**Enrollment No......................................**

Faculty of Management Studies

End Sem Examination Dec-2023

MS5EF15 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. Financial derivatives include: **1**
(a) Forwards (b) Options
(c) Futures (d) All of these

ii. Which of the following is a reason to hedge a portfolio? **1**
(a) To increase the probability of gains
(b) To limit exposure to risk
(c) To profit from capital gains when interest rates fall
(d) All of these

iii. A Future contract that requires the investor to sell securities on a future date is called a: **1**
(a) Short contract (b) Long contract
(c) Hedge (d) Micro hedge

iv. Forward contracts are risky because they: **1**
(a) Are subject to lack of liquidity
(b) Are subject to default risk
(c) Hedge a portfolio
(d) Both (a) and (b)

v. The amount paid for an option is known as: **1**
(a) Strike price (b) Premium
(c) Discount (d) Commission

vi. An option that can be exercised at any time up to maturity is called: **1**
(a) Swap (b) Stock option
(c) European option (d) American option

vii. A strangle is an investment strategy that combines: **1**
(a) A call and a put for the same expiry date but at different strike prices
(b) Two puts and one call with the same expiry date
(c) Two calls and one put with the same expiry dates
(d) A call and a put at the same strike price and expiry date

viii. A trader buys two June expiry call options each at a strike price of Rs. 200 and Rs. 220 and sells two call options with a strike price of Rs. 210, this strategy is: **1**
(a) Bull Spread (b) Bear call spread
(c) Butterfly spread (d) Calendar spread

ix. The disadvantage of swaps is that they: **1**
(a) Lack of liquidity (b) Suffer from default risk
(c) Both (a) and (b) (d) None of these

x. A simultaneous purchase and sale of foreign exchange for two different dates is called: **1**
(a) Currency devalue (b) Currency swap
(c) Currency valuation (d) Currency exchange

Q.2 i. What is option contract? **2**
ii. Explain in detail the various features of derivatives market. **8**
OR iii. Discuss the different types of traders working in derivatives market. **8**

Q.3 i. Discuss any two features of forward contract. **2**
ii. Explain in detail the mechanics of forward market & future market. How they are different from each other? **8**
OR iii. Describe the different Hedging & Arbitrage strategies used in Future trading. **8**

Q.4 i. What is payoffs from options? **2**
ii. Explain with proper example the various determinants of options pricing. **8**
OR iii. Explain Black – Scholars Merton Model and binomial of option pricing with proper example. **8**

Q.5 i. What is principal protected notes? **2**



ii. Describe with proper example Straddles & Strangles trading strategies involving options. **8**
OR iii. An Investor holds a long position of a share at Rs 110 and pays premium of Rs 10. Due to the sudden market crash he shorts the same stock at Rs 110. In this condition, what will be the payoff at different market price? **8**

Q.6 i. Write a short note on two types of financial swaps. **4**
ii. Companies A and B have been offered the following rates per annum on a 100 lacs rupee loan for 5 year. **6**

| | Fixed Rate | Floating rate |
|---|---|---|
| Company A | 12.0 % | MIBOR + 0.1 % |
| Company B | 14.5 % | MIBOR + 0.9 % |

Company A requires a floating rate loan; Company B requires a fixed rate loan. Design a swap test will set a bank, acting as intermediatory, 0.1 % per annum and that will appear equally attractive to both companies.

OR iii. Company X and Y have been offered the following rates per annum on a $ 5 million 10 – year investment: **6**

| | Fixed Rate | Floating rate |
|---|---|---|
| Company X | 8.0 % | LIBOR |
| Company Y | 8.8 % | LIBOR |

Company X requires a fixed rate investment. Company Y requires a floating rate investment. Design a swap test that will set a bank, acting intermediatory, 0.2 % per annum and that will appear equally attractive to both the companies.

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*Total No. of Questions: 6*

*Total No. of Printed Pages:3*

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Q.8 iii

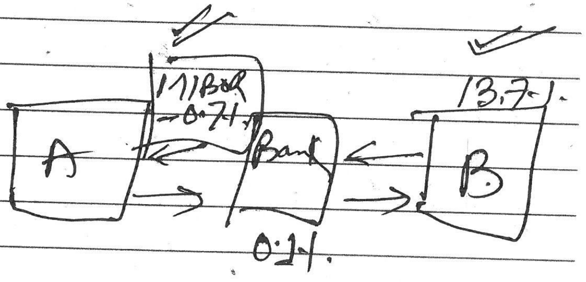
| | Long 100 | Short 110 | Net Pay |
|---|---|---|---|
| 60 | 0 | 10 | 0 |
| 70 | 0 | 10 | 0 |
| 80 | 0 | 10 | 0 |
| 90 | 0 | 10 | 0 |
| 100 | 0 | 10 | 0 |
| 110 | 0 | 10 | 0 |
| 120 | 10 | 10 | 0 |
| 130 | 20 | 0 | 10 |
| 140 | 30 | 0 | 20 |
| 150 | 40 | 0 | 30 |

| | Long @ 110 | Short @ ... |
|---|---|---|
| 60 | | |
| 70 | | |
| 80 | | |
| 90 | | |
| 100 | | |
| 110 | | |
| 120 | | |
| 130 | | |
| 140 | | |
| 150 | | |

#6
(ii)
The spread between the interest rates offered to A&B is 2.5% ~~and~~ per annum on fixed rate loan and 0.8% per annum on floating rate loan. This means that the apparent benefit to all parties from the Swap is 1.7%. 0.1% of this will go to the bank. This leaves 0.8% per annum for each A&B.
In other words. Company A shows able to pay MIBOR-0.7%

~~#~~ Q.6 (iii) Investment

The spread between the interest rates offered to X and Y is 0.8% per annum on fixed rate investments and 0.0% per annum on floating rate investments. This means that the total apparent benefit to all parties from the Swap is 0.8%. Of this 0.2% per annum will go to the bank. This leaves 0.3% per annum for each X&Y. In other words Company X shows able to get a fixed-rate return of 8.3% per annum while company Y should ~~able to~~ earn floating-rate return and B will pay 13.7% per annum fixed rate.




Bank Charge.

LIBOR + 0.3% per annum

SWAP is shown below