CBCS SCHEME

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22MBAFM304

Third Semester MBA Degree Examination, Dec.2023/Jan.2024
Security Analysis & Portfolio Management

Time: 3 hrs. Max. Marks: 100

Note: 1. *Answer any FOUR full questions from Q.No.1 to Q.No.7.*
2. *Question No. 8 is compulsory.*
3. *M : Marks , L: Bloom's level , C: Course outcomes.*
4. *Use of Time Value table is permitted.*

			M	L	C
Q.1	a.	Explain S & P BSE sensex.	3	L2	CO1
	b.	The returns on securities A and B are given below : Probability / Security A / Security B 0.5 / 4 / 0 0.4 / 2 / 3 0.1 / 0 / 3 Select the security of your preference. The security has to be selected on the basis of return and risk.	7	L3	CO2
	c.	Explain in detail the investment process.	10	L5	CO1
Q.2	a.	A Ltd would pay Rs.2.50 as divided per share for the next year and expected to grow indefinitely at 12% what woul be the equity value of the investor require 20% return?	3	L1	CO2
	b.	Examine the different forms of market efficiency.	7	L4	CO3
	c.	An investor wants to build a portfolio with the following four stocks. With the given details, determine his portfolio return and portfolio variance. The investment is spread equally over the stocks. Company / α / β / Residual variance 1 / 0.17 / 0.93 / 45.15 2 / 2.48 / 1.37 / 132.25 3 / 1.47 / 1.73 / 196.28 4 / 2.52 / 1.17 / 51.98 Market return (R_m) = 11 ; Market return variance = 26	10	L5	CO4
Q.3	a.	Explain relative strength index.	3	L2	CO3
	b.	The current dividend on an equity share of NiBi Ltd is Rs.2/-. NiBi is expected to enjoy an above normal growth rate of 20% for a period of 6 years. Thereafter the growth rate will fall and stabilize at 10%. Equity investors require a return of 15%. Determine the intrinsic value of the equity share of NiBi Ltd.	7	L5	CO2
	c.	The following three portfolios provide the particular given below : Portfolio / Average Annual Returns / Standard Deviation / Correlation Coefficient A / 18 / 27 / 0.8 B / 14 / 18 / 0.6 C / 15 / 8 / 0.9 Market / 13 / 12 / - Risk free rate of interest is 9. (i) Rank these portfolios using sharpe's and Treynor's methods. (ii) Compare both the indices.	10	L5	CO4

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<tr><td>Q.4</td><td>a.</td><td>Explain constant Rupee Plan.</td><td>3</td><td>L2</td><td>CO4</td></tr>
<tr><td></td><td>b.</td><td>Explain the attributes that an investor should consider while evaluating an investment.</td><td>7</td><td>L5</td><td>CO1</td></tr>
<tr><td></td><td>c.</td><td>Nihal 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. The required rate of return is 10%. Calculate the intrinsic value of the bond. Should Nihal buy the bond?</td><td>10</td><td>L5</td><td>CO2</td></tr>
<tr><td>Q.5</td><td>a.</td><td>Explain Capital Asset Pricing Model.</td><td>3</td><td>L2</td><td>CO4</td></tr>
<tr><td></td><td>b.</td><td>Analyse the Macro-economic factors that have a significant bearing on the stock market.</td><td>7</td><td>L4</td><td>CO3</td></tr>
<tr><td></td><td>c.</td><td>The following information is available for stock A and B.
<table>
<tr><th>Particulars</th><th>Stock A</th><th>Stock B</th></tr>
<tr><td>Expected Return</td><td>16%</td><td>12%</td></tr>
<tr><td>Standard Deviation</td><td>15%</td><td>8%</td></tr>
<tr><td>Coefficient of correlation</td><td colspan="2">0.60</td></tr>
</table>
(i) What is the covariance between stock A and B?
(ii) Determine the expected return and risk of a portfolio in which A and B have weights of 0.6 and 0.4.</td><td>10</td><td>L5</td><td>CO2</td></tr>
<tr><td>Q.6</td><td>a.</td><td>Explain the different types of risk.</td><td>3</td><td>L2</td><td>CO2</td></tr>
<tr><td></td><td>b.</td><td>Outline the functions of stock exchange.</td><td>7</td><td>L2</td><td>CO1</td></tr>
<tr><td></td><td>c.</td><td>The Beta and weights of 4 securities are as follows :
<table>
<tr><th>Security</th><th>Beta</th><th>Weights %</th></tr>
<tr><td>Infosys</td><td>0.89</td><td>25</td></tr>
<tr><td>Wipro</td><td>0.75</td><td>30</td></tr>
<tr><td>TCS</td><td>1.25</td><td>15</td></tr>
<tr><td>Inflex</td><td>0.58</td><td>30</td></tr>
</table>
The expected return from the market is 20%. Assuming a risk free rate of 4%. Calculate
(i) Expected return for each stock using CAPM.
(ii) Portfolio Beta.</td><td>10</td><td>L5</td><td>CO4</td></tr>
<tr><td>Q.7</td><td>a.</td><td>Explain APT.</td><td>3</td><td>L2</td><td>CO4</td></tr>
<tr><td></td><td>b.</td><td>List the advantages of investing in mutual funds.</td><td>7</td><td>L4</td><td>CO4</td></tr>
<tr><td></td><td>c.</td><td>Following data give the market return and the Sun company scrip return for a particular period.
<table>
<tr><th>Index return (Rm)</th><th>Scrip Return (R_i)</th></tr>
<tr><td>0.50</td><td>0.30</td></tr>
<tr><td>0.60</td><td>0.60</td></tr>
<tr><td>0.50</td><td>0.40</td></tr>
<tr><td>0.60</td><td>0.50</td></tr>
<tr><td>0.80</td><td>0.60</td></tr>
<tr><td>0.50</td><td>0.30</td></tr>
<tr><td>0.80</td><td>0.70</td></tr>
<tr><td>0.40</td><td>0.50</td></tr>
<tr><td>0.70</td><td>0.60</td></tr>
</table>
(i) Measure the Beta value of the sun company?
(ii) If the market return is 2, what would be the scrip return?</td><td>10</td><td>L5</td><td>CO2</td></tr>
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Q.8		**Case Study:** The market information's regarding the following stocks is given in the table :			

