MBA/IIIS/F-305/12

2012

MASTER OF BUSINESS ADMINISTRATION

[Third Semester Examination]

PORTFOLIO MANAGEMENT

(Specialisation : *Financial Management*)

PAPER—F 305

Full Marks : 100

Time : 3 hours

The figures in the right-hand margin indicate marks

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

Illustrate the answers wherever necessary

Write the answers to questions of each Half in separate books

FIRST HALF

[*Marks* : 50]

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

(*a*) Discuss 'time horizon' and 'income needs' as constraints to be analysed at the time of determining portfolio of investment.

(*b*) Write a note on operational risk and financial risk associated with a security.

(*c*) If one security having a greater stand alone risk is mixed with a security with a lower stand alone risk then the portfolio risk is bound to increase' – Discuss.

(*d*) State the assumptions of Markowitz model.

(*e*) How do the utility curves differ for risk loving, risk neutral and risk averse investors ?

(*f*) What do you mean by portfolio in finance ?

2. Answer any *two* questions : 10 × 2

(*a*) There are four stocks in a portfolio. The proportions of the securities are :

$$X_1 = 20\%, X_2 = 30\%, X_3 = ?, X_4 = 20\%$$

Stand alone risks associated with these securities are as follows (percentage) :

$$\sigma_1 = 4,\ \sigma_2 = 8,\ \sigma_3 = 20,\ \sigma_4 = 10.$$

The correlation co-efficients among security returns are :

$$r_{12} = 0{\cdot}3,\ r_{13} = 0{\cdot}4,\ r_{14} = 0{\cdot}2,\ r_{23} = 0{\cdot}5,$$
$$r_{24} = 0{\cdot}7,\ r_{34} = 0{\cdot}4.$$

Calculate portfolio risk.

(*b*) There are two securities in a portfolio. Security *X* has an expected rate of return of 5% and standard deviation of 4%. Security *Y* has an expected rate of return of 8% and standard deviation of 10%. Draw up portfolio frontier assuming correlations to be : $r = +1$, $r = -1$, and $r = 0$. Also assume varying proportion of securities as : security $X = 100\%, 75\%, 50\%, 25\%, 0\%$.

(*c*) Define risk and distinguish between systematic risk and unsystematic risk.

[*Internal Assessment* : 10 Marks]

SECOND HALF

[*Marks* : 50]

3. Answer any *four* of the following questions : 5 × 4

(*a*) Compare and contrast CML and SML. 5

(*b*) Calculate NAV for the following scheme of Money Mutual Fund, the detailed financial information of which is given as follows :

Value of investments	Rs. 70,00,000
Receivables	Rs. 7,00,000
Accrued income	Rs. 50,000
Other current assets	Rs. 3,00,000
Liabilities	Rs. 2,50,000
Accrued expenses	Rs. 1,00,000
Number of outstanding units	Rs. 1,00,000

If the maximum sales charge is 3%, also calculate POP at that level. 3 + 2

(*c*) What are the assumptions of Capital Asset Pricing Model ? 5

(*d*) Explain in brief the portfolio construction process. 5

(*e*) What are the common factors that affect the portfolio revision process of investors ? 5

(*f*) Mr. Vishal, an investor wants to take the help of a constant ratio formula plan (having a revision point of +/-5%) to guide his investment decisions. He starts with an amount of Rs. 5 lakh, which is divided between the aggressive portfolio (in securities of Avishkar Ltd.) and the defensive portfolio in the ratio of 3 : 2.

The table below gives data about the price of the shares on different days :

Day	Rs.
0	25·00
1	27·00
2	26·00
3	23·50

You are required to discuss the strategy of the investor with regard to portfolio revision. 5

4. Answer any *two* of the following questions : 10×2

(*a*) The rates of return, beta coefficients and standard deviations of four securities are given below :

Security	Return(%)	Beta	Standard Deviation(%)
A	35	1.60	15
B	28	1.40	20
C	21	1.10	30
D	18	0.90	10

The risk-free rate of return is 8%. The market return is expected to be 20%.

On the basis of the above information, you are required to :

(*i*) Discuss and identify which of the above securities are overpriced and underpriced.

(*ii*) Assuming that the above mentioned portfolio is constructed using equal proportion of the four securities listed above, calculate the total expected risk of such a portfolio.

(*iii*) Write a brief note on the efficient frontier. 4 + 3 + 3

(*b*) What do you understand by mutual funds? Distinguish between open-ended and close-ended funds. Discuss in brief the structure of a mutual fund organization. 3 + 3 + 4

(*c*) (*i*) Write a short note on risk-adjusted measures for portfolio performance evaluation.

(*ii*) Mr. Mrinal has invested in three different mutual funds, the details of which is given below :

Fund	Beta	Return(%)
Multiply	1·70	22
Excellent	1·35	22
Flourish	1·05	18·50

The risk-free return is 7% and the average market return is 17%. On the basis of the above information, you are required to rank the funds using Jensen's measure. 5 + 5

[*Internal Assessment* : 10 Marks]