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NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

M.B.A.

SEM: IV - THEORY EXAMINATION (2021 - 2022)

Subject: Financial Derivatives & Risk Management

Time: 3 Hours   Max. Marks: 100

General Instructions:

1. The question paper comprises three sections, A, B, and C. You are expected to answer them as directed.
2. Section A - Question No- 1 is 1 marker & Question No- 2 carries 2 mark each.
3. Section B - Question No-3 is based on external choice carrying 6 marks each.
4. Section C - Questions No. 4-8 are within unit choice questions carrying 10 marks each.
5. No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.

SECTION A   20

1. Attempt all parts:-

1-a. The base year of the BSE-30 Sensitives index (SENSEX) is (CO1) . 1

(a) 1978-79=100

(b) 1975-76=100

(c) 1985-86=100

(d) 1972-73=100

1-b. In case of BSE index futures the monthly series matures on---.(CO1) 1

(a) First Thursday of month

(b) LastThursday of month

(c) first Wednesday of month

(d) last wednesday of month

1-c. Use of index future for hedging helps us to eliminate the following risk.......(CO2) 1

(a) Stock specified risk

(b) All possible risk

(c) No risk

(d) Market risk

1-d. Holder of an American call option can:....(CO2) 1

(a) Buy the asset only on expiration

(b) Sell the asset on or before expiration

(c) Buy the asset on or before expiration

(d) Sell the asset only on expiration

1 An over the counter option:(CO3) 1

(a) Is a contract traded on an Exchange

(b) Is a contrct tailor made to suit individual requirements

(c) IS an option on stock of pharmacuetical company

(d) Can be Bought from any Option writer

1 A stock option is an example of a: (CO3) 1

(a) Commodity

(b) Derivatives instrument

(c) Money market instrument

(d) Foreign exchange contract

1-g. Which of the following are pre determined while issuing a warrant--(CO4) 1

(a) Price of conversion
(b) Number of shares
(c) The expiration period
(d) All of the above

1-h. Which of the following statement is true..(CO4) 1

(a) Option can be used for hedging the risk
(b) Option offer high leverage potentiall
(c) Option need not necessarily be exercised
(d) All of the above

1-i. The risk arising from counterparty's failure to meet its financial obligation is...(CO5) 1

(a) Market risk
(b) Liquidity risk
(c) Operation risk
(d) Credit risk

1-j. Risk is measurable……..(CO5) 1

(a) Loss
(b) Profit
(c) Uncertainty
(d) None of the above

2. Attempt all parts:-

2.a.	Define the concept "Underlying Asset" . (CO1)	2
2.b.	Discuss hedging or locking in the price of derivatives purchase or sale.(CO2)	2
2.c.	Discuss risk tolerance.(CO3)	2
2.d.	Discuss restructuring debt.(CO4)	2
2.e.	Define the words "Standard deviation and Beta".(CO5)	2

SECTION B 30

3. Answer any five of the following:-

3-a.	Using the names of the derivative assets, describe financial derivatives and their characteristics.(CO1)	6
3-b.	Write a note on evaluation of derivative markets in India.(CO1)	6
3-c.	"Future contracts are not tailored-made." Justify. (CO2)	6
3-d.	"Monetary policy helps to maintain the balance of money." Comment. (CO2)	6
3.e.	Calculate the delta of an at-the-money six-month option on a non-dividend paying stock when the risk-free interest rate is 5% per annum and stock price volatility is 12.5% per annum. (CO3)	6
3.f.	Show how a currency SWAP agreement can be taken place. (CO4)	6
3.g.	"R-squared is a statistical measure that represents the percentage of a fund portfolio or a security's movements". Justify.(CO5)	6

SECTION C 50

4. Answer any one of the following:-

4-a.	Mr. X belongs to 30% tax bracket. He has an option ton invest in 11% taxable corporate bonds or 8% tax-free bonds. Which one and why be selected by him?(CO1)	10
4-b.	A mill owner enters into 3 months short wheat forward contract on 1st July, 2018 when the spot price was Rs. 10/ per Kg. One contract Is for delivery of 1,000 kgs . What is the gain/loss of the farmer if on maturity, the prevailing price is-(a) Ez.9 per kg, (b) Rs. 12/kg. ?(CO1)	10

5. Answer any one of the following:-

5-a.	"Wheat and rice are also tradeable in the derivative market". Prove it with suitable example.(CO2)	10
5-b.	Unilateral transfer or sale of the contract typically not allowed in forward market.(CO2)	10

6. Answer any <u>one</u> of the following:-

6-a.	A European style put option enables sale of dollar per Rs. 50.00 while it is quoted in spot market at Rs.48.00. Calculate the intrinsic value of the put option.(CO3)	10
6-b.	Option on ABC 500- Stock price=Rs.120, Call exercise price=Rs. 100, Exercise date=6Months, Estimated standard deviation=30%, current market price=Rs. 28 and Risk-free return=8%p.a. Calculate call option price of the stock as per Black Scholes model. (CO3)	10

7. Answer any <u>one</u> of the following:-

7-a.	"SWAPS are an agreement between two parties to exchange their future cash flow". Justify it. (CO4)	10
7-b.	Companies A and B have been offered the following rate per annum on a $20 million five-year loan: Company A - Fixed Rate 12% and LOBOR+0.1%(Floating Rate) Company B- Fixed Rate 13.4% and LOBOR+0.6%(Floating Rate) Companies A requires a floating rate loan, company B requires a fixed rate loan. Design a SWAP that will not a bank acting as intermediary 1.1% per annum and be equally attractive to both companies. (CO4)	10

8. Answer any <u>one</u> of the following:-

8	If you are an equity asset manager and wish to diversify away from stock, what credit derivative would you choose? (CO5)	10
8	The stock of Company Z sells for $ 50 per share, and the same offer the following payoffs for the next year: 1. Boom Economy Dividend $3.00 Stock Price $51 2. Good Economy Dividend $2.00 Stock Price $47 3. Normal Economy Dividend $1.60 Stock Price $44 4. Recession Economy Dividend $0.86 Stock Price $33 Calculate the Standard deviation when all the four scenarios are given are equally likely. (CO5)	10