FINAL EXAMINATION

June 2016 **P-14(AFM)**

Syllabus 2012

Advanced Financial Management

Time Allowed: 3 Hours Full Marks: 100

The figures in the margin on the right side indicate full marks.

All workings must form part of your answer.

Wherever necessary, suitable assumptions may he 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 information given at the end of the question paper for computation of answers.

This paper contains two sections, A and B. Section A contains question 1 for **20** marks which is compulsory. 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: 2x7=14

(i) A safety mutual fund that had a net asset value of ` 20 at the beginning of a month, made income and capital gain distribution of ` 0.06 and ` 004 respectively per unit during the month and then ended the month with a net asset value of ` 20.25. Calculate the monthly return.

(ii) Mr. Ravi is planning to purchase the shares of X Ltd. which had paid a dividend of ` 2 per share last year. Dividends are growing at a rate of 10%. What price would Mr. Ravi be willing to pay for X Ltd.' s shares if he expects a rate of return of 20%`

(iii) The spot price of securities of X Ltd. is ` 160. With no dividend, and no carrying cost, compute the theoretical forward price of the securities for 1 month. You may assume a risk free interest rate of 9% p.a.

(iv) It is given that ` / £ quote is f 94-30 - 95-20 and that ` / $ quote is 66-25 - 66-45. What would be the$/£ quote?

(v) When are call options and put options said to be 'in the money' in the futures market?

(vi) A firm has an equity beta of 1-40 and is currently financed by 25% debt and 75% equity. What will be the company's equity beta if the company changes its financing policy to 33% debt and 67% equity? [Assume corporate tax at 35% and zero debt beta]

(vii) XYZ Ltd. has a uniform income that accrues in a 4-year business cycle. It has an average EPS of ` 20 (per share of ` 100) over its business cycle. Find out the cost of equity capital, if market price is X 175.

(b) State whether each of the following is True (T) or False (F). Each question carries 1 mark: 1x6=6

(i) Inter Bank Participation Certificate (IBPC) can be issued by any Scheduled Commercial Bank and its interest rates are freely determined in the market.

(ii) Arbitrageurs are interested in making purchases and sales in different markets at different times to profit from the price discrepancy between the markets.

(iii) At least 60% of the assets of an Infrastructure Debt Fund should be invested in debt securities or securitized debt instruments of infrastructure companies.

(iv) In a yield based auction, successful bidders are those who have bid at or below the cut off yield, whereas in a price based auction, successful bidders are those who have bid at or above the cut-off price.

(v) A straddle is a strategy that is accomplished by holding an equal number of puts and calls with the same strike price and expiration dates.

(vi) Treasury Bills are not eligible for Repo transactions.

Section B

Answer any five questions. Each question carries 16 marks.

2. (a) The following information is available regarding three Mutual Funds:

Mutual Fund	Average Return	Standard Deviation	Correlation with market
A	24%	8%	0-30
B	16%	4%	0-70
C	12%	3%	0-50

If the risk free return is 6%, return on market portfoho is 15% with a standard deviation of 4% ascertain:

(i) Total Gain and the Net Gain under Fama's Net Selectivity.

(ii) Systematic Risk and Unsystematic Risk. 4+4=8

(b) The equity shares of R Ltd. are being sold at ` 210. A 3-month call options is available for a premium of ` 6 per share and a 3 month put option is available for a premium of ` 5 per share.

Find out the net pay off of the option holder of the call option and put option given

that: (i) the strike price in both cases is ` 220, and

(ii) the share price on the exercise day is ` 200 or ` 210 or` 230 or ` 240. . 8

3. (a) The stock of B Ltd. performs well relative to other stocks during recessionary periods. The stock of C Ltd., on the other hand, does well during growth periods. Both the stocks are currently selling for ` 100 per share. The rupee return (dividend plus price) of these stocks for the next year as follows:

Economic Condition	Probability	Return on B's stock	Return on C's stock
High growth	0.3	50	75
Low growth	0.4	55	65
Stagnation-	0.2	60	45
Recession	0.1	70	30

Calculate the expected return and standard deviation of investing in each of the following:

(i) ` 2,000 in the equity stock of B Ltd.

(ii) ` 2,000 in the equity stock of C Ltd. 5+5=10

(b) A company is considering a proposal of installing a drying equipment. The equipment would involve a cash outlay of ` 6,00,000 and net working capital of ` 80,000. The expected life of the project is 5 years without any salvage value. Assume that the company is allowed to charge depreciation on straight line basis for income tax purpose. The estimated before-tax cash inflows (`' 000) are given below:

Year-end	**r**	2	3	4	5
Before-tax cash inflows	240	275	210	180	160

The applicable income-tax rate of the company is 35%. If the company's cost of capital is 12%, calculate the equipment's discounted payback period, and net present value. 6

4. (a) A Portfolio Manager has the following four stocks in his portfolio:

Security	No. of shares	Market price (`) per Share	P = Beta
VL	12,000	40	0.9
CL	6,000	20	1.0
SL	10,000	25	1.5
AL	2,000	225	1.2

Compute the following:

(i) Portfolio Beta (p)

