

**NEW SCHEME**

**Third Semester MBA Degree Examination, July 2007**  
**Business Administration**  
**Security Analysis and Portfolio Management**

Time: 3 hrs.]

[Max. Marks: 100

- Note : 1. Answer any FOUR questions from Q-1 to Q-7.  
2. Q-8 is compulsory.  
3. Use of time value tables may be permitted (P. V. Tables)

- 1 a. What are the important attributes of an investment? (03 Marks)  
b. How does the NSE function? Explain the settlement procedure. (07 Marks)  
c. Write short notes on :  
i) Arbitrageur.  
ii) Stop order.  
iii) CNXS&PNifty.  
iv) Warrant bonds.  
v) Z group scrips. (10 Marks)
- 2 a. What does  $\beta > 1$  indicate? (03 Marks)  
b. "Unsystematic risk can be minimized, systematic risk can be managed" – Do you agree? How? (07 Marks)  
c. Wockardt Ltd. currently pays a dividend of Rs. 15 per share. Sensex rallying above 13,000 indicates a market return of 18%. Calculate share value assuming  
i) Zero dividend growth.  
ii) Constant dividend growth of 6% pa indefinitely.  
iii) If Wockardt has paid an annual dividend per share in the past as below, calculate its current value.
- | <u>Year</u> | 2006 | 2005 | 2004 | 2003 | 2002 | 2001 |
|-------------|------|------|------|------|------|------|
| <u>Rs.</u>  | 15   | 14   | 13   | 12   | 11   | 10   |
- (10 Marks)
- 3 a. What does a bond indenture contain? (03 Marks)  
b. TCS Ltd issued a Rs. 100 per value 20 years bond with 12% coupon rate 10 years ago.  
i) Assuming annual interest payments calculate the value of the bond if required rate of return is 8%.  
ii) If the bond is currently trading at Rs. 112, calculate YTM. (07 Marks)  
c. Discuss the theories, which help in determining the interest rates of bonds. (10 Marks)
- 4 a. "EIC approach helps to assess the intrinsic value of a share" – Substantiate. (03 Marks)  
b. How do you identify trends and trend reversals in the daily price movements of stocks using chart patterns? (07 Marks)  
c. Explain the CAPM. Differentiate between SML and CML. (10 Marks)

- 5 a. What is RSI?  
 b. The  $\beta$  and weights of 4 securities are as follows :

Security	$\beta$	Weight %
Infosys	0.89	25
Wipro	0.75	30
TCS	1.25	15
Inflex	0.58	30

The expected returns from the market is 20%. Assuming a risk free rate of 4%. Calculate

- i) Expected return for each stock using CAPM.  
 ii) Portfolio  $\beta$ . (07 Marks)  
 c. How do you identify the optimal portfolio using Markowitz model? Explain. (10 Marks)
- 6 a. What are the primary and secondary movements indicated in Dow theory? (03 Marks)  
 b. "A mutual fund is an active portfolio"-why? Differentiate between closed ended and open ended mutual funds. State the functions of AMC. (07 Marks)  
 c. Data for 2 mutual funds and 1 market portfolio is given. Assume a risk free rate of 4%.

Portfolio	Returns %	$\sigma$ %	$\beta$
DSP Merrill Lynch	22	10	1.21
ICICI	15	6	0.75
BSE Sensex	18	8	1

Evaluate the portfolio using Sharpe's, Treynor's and Jensen's measures. (10 Marks)

- 7 a. Discuss the strategies for portfolio revision. (05 Marks)  
 b. The return of 2 equities under different situations and their probabilities are given

Situation	Probability %	Return on HLL %	Returns on SBI %
1	10	5	0
2	30	10	8
3	50	15	18
4	10	20	26

- i) Calculate expected return and risk for each stock.  
 ii) Calculate correlation co-efficient between the returns on HLL and SBI.  
 iii) The 2 stocks are combined into a portfolio in the proportion 40% in HLL and 60% in SBI. Calculate portfolio risk and returns. (15 Marks)

8 Case Study :

The face value of equity shares of ITC Ltd. is Re. 1. It is currently selling at Rs. 185. The dividend expected next year is Rs. 3. The investors' required rate of return on this stock is 15%. Assuming constant growth model the expected growth rate will continue for the next 4 years due to ITC's foray into diversified areas such as food, information technology etc.

