FINAL EXAMINATION

December 2016

P–14(AFM)
Syllabus 2012

Advanced Financial Management

Time Allowed: 3 Hours

Full Marks: 100

The figures on the right margin indicate full marks.

All workings must form part of your answers.

Wherever necessary, suitable assumptions may be made and clearly stated in the answer.

No present value table or other statistical table will be provided in addition to this question paper.

Candidates may use relevant values from the information given at the end of the question paper for computation of answers.

*This paper contains two sections, **A** and **B**. **Section A** is compulsory and contains question **1** for **20** marks.*
***Section B** contains questions **2** to **8**, each carrying **16** marks.*
*Answer **any five** questions from **Section B**.*

Section A

1. (a) Answer *all* sub-divisions. Each carries 2 marks: 2×7=14

(i) The following particulars relate to a mutual fund scheme:

Sector	Investment in shares (at cost) ₹ crores	Index on Purchase Date	Index on Valuation Date
IT and ITES	28	1750	2950
Infrastructure	15	1375	2475

The outstanding number of units is 1·25 crores.

Calculate the Net Asset Value (NAV) per unit.

(ii) The capital of R Ltd as on 31-03-2016 is as follows:

9% Preference Shares of ₹ 10 each	8,00,000
Equity Shares of ₹ 10 each	14,00,000

Profit after tax during the year = ₹ 3,60,000

Equity Dividend paid = 20%

Market Price of equity shares = ₹ 40 per share

Calculate the Earnings per share (EPS) and the Price Earning Ratio.

(iii) A convertible bond with face value of ₹ 10,000 is issued at ₹ 13,500 with coupon rate of 10·5%. The conversion rate is 15 shares per bond. The current market price of bond and share are ₹ 14,750 and ₹ 800 respectively. Compute the premium over conversion value.

(iv) State 4 features of Government Securities.

(v) What are the guidelines governing privately managed provident funds regarding the minimum per cent of investment?

(vi) An investor has two portfolios known to be on minimum variance set for a population of three securities A, B and C having weights mentioned below:

	WA	WB	WC
Portfolio X	0·3	0·4	0·3
Portfolio Y	0·2	0·5	0·3

What would be the weight for each stock for a portfolio constructed by investing ₹ 5,000 in portfolio X and ₹ 3,000 in portfolio Y?

(vii) What is an entry load and an exit load in the context of a Mutual Fund?

(b) State whether each of the following statements is 'True' or 'False'. Each question carries one mark. (You may write the Roman numeral and whether True or False without copying the situations into your answer books.) 1×6=6

(i) The delta of a stock option is the number of units of stock one should hold per 100 options sold to create a risk-free hedge.

(ii) Forward contracts have more potential for default risks than futures.

(iii) Bridge Finance refers to loans taken by a company from its promoters until loans are disbursed by Financial Institutions.

(iv) Operating lease can be cancelled by the lessee before the expiry date.

(v) No prior approval of RBI is required for issue of Commercial Paper.

(vi) In India, the credit rating symbol for moderate safety is BB.

Section B

2. (a) A petrochemical plant needs to process 32000 barrels in three months' time. The spot price per barrel is ₹ 8,775. A futures contract expiring three months from now is selling for ₹ 9,800 per barrel.

Assume that the size of one futures contract is 100 barrels.

The plant wants to hedge through futures.

Answer the following questions:

(i) What would its position be in the futures market?

(ii) How should the plant hedge itself against a price change after three months?

(iii) How many futures should be transacted and in what manner?

(iv) Explain and arrive at the effective price per barrel under the hedging strategy that would be paid by the plant if after 3 months, the price per barrel

- declines to ₹ 7,900

- increases to ₹ 10,600 8

(b) A Mutual Fund Company has introduced a scheme called Dividend Reinvestment Plan. The face value of a unit is ₹ 10. On 01-04-2011, Mr. K invested ₹ 2,00,000 in this plan when the Net Asset Value (NAV) was ₹ 38·20 per unit. The plan matured on 01/10/2016. The following are the particulars of the dividend declared over the period:

Date	Dividend (%)	NAV (₹)
30/09/2011	10	39·10
30/09/2013	15	44·20
30/09/2014	13	45·05
30/09/2015	16	44·80
01/10/2016		40·40

Ignore Security Transaction Tax.

What is the effective yield per annum on the above plan? 8

3. (a) The following data relate to JB Ltd's share price:

Current Price: ₹ 3,000 per share

6 months' future price = ₹ 3,500 per share

It is possible to borrow money in the market for transactions in securities at 12% p.a. Consider continuous compounding of interest.

Assume that no dividend was paid in the intervening period.

You are required to calculate the theoretical minimum price of a 6 months' forward purchase and explain the possible arbitrage opportunity. 8

(b) Expected returns on two stocks for certain market returns are given below:

Market Return	A	D
7%	9%	4%
25%	40%	18%

Calculate the following:

(i) Beta of the two stocks

(ii) Expected return of each stock if the market return is equally likely to be 7% or 25%.

(iii) The Security Market Line(SML), if the market return is equally likely to be 7% or 25%.

(iv) The alpha of the two stocks. 8

4. (a) G Ltd., an Indian Company has a payable of US $ 1,20,000 due in 3 months. The company wishes to cover the risk through the best of the following alternatives:

(i) Forward Contract (ii) Money market and (iii) Options.

The following information is available with the company:

Exchange Rate: Spot: ₹/$ 68·25 / 68·32

3-months Forward: ₹/$ 68·85 / 69

Interest Rates (%) p.a. with annual rests:

US 6·5 / 7 (Deposit/Borrow)

India 15 / 16 (Deposit/Borrow)

Call option on $ with strike price of ₹ 69 is available at a premium of ₹ 0·10/$.

Put option on $ with a strike price of ₹ 69 is available at a premium of ₹ 0·05/$.

The Accounts Department of the company forecasts the future spot rate after 3 months to be as follows:

Spot Rate after 3 months (₹/$)	Probability
68·40	0·10
69·00	0·60
69·60	0·30

You are required to advise G Ltd. the best alternative among the three with supporting calculations and relevant figures. 12