AS–803

M.B.A. Semester—IV Examination

FINANCIAL DERIVATIVES

Paper—MBA/4103/CGF

Time : Three Hours] [Maximum Marks : 70

Note :—(1) Attempt **ALL** questions.

(2) Figures to the right indicate marks.

(3) Use of scientific calculator is allowed.

SECTION—A

1. (a) Explain the features of an over-the-counter market. What are the advantages of OTC contracts vis-a-vis exchange traded contracts ? 14

OR

(b) Since a forward market already existed, why was it necessary to establish currency futures and currency options contracts ? 14

SECTION—B

2. (a) What is the difference between the forward price and the value of a forward contract ? 7

(b) The 2-months interest rates in Switzerland and India are, respectively, 3% and 6% per annum with continuous compounding. The spot price of the Swiss Franc is ₹ 33.778 and the 2-month forward rate is ₹ 33.924. What arbitrage opportunities does this create ? 7

OR

(c) Explain the characteristics of a forward contract. 7

(d) Silver is currently trading in the bullion market at a price of ₹ 14,750 /kg. A one-year forward price is ₹ 15,700. The appropriate carrying cost is 7.5%. Is there an arbitrage opportunity ? If so, how can this be exploited ? 7

3. (a) Explain in detail the procedure for valuing a swap. 7

(b) Companies A and B have been offered the following rates per annum on a ₹ 10 million loan for 5 years :

	Fixed Rate	Floating Rate
Company A	12%	MIBOR + 0.1%
Company B	14.5%	MIBOR + 0.9%

Company A requires a floating-rate loan; B requires a fixed-rate loan. Design a swap that will net a bank, acting as intermediary, 0.1% per annum and that will appear equally attractive to both companies. 7

OR

(c) Define swap. Explain the role of financial intermediary in a swap contract. 7

(d) On Oct. 1, 2014, the spot term structure is as follows :

12 Months	24 Months	36 Months	48 Months
2.52%	5.08%	7.73%	10.4%

Determine the fixed rate on a 4-year swap for the pay fixed party. 7

SECTION—C

4. (a) Define future contract. Explain the characteristics of a future contract. 7

(b) What is meant by convergence ? What happens if there is no convergence between spot and futures price ? 7

OR

(c) Explain what is meant by basis risk when futures contracts are used for hedging. 7

(d) A futures contract is used for hedging. Explain why the marking to market of the contract can give rise to cash flow problems. 7

SECTION—D

5. Consider a 4-months European call option on the British-Pound. Suppose that the current exchange rate is 1.6000, the exercise price is 1.6000, the risk-free interest rate in United States is 8% per annum, the risk-free interest rate in Britain is 11% per annum and the options price is 4.3 cents. Calculate the implied volatility of the option. 14