# 2016

## MBA

### 3rd Semester Examination

### FINANCIAL ENGINEERING

### (Specialisation : Financial Management)

#### PAPER—F-304

*Full Marks :* 100

*Time :* 3 Hours

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

*Illustrate the answers wherever necessary.*

*Question Nos. 1 & 2 are compulsory.*

Answer any other *four* from the rest.

1. Answer any *four* questions :                    4×5

   (a) When did 'Financial Engineering' originate ? Which factors caused it to develop ?

   (b) What physical tools have been engineered by financial engineering ? Give a brief account of such tools.

*(Turn Over)*

(c) Distinguish between Fixed and Floating rates. Which rate is preferred and why ? 3+2

(d) Explain the terms Hedging, Speculation and Arbitrage. Also identify their distinctive features. 3+2

(e) What is Asset-Liability Management of a bank ? Indicate its objectives and importance.

(f) How is Financial Analysis different from Financial Engineering ?

2. Answer any *four* questions : 4×5

(a) What do you mean by Cash Reserve Ratio ? What is the main purpose of such a regulation ? What way is it different from Reserve Repo ? 2+1+2

(b) Write a note on 'Innovative Debt Instruments'.

(c) In the context of Currency Options, distinguish between (i) American Option and European Option and (ii) Exercise rate and Spot rate.

(d) Explain, with the help of an example, the operation of 'Marking to Market' in case of a futures contract.

(e) Explain the role of clearing house in the market for currency futures.

(f) What is Cross exchange rate ? How can you determine cross exchange rate in spot market and in forward market ? Give example.

3. Give a complete flow chart of a new Product Development Model. Also explain in detail the 'Design' stages of the model.

3+7

4. What is a hybrid security ? What are the different types of hybrid instruments ? Describe the features of any two such instruments. 2+3+5

5. Suppose that the current spot exchange rate is €1.50/£ and the one-year forward exchange rate is €1.60/£. The one-year interest rate is 5.4% in euros and 5.2% in pounds. You can borrow at most €1,000,000 or the equivalent pound amount, i.e., £666.667, at the currect spot exchange rate.

   (i) Show how you can realize a guaranteed profit from covered interest arbitrage. Assume that you are a euro-based investor. Also determine the size of the arbitrage profit.

   (ii) Suppose you are a pound-based investor. Show the covered arbitrage process and determine the pound profit amount. 5+5

*(Turn Over)*

**6.** What do you mean by liquidity risk of a bank ? What are the approaches to measure it ? What ratios are used to measure the risk ?                                     2+2+6

**7.** (a) How can you compute Direct Exchange Rate using Cross Rates under transaction cost regime ?

(b) Why are margins maintained with respect to a currency futures contract but not with currency forward contracts ?                                     5+5

**8.** (a) Draw the Pay-off profile of a Currency Futures contract on the basis of an example and assuming suitable exchange rate data.

(b) To avoid the risk of fluctuations in Rupee-(US) Dollar exchange rate on an export proceeds of \$62,500 an Indian exporter buys a put option with an option premium of 0.05 per dollar and an exercise price of \$1 = Rs. 67.30. What decisions the exporter will take to exercise the contract or not to exercise it depending on the following alternative spot rates :

(i) \$1 = Rs. 67.20 and (ii) \$1 = Rs. 67.60 ?                5+5

**[ Internal Assessment : 20 ]**