

FINAL EXAMINATION

June 2015

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

No present value table or other statistical table will be provided along with this question paper.

1. All sub-divisions are compulsory:

2×10=20

(a) X purchased 182 days, Indian T-Bills of face value 35 lacs at an issue price of P. If the effective yield is 10% for the T-Bill, determine P.

(b) You can earn a return of 15% by investing in equity shares on your own. You are considering a recently announced equity mutual fund scheme where the initial issue expense is 5%. You believe that the mutual fund scheme will earn 18%. At what recurring expenses (in percentage terms) will you be indifferent between investing on your own and investing through the mutual fund?

(c) M Ltd. and N Ltd. have the following risk and return estimates:

R_M	R_N	σ_M	σ_N	(Correlation coefficient) = r_{MN}
22%	25%	18%	15%	0.5

Calculate the proportion of investment in M Ltd. and N Ltd. to minimize the risk of the Portfolio.

(d) Ram sold in July Nifty futures contract for ₹ 5,00,000 on July 15. For this he had paid an initial margin of ₹ 50,000 to his broker. Each Nifty futures contract is for the delivery of 250 Nifties. On July 25, the index was closed at 1900. How much profit/loss has Ram made?

Please Turn Over

- (e) The Power Tech Ltd. has to select either project A or project B. Both the projects are mutually exclusive. The expected profits are as follows:

	Profit if there is strong Demand	Profit/(Loss) if there is weak Demand
Option A (₹)	10,000	(2,500)
Option B (₹)	6,000	2,000
Probability of Demand	0.3	0.7

Which project should be selected?

- (f) If the risk free rate of interest (R_f) is 12% and expected return as Market portfolio (R_m) is 18%, ascertain expected return of the portfolio, if portfolio betas are 0.10.
- (g) The following data in respect of three securities are available:

Security	σ (%)	Correlation with index
J	20	0.64
K	18	0.93
L	12	0.73

The standard deviation of market portfolio (BSE Sensex) is observed to be 18%.

What is the sensitivity of returns of each stock with respect to the market?

- (h) The following particulars are furnished about Mutual Fund Scheme P:

Dividend Distributed	₹ 1.75
Capital Appreciation	₹ 2.97
Opening NAV	₹ 32.00
Beta	1.46

Ascertain Jensen's Alpha. (Given Government of India Bonds carry an interest of 6.84% and NIFTY has increased by 12.13%).

(i) A company is considering projects X and Y with the following information:

Project	Expected NPV (₹)	Standard Deviation
X	1,06,000	75,000
Y	2,40,000	1,35,000

Which project will you recommend based on co-efficient of variation as a measure of risk?

(j) Nile Ltd. issues 12% debentures of face value ₹ 100 each and realized ₹ 90 per debenture. The debentures are redeemable after 12 years at a premium of 10%. The Company is paying tax of 35%. What will be the Cost of Debt?

2. Answer any three sub-divisions from (a) to (d):

8×3=24

(a) The following particulars relates to Gilt Fund Scheme:

1.	Investment in Shares (at cost)	
	IT and ITES Companies	₹ 20 Crores
	Infrastructure Companies	₹ 22 Crores
	FMCG	₹ 15 Crores
	Automotive	₹ 20 Crores
	Banking/Financial Services	₹ 8 Crores
2.	Cash and other Assets in Hand (even throughout the fund period)	₹ 4 Crores
3.	Investment in Fixed Income Bearing Bonds	
	Listed Bonds [10,000 10% Bonds of ₹ 10,000 each]	₹ 10 Crores
	Unlisted Bonds	₹ 10 Crores
4.	Expenses payable as on closure date	₹ 2 Crores
5.	Market Expectation on Listed Bonds	9%
6.	No. of Units Outstanding	4 Crores

Please Turn Over

The particulars relating to sectoral index are as follows:

Sector	Index on the date of purchase	Index on the valuation date
IT and ITES	1800	2800
Infrastructure	1400	2500
FMCG	1600	2500
Automotive	2000	3000
Banking/Financial Services	1500	2200