In the forthcoming time period due to inflation and general recession in the economy the profitability of the company will be affected greatly and the growth rate will fall to 10% for the next 4 years. Thereafter the growth rate is expected to stagnate to 6% forever.

- a. Assuming constant growth model calculate the expected growth rate at current market price. (05 Marks)  
 b. Calculate the present value of future dividend stream. (05 Marks)  
 c. Calculate the present value of the price of the shares at the end of 8 years. (05 Marks)  
 d. Calculate the intrinsic value of the shares of ITC and suggest if it is right to buy the shares at current market price. (05 Marks)

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**Third Semester MBA Degree Examination, Dec. 07/Jan. 08**  
**Security Analysis and Portfolio Management**

Max. Marks: 100

Time: 3 hrs.

- Note : 1. Answer any FOUR full questions from Q.No.1 to 7 and Q.No.8 is compulsory.  
2. Use of future value and present value tables is permitted.

- 1 a. How is technical analysis different from fundamental analysis? (03 Marks)  
b. I rathama products currently pays a dividend of Rs.2 per share and this dividend is expected to grow at 15% for three years, then at 12% for the next three years and at 5% forever there after. What is the value of the equity share if the required rate is 9%? (07 Marks)  
c. As an investment manager you are given the following information:

Investments in the shares of	Initial price	Dividends	Market price at the end of the year	Beta
I riyanka Cements Ltd.	25	2	50	0.8
Subbu Metals Ltd.	35	2	60	0.7
Madhavi Liquors Ltd.	45	2	135	0.5
Govt. of India Bonds	1000	140	1005	0.99

Risk free ratio of interest is 14%.  
Assuming that these are the only investment opportunities in the market determine the expected return of the securities using CAIM and also determine the average return on the portfolio assuming equal investment in all. (10 Marks)

- 2 a. What is the value of a 15%, Rs.2000 face value bond redeemable after 7 years if the required rate is 18% and redeemed at premium of 10%? (03 Marks)  
b. Write a brief note on Efficient Market Hypothesis. (07 Marks)  
c. "The investor of these modern days has a plethora of investment opportunities" – Substantiate. (10 Marks)
- 3 a. What are the hypothesis of Dow theory? (03 Marks)  
b. What is fundamental analysis? Explain its three level framework. (07 Marks)  
c. From the following information relating to the bonds of Chandu Exports Limited calculate the YTM (do not use approximation formula), duration and volatility of the bond.

Face value	Rs.1000
Coupon rate	16%
Years to maturity	6
Redemption value	Rs.1000
Current market price	Rs.964.5

- If the yield is decreasing by 2%, what is the proportionate change in the price of the bond? (10 Marks)
- 4 a. Differentiate between investment and speculation. (03 Marks)  
b. Briefly explain the functioning of BSE and NSE highlighting the basic differences between them. (07 Marks)  
c. Explain Capital Asset Pricing Model and Arbitrage Pricing Theory. How are they related? (10 Marks)
- 5 a. Mention the theories of term structure of interest rates. (03 Marks)  
b. What is risk? What are its types? Explain the factors affecting them. (07 Marks)

- c. From the following information relating the three mutual funds of Surya Limited and the market index calculate Treynor measure, Sharpe measure and Jensen measure. (10 Marks)

Fund	Mean Return (%)	Standard Deviation (%)	Beta
Seven Star	12	18	1.1
Prime	10	15	0.9
Growth	13	20	1.2
Market Index	11	17	1.0

- 6 a. Who are the major players in the secondary market? (03 Marks)  
 b. Mr. Rithivik has Rs.20,000 and he has two alternatives i) Investing the entire amount in equity or ii) In two equal parts in bonds and equity. If he follows Constant Rupce Value Formula plan and the decision point is 20% appreciation or depreciation of the equity portfolio i.e., if equity appreciates by 20% then the sale proceeds are invested in bonds and if it depreciates the gap is funded by the sale of bonds. determine: I) Action points and actions II) Value of the portfolio at the end and III) The difference between the two alternatives. (07 Marks)

The following are the share prices:

End of week	0	1	2	3	4	5	6	7
Price (Rs.)	25	22	20	22	24	26	28.8	25

- c. The rates of return of Aruna Industries Limited and the market portfolio for ten periods are given below:

Period	1	2	3	4	5	6	7	8	9	10
Return on Aruna Ind. Ltd.	20	22	25	21	18	-5	17	19	-7	20
Return on market portfolio	22	20	18	16	20	8	-6	5	6	11

- i) What is the Beta of Aruna Industries Limited? ii) What is the Characteristic line?(10 Marks)

- 7 a. What is a moving a average? From the following information relating to the closing prices of Laxmi Industries Limited calculate the 5-day moving average: (05 Marks)

Day	1	2	3	4	5	6	7	8	9	10	11
Closing Price (Rs.)	22	25	26	24	28.5	29	28	26.5	27.5	25	23.5

- b. What is the optimum portfolio in choosing among the following securities and assuming the risk free rate as 8% and variance of the market index is 12%: (15 Marks)

Security	Expected Return	Beta	Unsystematic Risk
	$R_i(\%)$	$\beta_{im}$	$\sigma_{ei}^2(\%)$
A	20	1.0	40
B	18	2.5	35
C	12	1.5	30
D	16	1.0	35
E	14	0.8	25
F	10	1.2	15
G	17	1.6	30
H	15	2.0	35

- 8 An investor is considering the investment in the portfolio of three securities, for which he has collected the following data. Security A is currently sold at Rs.25. It is expected that it would provide a dividend of Rs.2 per share and would be sold at Rs.28 at the end of the year. Security B has a price of Rs.50 and is expected to be Rs.49 by the end of the year with a dividend of Rs.4.5 during the year. Security C has a current market price of Rs.60 per share and is expected to be Rs.65 by the end with a dividend of Re.1. He has decided that he will be buying 100 shares of A, 30 shares of B and 100 shares of C. He also estimated that the standard deviation of A, B and C is 10%, 10% and 20% respectively. The correlation coefficients between A and B, A and C and B and C are +0.1, +0.8 and -0.6 respectively. The coefficient of correlation between the market returns and the securities A, B and C are 0.7, 0.9 and 0.6 respectively. The standard deviation of the market returns is 5%. You are required to:

- a) Explain the process and utility of diversification  
 b) Calculate the portfolio return  
 c) Calculate the portfolio standard deviation  
 d) Calculate portfolio Beta. (20 Marks)

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- 5 a. What do you mean by Deep Discount Bonds? (03 Marks)  
 b. What is Capital Asset Pricing Model? Explain the assumptions underlying capital Asset Pricing Model. (07 Marks)  
 c. The returns on securities A and B under five possible situations are given below :

Situation	Probability	Return on Security A	Return on Security B
1	0.10	- 10%	5%
2	0.30	15%	12%
3	0.30	18%	19%
4	0.20	22%	15%
5	0.10	27%	12%

Compute covariance between the returns on security A and B. (10 Marks)

- 6 a. From the following information, calculate rate of return : NAV (beginning) Rs. 16, NAV (ending) Rs. 17, Dividend paid Re. 1. (03 Marks)  
 b. What are the benefits mutual funds offer to their participants? Discuss. (07 Marks)  
 c. ST and BT companies shares are presently sold at Rs. 60 and Rs. 100 respectively. Annual dividends over the next year are expected to be Rs. 1.5 and 2.5 respectively. ST company's projected earnings per share is Rs. 2.5 and BT's Rs. 4. ST company's dividends are expected to grow at 10 percent per annum in the future and BT's by 9 percent. Financial analysts have estimated the likely prices for the year ahead on two stocks to be Rs 66, Rs 72, Rs 75 for ST, and Rs 114, Rs 126 and Rs 132 for BT.  
 i) You are asked to examine the return of each company's stock. Choose one stock to be purchased for a holding period of one year. Support your choice.  
 ii) If the investor's required rate of return is 12% and he wants to hold the stock for a longer period, which stock would you suggest? Why? (10 Marks)
- 7 a. Write a note on active and passive portfolio strategies. (05 Marks)  
 b. The following information is provided regarding the performance of the funds namely Birla Advantage, Sundaram Growth and Templeton for a period of six months ending September 2006. The risk free rate of return is assumed to be 9. Rank them with the help of Sharpe Index and Treynor Index and Discuss. (15 Marks)