(ii) If the Portfolio Manager seeks to reduce the Beta to 0.8, how much risk-free investment should he bring in? Verify the result. 10

(b) State any six RBI Guidelines relating to Infrastructure Debt Fund Schemes (IDF Schemes). 6

5. (a) A firm has an investment proposal requiring an outlay of ` 1,92,000. The Investment proposal is expected to have two years economic life with no salvage value. In year-end 1, there is a 0.4 probability that cash inflow after tax will be ` 1,20,000 and 0.6 probability that cash inflow after tax will be ` 1,44,000. The probability assigned to cash in flows after tax for the 2nd year-end are as follows:

The cash inflow year-end	` 1,20,000		` 1,44,000	
1 The cash inflow		Probabilit		Probabilit
year-end 2		y		y
	Rs.57,600	0.2	96,000	0.4
	` 76,800	0.3 0.5	1,20,000	
	` 1,05,600	0.5	1,44,000	0.10

The firm uses 8% discount rate for this type of investment.

(i) Construct a decision tree for the proposed Investment project and calculate the expected Net Present Value.

(ii) What is the most likely NPV of the project and what is the corresponding probability?

(iii) What is the probability of the project having a negative NPV? 4+2+2=8

(b) Mr. G, on 01.07.2013, during the initial offer of some mutual fund invested in 20,000 units having face value of ` 20 per unit.

On 31.03.2014, the dividend operated by the Mutual Fund was 10% and Mr. G found that his annualised yield was 153.33%.

On 31.03.2015, 20% dividend was given.

On 31.03.2016, Mr. G redeemed all his balance of 22,600 units when his annualised yield was 73.52%.

What is the Net Asset Value (NAV) as on 31.03.2016? 8

6. (a) A share is currently priced at ` 600. It is known that at the end of one month, it will be either ` 570 or ` 630. The risk-free interest rate is 8% per annum with continuous compounding. Find the value of a 1-month European call option with a strike price of ` 592, with the help of a Binomial Model. 8

(b) K Ltd. has the following capital structure as per its Balance Sheet as at 31st March, 2016.

	` in lakhs
Equity share capital (fully paid shares of ` 10 each)	4
18% Preference share capital (fully paid shares of ` 100 each)	3
Retained earnings	1
12.5% Debentures (fully paid of ` 100 each).	8
12% Term Loan	4
	20

Additional Information:

(i) The current market price of the company's equity share is'` 64.25. The dividend expected on the equity share at the end of year is at 80% which is expected to grow @ 5 % p.a. forever.

(ii) The preference shares of the company which are redeemable after 10 years are currently selling at f 90 per preference share.

(iii) The debentures of the company which are redeemable after 5 years are currently quoted at ` 95 per debenture.

(iv) The corporate tax rate is 30%.

Calculate the weighted average cost of capital using Market Value Weights. 8

7. (a) Hindus Ltd. has to make US $ 5 million payment in three months' time. The required amount in dollars is available with Hindus Ltd. The management of the company decides to invest if for three months and the following information is available in this context:

The US $ deposit rate is 7% per annum.

The Sterling-Pound deposit rate is 9% per annum.

The spot exchange rate is $ 1.42 / £.

The three month forward rate is $ 1.40 / £.

Answer the following questions:

(i) Where should the company invest for better returns?

(ii) Assuming that the interest rates and spot exchange rate remain as above, what forward rate would yield an equilibrium situation

(iii) Assuming that the US interest rate and the spot and forward rates remain as above, where should the company invest if the Sterling-Pound deposit rate were 12% per annum?

(iv) With the originally stated spot and forward rates and same dollar deposit rate, what is the equilibrium Sterling-Pound deposit rate? 3+3+2+2=10

(b) Classify the following participants of the commodity market under the appropriate category—Hedgers,
Speculators and Arbitrageurs: 1x6=6

(i) Warehousing Companies
(ii) Brokerage Houses
(iii) Food Processing Companies
(iv) Farmers
(v) Commodity Consumers
(vi) Retail Investors

8. Answer any four of the following:. 4x4=16

(a) Differentiate between capital market and money market With respect to the following aspects: (i) Type of Investment (ii) Participants (iii) Regulators (iv) Risk

(b) List four advantages of the book building process.

(c) State four objectives of cross border leasing.

(d) What are the situations in which Net Present Value (NPV) and Internal Rate of Return (ITR) give conflicting results?

(e) Write a short note on Liquidity Adjustment Facility (LAF).

Table values/measures for use in various answers.

$e^{0.0075}$	=	1.007528
$e^{0.007}$	=	1.00702
$e^{0.07}$	=	1.07250

PV factors:

Year-end	1	2	3	4	5
PV factor @ 12%	0.8929	0.7972	0.7118	0.6355	0.5674
PV factor @ 14%	0.8772	0.7695	0.6750	0.5921	0.5194
PV factor @ 15%	0.8696	0.7561	0.6575	0.5718	0.4972
PV factor @ 4.2%	0.9597	0.9210	0.8839	0.8483	0.8141
PV factor @ 7.8%	0.9276	0.8605	0.7983	0.7405	0.6869
PV factors @ 8%	0.9259	0.8573	0.7938	0.7350	0.6806