The Fund has incurred the following expenses:

Management Advisory Fees	₹ 260 Lakh
Administration Expenses	₹ 300 Lakh
Publicity and Documentation	₹ 100 Lakh
Total	₹ 660 Lakh

The period under consideration is 2 years. The Fund has distributed ₹ 1.5 per unit as annual cash dividend. Compute the annualised net return (%) and the expense ratio of the Fund. 8

- (b) (I) PS Fund invests exclusively in Public sector undertakings, yielded ₹ 4.85 per unit for the year. The opening NAV was ₹ 26.85. The Fund has a risk factor of 3.50%. Ascertain the Sharpe Ratio and compare the fund performance with market performance if
- Risk Free Return is 6%, if return on sensx is 16% with a standard deviation of 3.75%.
 - Risk Free Return is 5%, return on sensx is 18% with a standard deviation of 4%. 4

(II) Classify the following items under the appropriate category—Whether Money Market (MM) or Capital Market (CM):

- (i) RBI and Government are participants
- (ii) Regulated by SEBI
- (ii) Tenor of instruments is usually less than a year
- (iv) Treasury Bills
- (v) Commercial Papers
- (vi) Zero Coupon Bonds
- (vii) Equity Shares
- (viii) Debentures

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- (c) (I) A Petrochemical Plant needs to process 20,000 barrels of oil in three months' time. To hedge against the rising price the plants needs to go long on the futures contract of crude oil. The spot price of crude oil is ₹ 2,925 per barrel, while futures contract expiring three months from now is selling for ₹ 3,300 per barrel. By going long on the futures the petrochemical plant can lock in the procurement at ₹ 3,300 per barrel. Assuming the size of one futures contract of 100 barrels, the firm buys 200 futures to cover its exposure of 20,000 barrels.

Find out the price that would be payable under two scenarios of rise in price to ₹ 3,600 or fall in price to ₹ 2,700 per barrel after three months.

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(II) What are the differences between Merchant Banks and Commercial Banks?

4

- (d) (I) A Fund made an issue of 20 Lakh units of ₹ 10 each on January 01, 2014. No entry load was charged. It made the following investments:

	₹
1,00,000 equity shares of ₹ 100 each @ ₹ 160	160 Lakhs
7% Government Securities	16 Lakhs
9% Debentures (Unlisted)	10 Lakhs
10% Debentures (Listed)	10 Lakhs

During the year operating expenses were ₹ 10 Lakhs and in addition to interest dividend of ₹ 24 Lakhs was received.

You are required to calculate net cash balance and NAV per unit at the end of the year.

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(II) How would you manage risk in infrastructure projects?

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3. Answer any two sub-divisions from (a) to (c):

10×2=20

(a) (I) Given the following information:

BSE Index	25,000
Value of Portfolio	₹ 50,50,000
Risk Free Interest rate	9% p.a.
Dividend Yield on Index	6% p.a.
Beta of Portfolio	2.00

Assume that a futures contract on the BSE Index @ 50 units per contract with 4 months maturity is used to hedge the value of the portfolio over the next 3 months. Based on the information calculate the price of a future contract and the gain per contract on short futures position if Index turns out to be 22,500 in 3 months.

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(II) Explain the advantages of the Book Building Process.

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(b) (I) The following two-way quotes appear in the foreign exchange market—

	Spot Rate	1 month forward
₹/US\$	₹ 56/₹ 56.25	₹ 57/₹ 57.50

Required:

- (1) How many US Dollars should a firm sell to get ₹ 30 Lakhs after two months?
- (2) How many Rupees is the firm required to pay to obtain US \$ 2,40,000 in the Spot market?
- (3) Assume the firm has US \$ 69,000 Current Account's earning interest. ROI on Rupee investment is 10% p.a. should the firm encash the US \$ now 2 months later?

6

(II) Explain any two limitations of Credit Rating.

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