Funds	$R_p$	$\sigma_p$	$\beta$
Birla Advantage	25.38	4	0.23
Sundaram Growth	25.11	9.01	0.56
Templeton	25.01	3.55	0.59

## 8 CASE STUDY :

The stock of LG Ltd. performs relatively well compared to other stocks during recessionary periods. The stock of Samsung Ltd., on the other hand, does well during growth periods. Both the stocks are currently selling for Rs. 100 per share. The financial analyst's assessment of the rupee return (dividend plus price) of these stocks for the next year are as follows :

	Economic Condition			
	High Growth	Low Growth	Stagnation	Recession
Probability	0.3	0.4	0.2	0.1
Return on LG Ltd.	100	110	120	140
Return on Samsung Ltd	150	130	90	60

- a. Based on the above data calculate the expected return and standard deviation of investing :  
 i) Rs .1000 in the equity stock of LG Ltd. ii) Rs. 1000 in the equity stock of Samsung Ltd. iii) Rs. 500 each in the equity stock of LG. Ltd and Samsung Ltd.  
 b. Which option you will prefer (out of i, ii and iii) on the basis of expected return and standard deviation of returns. (20 Marks)

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- 6 a. What do you understand by Formula plans? (03 Marks)
- b. "Industry Life Cycle exhibits the status of industry and gives the clue to entry and exit for investors" – Explain. (07 Marks)
- c. Following data refers to the market return on Venus Company Scrip's return for a particular period. Determine the Beta Coefficient and Systematic risk. (10 Marks)

Scrip Return in %	Market return in %
18	15
9	7
20	16
-10	-13
5	4
12	7

- 7 a. Discuss the method of floating a Primary issue through Book Building method. (10 Marks)
- b. An investor wants to build a Portfolio with the following four stocks. With the given details, find out his Portfolio return and Portfolio variance. The investment is spread equally over the stocks.

Company	Alpha	Beta	residual Variance
Sun	0.17	0.93	45.15
Neptune	2.48	1.37	132.25
Asteroid	1.47	1.73	196.28
Planet	2.57	1.17	51.98

The market return is 11 and variance on market return is 26.

(10 Marks)

## 8 Case Study

You have been employed as an Investment advisor at Dalal Investment Ltd, which advises clients on their investments. Describe an appropriate investment programme for the following clients by identifying an appropriate investment objective and the constraints. Build a Portfolio for case 1 and 2.

- i) One of your valued client is currently holding an efficient portfolio consisting mainly stocks of companies in the automobile, auto-ancillaries and Tyre manufacturing Sector. The companies are AAA rated, high divided payout with low P.E ratio. what advice would you give, keeping in view the Markowitz Model? The Portfolio size is Rs.20lakh. (08 Marks)
- ii) Ajay aged 30, is married and working in a MNC, his salary is Rs.5lakh per annum. He is owning a house purchased on loan. The company has given him 15 years of contract. He wants to build a portfolio worth Rs.5lakh. (08 Marks)
- iii) Chinmaya Trust wants to decide between two mutual funds. From the past performance the following details are available.

	ABC Fund	XYZ Fund
Average return in %	18	16
Standard deviation in %	20	15

The current risk free rate is 8 percent, inflation rate is 12%. Suggest a best fund. Make suitable assumptions. (04 Marks)

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## Third Semester MBA Degree Examination, Dec.09/Jan.10

### Security Analysis and Portfolio Management

Time: 3 hrs.

Max. Marks:100

- Note: 1. Answer any FOUR full questions from the Q.No.1 to 7.**  
**2. Question No. 8 is compulsory.**  
**3. Use of calculator and time value (P.V) table permitted.**

- 1
  - a. What is speculation? (03 Marks)
  - b. What is "efficient portfolio"? What is "optimal portfolio"? (07 Marks)
  - c. What is capital asset pricing model? What are its basic assumptions? Explain. (10 Marks)
  
