ii. Differentiate between forward and futures derivatives. **6**

OR iii. List and explain the features of forward contract. **6**

Q.6 i. Explain the basic swap contract with the help of diagram. **4**

ii. What do you mean by interest rate swap? Explain with the help of example. **6**

OR iii. Companies Apple and Dell face the following interest rates **6**

Company	Apple	Dell
US dollars (Floating rate)	LIBOR + 0.5%	LIBOR + 1.0%
Canadian dollars (Fixed rate)	5.0%	6.5 %

Assume that Apple wants to borrow US dollars at a floating rate of interest and Dell wants to borrow Canadian dollars at a fixed rate of interest.

Design the swap equally attractive to the two companies.

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Total No. of Questions: 6 *Total No. of Printed Pages:4*

Enrollment No......................................

Faculty of Management Studies

End Sem (Even) Examination May-2022

MS5EF03 Financial Derivatives

Programme: MBA Branch/Specialisation: Management / Finance

Duration: 3 Hrs. **Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

Q.1 i. Which of the following is best described as selling a synthetic asset and simultaneously buying the actual asset? **1**

(a) Speculating (b) Arbitrage (c) Hedging (d) Diversifying

ii. Commodity options trading has started in India in Oct 2017 with which of the following commodity – **1**

(a) Gold (b) Silver

(c) Both (a) & (b) (d) None of these

iii. On expiry, the settlement price of a NIFTY futures contract will be **1**

(a) Opening price of NIFTY on the day of expiry

(b) Closing price of NIFTY on futures contract

(c) Closing price of NIFTY in spot market on the day of expiry

(d) None of these

iv. A farmer who must purchase his inputs now but will sell his corn at a market price at a future date - **1**

(a) Faces a market risk that cannot be offset.

(b) Is a good example of what is referred to as a speculator.

(c) Would hedge by taking the long position in a corn futures contract.

(d) Would hedge by taking the short position in a corn futures contract.

v. American-style options can be exercised – **1**

(a) Only at expiry date (b) Any time after expiration

(c) Any time before expiration (d) None of these

vi. Which of the following strategies will be profitable if the price of the underlying asset is expected to decrease? **1**
(a) Selling a put (b) Selling a call
(c) Buying a put (d) Both (b) & (c)

vii. Type of contract which involves future exchange of assets at a customized price is classified as – **1**
(a) Future contracts (b) Present contract
(c) Spot contract (d) Forward contract

viii. In a forward contract the party who commits to sell an asset at a specified date in the future takes a(n) position, and the party who commits to buy an asset at a specified date in the future takes a(n) position - **1**
(a) Open; closed (b) Closed; open
(c) Short; long (d) Long; short

ix. Amount of money involved in swap transaction is classified as – **1**
(a) Notion principal (b) Swap principal
(c) Transaction principal (d) Time value of swap

x. Type of swaps in which fixed payments of interest are exchanged by two counter parties for floating payments of interest are called – **1**
(a) Float-fixed swaps
(b) Interest rate swaps
(c) Indexed swaps
(d) Counter party swaps

Q.2 i. What do you mean by OTC derivatives? How does it differ from exchange traded derivatives? **4**

ii. Derivatives are the tools to hedge the risk and speculate. Explain. **6**

OR iii. Explain meaning of term ‘derivatives’. Explain different types of derivatives. **6**

Q.3 i. How do futures market work? **3**

ii. On 15th Nov 2017, futures of L&T is purchased by Mr. X with a exercise price of Rs. 1600. Lot size of 400. If the initial margin deposit is at 20% of the transaction, calculate MTOM margin for buyer of futures. **7**

Date	Settlement Price (in Rs.)
15 Nov	1610
16 Nov	1620
17 Nov	1600
20 Nov	1650
21 Nov	1580
22 Nov	1570

OR iii. Ms. A has short two futures contract of Cotton at Rs. 18090, each contract has lot size of 100kg and requires a initial margin of Rs.5000 per contract. The maintenance margin is Rs. 3000 per contract. Show the margin account balance of Ms. A when the price movement was – **7**

Date	Closing Price (in Rs.)
8th Nov	18070
9th Nov	18085
10th Nov	18100
13th Nov	18050
14th Nov	18120
15th Nov	18165
16th Nov	18200

Q.4 i. What is Put Call Parity? Explain with the help of formula. **3**

ii. Explain the following with the help of diagram – **7**
(a) Strip strategy (b) Butterfly strategy

OR iii. Following two call options are available on a stock of company. **7**

Option	Strike Price (in Rs.)	Premium (in Rs.)
Call	155	20
Call	195	10

(a) Devise a Bull Spread Strategy using above options
(b) Determine the payoff for different price range.
(c) Represent the scheme graphically. Also show the BEP.

Q.5 i. Explain the mechanism of forward contract. **4**

Marking Scheme
MS5EF03 Financial Derivatives

Q.1	i.	Which of the following is best described as selling a synthetic asset and simultaneously buying the actual asset? (b) Arbitrage			**1**
	ii.	Commodity options trading has started in India in Oct 2017 with which of the following commodity – (a) Gold			**1**
	iii.	On expiry, the settlement price of a NIFTY futures contract will be (c) Closing price of NIFTY in spot market on the day of expiry			**1**
	iv.	A farmer who must purchase his inputs now but will sell his corn at a market price at a future date - (d) Would hedge by taking the short position in a corn futures contract.			**1**
	v.	American-style options can be exercised – (c) Any time before expiration			**1**
	vi.	Which of the following strategies will be profitable if the price of the underlying asset is expected to decrease? (d) Both (b) & (c)			**1**
	vii.	Type of contract which involves future exchange of assets at a customized price is classified as – (d) Forward contract			**1**
	viii.	In a forward contract the party who commits to sell an asset at a specified date in the future takes a(n) position, and the party who commits to buy an asset at a specified date in the future takes a(n) position - (c) Short; long			**1**
	ix.	Amount of money involved in swap transaction is classified as – (a) Notion principal			**1**
	x.	Type of swaps in which fixed payments of interest are exchanged by two counter parties for floating payments of interest are called – (b) Interest rate swaps			**1**
Q.2	i.	OTC derivatives		2 marks	**4**
		Differences		2 marks	
	ii.	Hedging with example		3 marks	**6**
		Speculation with example		3 marks	
OR	iii.	Derivatives		2 marks	**6**
		Any four types with description	(1 mark * 4)	4 marks	
Q.3	i.	Working of futures market		3 marks	**3**
	ii.	Initial margin calculation		1 mark	**7**
		MTOM margin calculation	(1 mark * 6)	6 marks	
OR	iii.	Correct profit and loss calculation	(1 mark * 7)	7 marks	**7**
Q.4	i.	Put Call Parity		2 marks	**3**
		Formula with description		1 mark	
	ii.	(a) Strip strategy with diagram		3.5 marks	**7**
		(b) Butterfly strategy with diagram		3.5 marks	
OR	iii.	(a) Bull Spread Strategy with description		2 marks	**7**
		(b) Payoff for different price range		3 marks	
		(c) Represent the scheme graphically		2 marks	
Q.5	i.	Mechanism of forward contract		2 marks	**4**
		Example		2 marks	
	ii.	Any six differences	(1 mark * 6)	6 marks	**6**
OR	iii.	Any six features	(1 mark * 6)	6 marks	**6**
Q.6	i.	Swap contract explanation		2 marks	**4**
		Diagram / Example		2 marks	
	ii.	Interest rate swap		3 marks	**6**
		Example		3 marks	
OR	iii.	Initial position with description		2 marks	**6**
		Advantage from swap		2 marks	
		Swap with block diagram		2 marks	