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FINAL EXAMINATION

June 2014

P14(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.

Answer Question No. 1 which is compulsory.

From Section A : Answer any two questions.

From Section B : Answer any one question.

From Section C : Answer any one question.

From Section D : Answer any one question.

1. Answer all questions:

- (a) A mutual Fund had a Net Asset Value (NAV) of ₹ 72 at the beginning of the year. During the year, a sum of ₹ 6 was distributed as Dividend besides ₹ 4 as Capital Gain distributions. At the end of the year, NAV was ₹ 84. Calculate total return for the year. 3
- (b) What is meant by "Hard" and "Soft" infrastructure? Explain them in brief. 3
- (c) (i) List down any two uses for SWAPS. 3
- (ii) A Call Option at a strike price of ₹ 280 is selling at a premium of ₹ 23. At what share price on maturity will it break-even for the buyer of the option?
Will the writer of the option also break-even at the same price? 2
- (d) A firm has an equity beta of 1.5 and is currently financed by 20% debt and 80% equity. What will be the company's equity beta if the company changes its financing policy to 40 : 60 ratio of debt and equity respectively? Corporation tax rate is 34%. 2
- (e) The following two types of securities are available in the market for investment:

Security	Return %	Standard Deviation%
Gilt-edge Security	7	0
Equity	25	30

Using the above two securities, if you are planning to invest ₹ 1,00,000 to construct a portfolio with a standard deviation of 24%, what is the return of such portfolio? 2

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- (f) A new project under consideration requires a capital outlay of ₹ 600 lakhs. The required fund can be raised either fully by Equity Shares of ₹ 100 each, or by Equity Shares of the value of ₹ 400 lakhs and by loan of ₹ 200 lakhs at 15% interest.

Assume tax rate of 40%.

Calculate the Profit before tax that would keep the Equity investors indifferent to two options. 2

- (g) MEGATRON LTD. paid a dividend of ₹ 2.60 during the last year and the growth rate in the dividends is expected to be 8%. The current market price of the stock is ₹ 30.00. The beta of the stock is 1.60 and the return on the market index is 13%. If the risk-free rate of return is 8%, by how much should the price of the stock be raised in percentage terms so that it is at equilibrium? 3

SECTION A

(Answer any two of the following)

2. (a) Following information is available regarding six portfolios:

Portfolio	Average annual return	Standard Deviation	Correlation with market
A	22.0	21.2	0.70
B	18.6	26.0	0.80
C	14.8	18.0	0.62
D	15.1	8.0	0.95
E	26.5	19.3	0.65
F	(-) 9.0	4.0	0.42
Market Risk	12.0	12.0	
Free Rate	9.0		

You are required to:

- Rank these Portfolios using Sharpe's method and Treynor's method; and
- Compare the ranking and explain the reasons behind the differences.

- (b) Compare and contrast Commodity markets and Equity markets.

[(6+2)+4=12]

3. Bright Mutual Fund sponsored an open-ended equity oriented scheme "Kautilya Opportunity Fund". There were two plans, viz. 'X' - Dividend Reinvestment Plan and 'Y' - Bonus Plan.

At the time of Initial Public Offer on 01.04.2003, Mr. Ram and Mr. Hari invested ₹ 1,00,000 each and had chosen 'X' and 'Y' Plan respectively.

The history of the Fund is as follows:

Date	Dividend %	Bonus Ratio	Net Assets Value per unit (Face value : ₹ 10)	
			Plan X	Plan Y
28.07.2007	20		30.70	31.40
31.03.2008	70	5 : 4	58.42	31.05
31.10.2011	40		42.18	25.02
15.03.2012	25		46.45	29.10
31.03.2012	-	1 : 3	42.18	20.05
24.03.2013	40	1 : 4	48.10	19.95
31.07.2013	-		53.75	22.98

On 31st July, both the investors redeemed all the balance units.

[Consider:

- (1) Long-term Capital Gain is exempt from Income tax.
- (2) Short-term Capital Gain is subject to 10% Income tax.
- (3) Security Transaction Tax 0.2% only on sale/redemption of units.
- (4) Ignore Education Cess.]

Required: Calculate Annual rate of return for each of the investors.

[6+6=12]

4. (a) What are the pre-requisites for an efficient money market? What are its benefits?
- (b) State and explain the key reasons for investment in Infrastructure in India.

[(4+2)+6=12]

SECTION B

(Answer any one of the following)

5. (a) What is 'Follow-on Public Offer (FPO)' with reference to Capital market?
- (b) Define 'Exchange Rate Risk'. How is 'Value-at-Risk' (VaR) method used by a firm for measuring the Exchange Rate Risk in management decisions?
- (c) How would you measure the potential loss amount due to Market Risk?
- (d) Identify and explain the factors on which the Options' prices commonly depend.

[5×4=20]

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6. (a) PQR LTD. is considering a project in U.S.A., which will involve an initial investment of US \$ 1,40,00,000. The project will have 5 years of life. Current spot exchange rate is ₹ 60.30 per US \$. The risk-free rate in USA is 7% and the same in India is 8%. Cash inflows from the project are as follows:

Years	1	2	3	4	5
Cash inflows (US \$)	18,00,000	24,00,000	30,00,000	50,00,000	60,00,000

Calculate the NPV of the Project using foreign currency approach. Required rate of return on the Project is 15%.