- 2
  - a. Distinguish between investment and speculation. (03 Marks)
  - b. What are the various sources through which an investor can get stock market information? Discuss. (07 Marks)
  - c. Sajith is considering two bonds, IGI flexi bond and CCP safety bond. Both the bonds have 5 years to maturity and face value of Rs.1000. IGI flexi bond offers coupon rate of 8%, payable annually whereas CCP safety bond has a coupon rate of 16% payable annually. IGI flexi bond is traded at a yield of 12% in the market and CCP bond has a yield of 8% at present. Calculate the intrinsic value, duration and modified duration of both the bonds and suggest the bond with low risk to Sajith. (10 Marks)
  
- 3
  - a. Define market efficiency. (03 Marks)
  - b. Discuss random walk model approach to equity investment decision. (07 Marks)
  - c. Rehaman is considering the purchase of a bond currently selling at Rs.878.50. The bond has four years to maturity, face value of Rs.1000 and 8% coupon rate. The next annual interest payment is due after one year from today. Required rate of return is 10%.
    - i) Calculate the intrinsic value of the bond.
    - ii) Calculate the yield to maturity of the bond.
    - iii) Should Rehaman buy the bond? (10 Marks)
  
- 4
  - a. What do you mean by secondary market? (03 Marks)
  - b. Stocks Y and Z have the following parameters :

Particulars	Stock Y	Stock Z
Expected return	20	30
Standard deviation	16	25
Covariance YZ	20	-

Is there any advantage of holding a combination of Y and Z? Why? Empirically support your answer. (07 Marks)

- c. Consider the following information for three mutual funds A, B and C and the market.

Particulars	Mean Return (%)	Standard deviation (%)	Beta
A	12	18	1.1
B	10	15	0.9
C	13	20	1.2
Market index	11	17	1.00

The mean risk free rate is 6%. Calculate the Treynor measure, Sharpe measures and Jensen measure for the three mutual funds and the market index. (10 Marks)

- 5
  - a. What is arbitrage pricing model? (03 Marks)
  - b. What is technical analysis? What are the assumptions of technical analysis? Explain. (07 Marks)

- c. The returns of security A and B are given below:

Probability	0.5	0.4	0.1
Security A	4	2	0
Security B	0	3	3

Give the security of your preference. The security has to be selected on the basis of return and risk. (10 Marks)

- 6 a. What is fundamental analysis? (03 Marks)  
 b. What are the economic factors influencing the analysis of equity stock? Discuss. (07 Marks)  
 c. The following table provides information regarding return and risk.

Portfolio	1	2	3	4	5
Expected Return	10	12	13	16	20
Standard deviation	4	7	5	12	14

- i) The treasury bill rate is 5%. Which portfolio is the best?  
 ii) Would it be possible to earn 12% return if the risk premium is 4%?  
 iii) If risk premium is 12%, what would be the expected return? (10 Marks)

- 7 a. What is "leveraged portfolio"? (03 Marks)  
 b. The stocks L and M have yielded the following returns for the past two years:

Years	2004	2005
Returns on stock L	12%	18%
Returns on stock M	14%	12%

- i) What is the expected return on portfolio made up of 60% of L and 40% of M?  
 ii) Find out the standard deviation of each stock.  
 iii) What is the covariance and coefficient of correlation between stock L and M?  
 iv) What is the portfolio risk of a portfolio made up of 60% of L and 40% of M? (07 Marks)

- c. You have been given the following information:

Year	Return on Wipro stock (Y)	Return on BSE sensx (X)
2000	0.2	0.1
2001	0.3	0.2
2002	0.5	0.3
2003	0.4	0.4
2004	0.6	0.5

- i) What is the beta value?  
 ii) What is the alpha value?  
 iii) What is the coefficient of correlation?  
 iv) What is the coefficient of determination? (10 Marks)

## 8 Case Study :

The rate of return and the possibilities of their occurrence for stocks A and B are as follows:

Probability	0.05	0.20	0.50	0.20	0.05
Returns on stock A	-2.0	9.0	12.0	15.0	26.0
Returns on stock B	-3.0	6.0	11.0	14.0	19.0

- i) Find out the expected rates of return for stock A.  
 ii) Find out the expected rates of return for stock B.  
 iii) If an investor invests equal proportion on both stocks, what would be the return?  
 iv) If proportion is changed to 75% and 25% to A and B and 25% and 75% to A and B, what would be the expected rate of return? (20 Marks)

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