed funds is 12% p.a. Calculate the fair value of 3 months' futures contract, compounded monthly. **(07)**

d) RAHUL shorts a call option of XYZ Ltd at an exercise price of ₹1200 with a premium of ₹40. Calculate the profit & loss for RAHUL if the spot price on expiry was ₹1180,1190,1200,1210,1220,1230,1240,1250,1260,1270,1280. Also draw the payoff diagram **(08)**

Q.5 Answer the following:

a) Explain the trading, clearing, and settlement mechanisms in the derivatives market, highlighting the role of SEBI guidelines. **(07)**

b) Assess the types of risk associated with derivative trading and discuss methods for calculating Value at Risk (VaR). **(08)**

OR

c) **Write short notes on any 3** **(15)**

1. Types of margins
2. Black & Scholes option pricing model
3. NSCCL
4. Imperfect hedge
5. Types of Risk