[Given: PV factors for 13.93% (for 5 Years) are 0.878, 0.770, 0.676, 0.594, 0.521]

- (b) A portfolio manager owns three stocks:

Stock	Shares owned	Stock price (₹)	Beta
1	1 lakh	400	1.1
2	2 lakhs	300	1.2
3	3 lakhs	100	1.3

The spot Nifty Index Price is at ₹ 1350 and Futures price is ₹ 1352. Use Stock Index Futures to:

- decrease the portfolio beta to 0.8; and
- increase the portfolio beta to 1.5.

Assume the index factor is 100. Find out the number of contracts to be bought or sold of Stock Index Futures.

- (c) Write short notes on any two of the following:

- Forward Interest Rate Arrangement.
- Criticism of the Purchasing Power Parity (PPP) Theory.
- Features of Global Depository Receipt (GDR).

[5+5+(5+5)=20]

SECTION C

(Answer any one of the following)

7. (a) Mr. QURESHI owns a portfolio with the following characteristics:

	Security A	Security B	Risk-free Security
Factor 1 Sensitivity	0.80	1.50	0
Factor 2 Sensitivity	0.60	1.20	0
Expected Return	20%	25%	15%

It is assumed that security returns are generated by a two-factor model:

- (i) If Mr. QURESHI has ₹ 1,00,000 to invest and sells short ₹ 50,000 of Security B and purchases ₹ 1,50,000 of Security A, what is the sensitivity of Mr. QURESHI portfolio of the two factors?
 - (ii) If Mr. QURESHI borrows ₹ 1,00,000 at the risk-free rate and invests the amount he borrows along with the original amount of ₹ 1,00,000 in Security A and B in the same proportion as described in part (i), what is the sensitivity of the portfolio to the two factors?
 - (iii) What is the expected return premium of Factor 2?
- (b) What, according to you, are the weaknesses of Technical Analysis as applicable to stocks, indices, commodities, futures or any tradable instrument?
- (c) Distinguish between Security Market Line and Capital Market Line, in relation to portfolio management. [10+3+3=16]
- (a) The historical rates of return on the stock of SMOOTH-TECH LTD. and the Market return are given below:

Year	Smooth-tech Return %	Market Return %
2008	12	15
2009	9	13
2010	(-) 11	14
2011	8	(-) 9
2012	11	12
2013	4	9

You are required to:

- (i) Determine the Equation for the Characteristic line of the Stock of SMOOTH-TECH LTD., and
 - (ii) Interpret the Slope and the intercept of the characteristic line.
- (b) The total market value of the equity share of DHARAM CO. is ₹ 60,00,000 and the total value of the debt is ₹ 40,00,000. The treasurer estimates that the beta of the stocks is currently 1.5 and that the expected risk premium on the market is 12 per cent. The treasury bill rate is 10 per cent.

Required:

- (i) What is the beta of the company's existing portfolio of assets?
- (ii) Estimate the company's cost of capital and the discount rate for an expansion of the company's present business. [(8+2)+(3+3)=16]

SECTION D

(Answer any one of the following)

9. (a) What is Risk Adjusted Discount Rate (RADR)? Explain its advantages and disadvantages.
- (b) What are the major characteristic differences between Capital Asset Pricing Model (CAPM) and Behavioral Asset Pricing Model (BAPM)?

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- (c) A company is considering two mutually exclusive projects X and Y. Project X costs ₹ 3,00,000 and Project Y ₹ 3,60,000. You have been given below the NPV and probability distribution for each project:

Project X		Project Y	
NPV Estimate (₹)	Probability	NPV Estimate (₹)	Probability
30,000	0.1	30,000	0.2
60,000	0.4	60,000	0.3
1,20,000	0.4	1,20,000	0.3
1,50,000	0.1	1,50,000	0.2

Required:

- Compute the expected Net Present Value (NPV) of Projects X and Y.
- Compute the risk attached to each project i.e. Standard Deviation of each probability distribution.
- Which Project do you consider more risky?
- Compute the Profitability Index of each Project. [(2+3)+5+(4+2+2+2)=20]

10. (a) An Indian exporter has sold handicraft items to an American business house. The exporter will be receiving US dollar 1 lakh in 90 days. Premium for a dollar put option with a strike price of ₹ 58.00 and a 90 days settlement is ₹ 1. The exporter anticipates the spot rate after days to be ₹ 56.50.

- Should the exporter hedge its account receivable in the option market?
- If the exporter is anticipating a spot rate to be ₹ 57.50 or ₹ 58.50 after 90 days, how would it effect the exporter's decision?

- (b) State and explain the characteristic features of Financial Lease and Operating Lease.

- (c) Given below are the Market Value of Equity and their Unlevered Beta in respect of 4 SBUs of a company:

SBUs	Market Value of Equity (₹ in crore)	Unlevered Beta
A	100	1.00
B	100	1.10
C	150	1.50
D	150	2.00

The company has ₹ 50 crores of Outstanding Debt.

Required:

- Estimate the Beta for the company as a whole. Is this Beta going to be equal to the Beta estimated by regressing past returns of the company against a market index? Give suitable reasons for your answer.
- If the Treasury Bond rate is 8%, estimate the cost of Equity of the company. Which cost of Equity would you use to value the SBU "D"? The average market risk premium is 7%. [(2+3)+5+(7+3)=20]