Stock	α	β	e_i^2
ABC	-0.05	1.6	0.04
RSE	0.08	-0.3	0.00
GIV	0.00	1.1	0.10

	Marks	Level	CO
(i) If the market index is expected to have a return of 0.20 and a variance of 0.20, which single stock would the investor prefer to own from the risk and return point of view.	15	L5	CO4
(ii) Interpret the e_i^2 value and α value of RSE.	05	L5	CO4

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SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT

22MBAFM304

III SEM MBA – DEC/ JAN 2024

Q.NO	SEC	ANSWER	MARKS
1	a	S&P BSE SENSEX® or Sensitive Index is not only scientifically designed but also based on globally accepted construction and review methodology. First compiled in 1986, S&P BSE SENSEX® is a basket of 30 constituent stocks representing a sample of large, liquid and representative companies.	3M for Explanation
	b	A: Mean = 2.01 & SD = 0.21 B: Mean = 2.21 & SD = 0.14 Basis of Risk and Return Security A is better.	5 Marks for Computing and 2 Marks for Conclusion
	c	Investment Process → Evaluation of Investment Goals. → Evaluation of the present Financial Situation → Asset Allocation → Choose the right investment strategy → Track and manage your portfolio	4 Marks for Points and 6 Marks for Description
2	a	Equity Value of the Investor will be Rs. 20.15	3M for Computation
	b	Different Forms of Market Efficiency • Weak-form efficiency. Prices of the securities instantly and fully reflect all information of the past prices. • Semi-strong efficiency. Asset prices fully reflect all of the publicly available information. • Strong-form efficiency.	3 Marks for Points and 4 Marks for Description

	c	Portfolio Return = 13.95 Protfolio Variance = 2.61	7 Marks for Calculation and 3 Marks for conclusion
3	a	Relative Strength Index The Relative Strength Index (RSI), developed by J. Welles Wilder, is a momentum oscillator that measures the speed and change of price movements. The RSI oscillates between zero and 100. Traditionally the RSI is considered overbought when above 70 and oversold when below 30.	3M for Explanation
	b	Intrinsic Value = 2.45	4 Marks for Calculation and 3 Marks for conclusion
	c	Rank as per Treynor Method = B, A, C Rank as per Sharpes Method = C, A, B Ranking will change based on both the methods	7 Marks for Calculation and 3 Marks for conclusion
4	a	Constant Rupee Plan The constant rupee value plan specifies that the rupee value of the stock portion of the portfolio will remain constant. Thus, as the value of the stock rises, the investor must automatically sell some of the shares in order to keep the value of his aggressive portfolio constant.	3M for Explanation
	b	Attributes of a Good Investor → Goal Setting → Knowledge → Right Decision → Patience → Risk Aversion	4 Marks for Points and 3 Marks for Description

	c	Intrinsic Value of the bond = Rs. 1318	7 Marks for Calculation and 3 Marks for conclusion
5	a	CAPM The capital asset pricing model, or CAPM, is a financial model that calculates the expected rate of return for an asset or investment. CAPM does this by using the expected return on both the market and a risk-free asset, and the asset's correlation or sensitivity to the market (beta).	3M for Explanation
	b	A macroeconomic factor is a phenomenon, pattern, or condition that emanates from, or relates to, a large aspect of an economy rather than to a particular population. Inflation, gross domestic product (GDP), national income, and unemployment levels are examples of macroeconomic factors.	4 Marks for Points and 3 Marks for Description
	c	Covariance of Stock A = 2.14 B = 3.18 Expected Return A = 14.5 B = 17.87 Expected Risk A = 2.67 B = 3.85	7 Marks for Calculation and 3 Marks for conclusion
6	a	Different types of Risks → Systematic Risk → Unsystematic Risk	1M for points and 2M for Explanation

	b	Functions of Stock Exchange → Determining the security prices → Maintaining Liquidity → Indicating the Economic State → Facilitating Investments → Raising Capital → Building a healthy economy → Providing rights to Investors	4 Marks for Points and 3 Marks for Description
	c	Expected Return Infosys = 1.27 Wipro = 1.89 TCS = 1.67 Inflex = 0.89 Portfolio Beta = 1.59	7 Marks for Calculation and 3 Marks for conclusion
7	a	APT Arbitrage pricing theory (APT) is a multi-factor asset pricing model. It's based on the idea that an asset's returns can be predicted using the linear relationship between the asset's expected return and a number of macroeconomic variables that capture systematic risk.	3M for Explanation
	b	Advantages of investing in Mutual Fund → Professional Management → Risk Diversification → Affordability and Convenience → Liquidity → Low Cost → Well – Regulated → Tax Benefits	4 Marks for Points and 3 Marks for Description
	c	Beta Value of the Company = 1.87 Scrip return = 0.45	7 Marks for Calculation and 3 Marks

			for conclusion
8		i. GIV will be the better being lower rate of risk	7 Marks for Calculation and 3 Marks for conclusion
		ii. It means that there is no return as the risk rate is very low.	7 Marks for Calculation and 3 Marks for conclusion