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 full marks.

(3) Use of Scientific Calculator is allowed.

SECTION—A

1. (a) What do you understand by Financial Derivatives ? Explain the term basic derivatives and complex derivatives. Discuss different types of basic and complex derivatives. 14

OR

(b) Discuss carefully the various participants of derivatives market. Also, explain their role in mobilizing the derivatives market. 14

SECTION—B

2. (a) What is meant by cash settlement of a futures contract ? Explain with the help of an example. 7

(b) A Company has Rs. 2 million portfolio with a beta of 1.2. It would like to use futures contracts on the Nifty 50 to hedge its risk. The index is currently standing at 4200 and each contract is for delivery of Rs. 200 times the index. What is the hedge that minimizes risk ? What should the company do if it wants to reduce the beta of the portfolio to 0.6 ? 7

OR

(c) Explain why a short hedger's position improves when the basis strengthens unexpectedly and worsens when the basis weakens unexpectedly ? 7

(d) A stock index currently stands at 4260. The risk-free interest rate is 6% per annum (with continuous compounding) and the dividend yield on the index is 4% per annum. What should the futures price for a 3 month Contract be ? 7

3. (a) Explain why a bank is subject to credit risk when it enters into two offsetting swap contracts. 7

(b) Company X and Y have been offered the following rates per annum on a $ 5 million 10 years investment :

	Fixed rate	Floating rate
Company X	8%	LIBOR
Company Y	8.8%	LIBOR

Company X required fixed rate while Y required floating rate investment. Design a swap that will net a bank acting as intermediary 0.2% per annum and will appear equally attractive to X and Y. 7

OR

(c) Define Currency Swap. Explain in detail procedure for valuing a currency swap. 7

(d) Design a swap deal for 'P' and 'Q' when they face the following interest rates :

(i) With intermediary who intends to make 75 bps 3½

(ii) Without an intermediary. 3½

Company	Fixed	Floating Rate
P	8.75%	CP yield + 65 BPS
Q	6.25%	CP yield + 25 BPS

SECTION—C

4. (a) Define Forward Contract. Explain the properties of the forward contract. 7

(b) Are forward prices and futures prices equal ? Explain. 7

OR

(c) Distinguish between forward contract and futures contract. 7

(d) A perfect hedge strategy can be designed using forward contacts. Do you agree ? Justify. 7

SECTION—D

5. A stock price is currently Rs. 50. Over each of the next two 3 month periods it is expected to go up by 6% or down by 5%. The risk-free interest rate is 5% per annum with continuous compounding. What is the value of :

(a) A 6 month European call option with a strike price of Rs. 51 ? 7

(b) A 6 month American call option with a strike price of Rs. 51 ? 7