

END SEMESTER EXAMINATION, MAY - 2026**B. B. A. Semester - VI****Subject Name: Derivatives & Risk Management****Subject Code: BBAF202****Time allotted: 03 Hours****Max. Marks: 100****Note: Read all the instructions carefully.**

Q.1		VERY SHORT ANSWER QUESTIONS – Attempt All.	(10x2 = 20 Marks)
a.	What is default risk?		CO1
b.	When the spot price exceeds the exercise price, which type of option will be classified as In-the-Money (ITM)?		CO1
c.	What is meant by initial margin?		CO1
d.	What term is used to describe a trader who holds a position for a very short duration?		CO1
e.	A forward contract is traded in which market: Over-the-Counter (OTC) or Exchange?		CO1
f.	Identify the derivative instrument whose underlying asset is a currency or exchange rate.		CO2
g.	What is American Option		CO2
h.	Define Over-the-Counter (OTC) traded derivatives		CO2
i.	What is meant by risk transfer?		CO2
j.	What is currency risk?		CO2
Q.2		SHORT ANSWER QUESTIONS – Attempt any Five.	(5x4 = 20 Marks)
a.	PC Jewellers Ltd., anticipating an increase in gold prices, enters into a long forward contract on 1 April 2025 to purchase 2,000 grams of gold for delivery on 1 October 2025 at ₹5,400 per gram. Calculate the profit or loss incurred if the market price on the delivery date is ₹5,600 per gram.		CO3
b.	What are forward contracts? How do they differ from futures contracts?		CO3
c.	Explain the factors of derivative market.		CO3
d.	A speculator has taken five short futures positions in crude oil at a price of ₹2,970 per barrel, with a standard lot size of 100 barrels. The initial margin is ₹30,000 and the maintenance margin is ₹25,000 per contract. - Determine the price change that would trigger a margin call. - Under what conditions can ₹50,000 be withdrawn from the margin account?		CO3
e.	Analyze the underlying assumptions of the Cost of Carry Model and explain how these assumptions influence the pricing of futures contracts.		CO4
f.	Differentiate between hedger, speculator and arbitrageur		CO4
g.	Consider a six-month cotton futures contract which is currently trading at RS. 18000 per bale and incurs storage cost of Rs. 250 per bale during the period (incurs at the beginning of the period). Find the fair price of the contract assuming 7% as annual risk-free rate of return continuously compounded. The contract size is assumed to be 25 bales.		CO4

Q.3		STRUCTURED QUESTIONS – Attempt any Three.					(3x10 = 30 Marks)																																													
	a.	Explain the Option contracts? What are its features?								CO4																																										
	b.	A three-month put option on Dabur India Ltd. has a strike price of ₹320 and is priced at ₹25.75, while the current market price of the stock is ₹300. - Calculate the intrinsic value. - Calculate the time value of the option.								CO4																																										
	c.	Explain the factors influencing margin money?								CO5																																										
	d.	Mr. Rajesh has shorted five copper futures at an exercise price of 325 per kg. The initial margin of the contract is 15% and the maintenance margin is 80% of initial margin. The future prices for the first five days of the contract are given below. <table><tr><td>Day</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>Settlement Price (Rs/ Kg)</td><td>330.50</td><td>327.70</td><td>338.20</td><td>335.10</td><td>340.75</td></tr></table> Prepare a margin account of the investor assuming that all margin calls are honoured immediately and lot size of the contract is 1000 kg.								Day	1	2	3	4	5	Settlement Price (Rs/ Kg)	330.50	327.70	338.20	335.10	340.75	CO5																														
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Q.4		Case Analysis/ Situation Based QUESTIONS – Attempt any Two.					(2*15 = 30 Marks)																																													
	a	Evaluate the position of a call option as In-the-Money (ITM), At-the-Money (ATM), or Out-of-the-Money (OTM) under different market price scenarios. Justify your classification with appropriate examples and reasoning.								CO5																																										
	b	Mr. Ramesh, on 1" April 2017, has constructed a portfolio consisting of five shares the detail of which is given below. <table><tr><td>Scripts</td><td colspan="2">Market price(in Rs.)</td><td colspan="2">No of Shares</td><td colspan="2">Beta (In Rs)</td></tr><tr><td>ACC</td><td colspan="2">1750</td><td colspan="2">5000</td><td colspan="2">0.90</td></tr><tr><td>Cipla</td><td colspan="2">550</td><td colspan="2">8000</td><td colspan="2">0.85</td></tr><tr><td>BHEL</td><td colspan="2">140</td><td colspan="2">10000</td><td colspan="2">0.80</td></tr><tr><td>GAIL</td><td colspan="2">390</td><td colspan="2">15000</td><td colspan="2">0.75</td></tr><tr><td>IDBI</td><td colspan="2">60</td><td colspan="2">10000</td><td colspan="2">1.05</td></tr></table> The annual cost of capital to the investor is 10% (continuously compounded) and current value of the Nifty is 9950. You are required to: (i) Calculate beta of the portfolio. (ii) Calculate the fair value of the Nifty June futures. (iii) If Nifty futures contract has a lot size of 75 units, find the number of contracts of Nifty futures the investor needs to short in order to get a full hedge until June for his portfolio. Assume that the Nifty futures are trading at their fair value.								Scripts	Market price(in Rs.)		No of Shares		Beta (In Rs)		ACC	1750		5000		0.90		Cipla	550		8000		0.85		BHEL	140		10000		0.80		GAIL	390		15000		0.75		IDBI	60		10000		1.05		CO6
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	c	Consider the following data about July 2017 NIFTY options (Opening values of the day are taken): <table><tr><td>Exercise Price (K)</td><td>9860</td><td>9880</td><td>9900</td><td>9920</td><td>9940</td><td>9960</td><td>9980</td><td>10000</td><td>10020</td></tr><tr><td>Call Premium</td><td>NA</td><td>NA</td><td>45.25</td><td>23.40</td><td>15.50</td><td>12.20</td><td>9.60</td><td>8.35</td><td>7.80</td></tr><tr><td>Put Premium</td><td>8.70</td><td>9.70</td><td>10.60</td><td>13.25</td><td>15.40</td><td>24.50</td><td>NA</td><td>NA</td><td>NA</td></tr></table> The July Nifty opened at 9940 on 3rd July 2017. Classify each of the above options and find out intrinsic and time values of the options. (NA = Options are not available)								Exercise Price (K)	9860	9880	9900	9920	9940	9960	9980	10000	10020	Call Premium	NA	NA	45.25	23.40	15.50	12.20	9.60	8.35	7.80	Put Premium	8.70	9.70	10.60	13.25	15.40	24.50	NA	NA	NA	CO6												
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