

Calculate Net Asset Value (NAV) per unit.

An investor invests Rs. 2,00,000 in a mutual fund scheme with:

Entry load = 1.5%

Exit load = 1 %

NAV at purchase = Rs. 25 NAV at redemption = Rs. 30

Calculate amount received on redemption.

Portfolio allocation decision:

An investor wants to create a portfolio consisting of a risk-free asset and a market portfolio. The expected return on market portfolio is 14% and risk-free rate is 6%.

If the investor desires a portfolio return of 11%, determine :

(i) Proportion invested in risk-free asset

(ii) Proportion invested in market portfolio.

(12)

(b) Explain Capital Asset Pricing Model and differentiate between Capital Market Line and Security Market Line.

(6)

[This question paper contains 8 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 1321

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Unique Paper Code : 2922072402

Name of the Paper : INVESTMENT ANALYSIS
AND PORTFOLIO
MANAGEMENT

Name of the Course : **BBA (FIA)**

Semester : IV

Duration : 3 Hours

Maximum Marks : 90

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any **FIVE** questions.
3. **All** questions carry equal marks.
4. Non-programmable scientific calculator permitted.
5. Attempt all parts of a question together.
6. Working notes form part of the answer.

1. (a) An investor purchased a share for Rs. 480. During the year, the investor received dividend of Rs. 20 and sold the share for Rs. 540 after holding it for 8 months. To evaluate performance consistency, the investor also reviews the past 5-year return pattern of a similar security given below:

Year	Return (%)
1	12
2	18
3	10
4	16
5	14

Calculate the following measures of return:

- (i) Holding Period Return
 - (ii) Annualized Return
 - (iii) Arithmetic mean return
 - (iv) Geometric mean return (12)
- (b) Explain the components of required rate of return. Distinguish between investment and speculation. (6)

6. (a) An investor is analysing different investment opportunities including equities, mutual funds, and market-linked portfolios in order to evaluate risk-return trade-offs and make optimal allocation decisions.

Market-based securities:

Risk free rate = 7%

Expected market return = 15%

Calculate expected return using CAPM for securities having :

(i) Beta = 0.75

(ii) Beta = 1.35

Identify which security is more sensitive to market movements.

A portfolio has return of 20% and standard deviation of 25%. Risk free rate is 8%. Calculate Sharpe ratio.

Mutual fund investment:

Market value of investments = Rs. 80 crore

Liabilities = Rs. 5 crore

Number of units outstanding = 5 crore

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- (iii) Covariance between returns of X and Y
 (iv) Correlation coefficient between X and Y
 (12)

(b) State significance, assumptions & limitations of Markowitz diversification. (6)

5. (a) The probability distribution of returns of two securities P and Q is given below :

Economic Condition	Probability	Return on P (%)	Return on Q (%)
Boom	0.3	22	28
Normal	0.4	14	16
Recession	0.3	6	-4

Calculate :

- (i) Expected return of both securities
 (ii) Standard deviation of both securities
 (iii) Coefficient of variation of both securities
 (iv) Which security is preferable on the basis of risk per unit of return? (12)
- (b) Explain the investor life cycle approach and how asset allocation changes over different stages of life. Distinguish between active portfolio management and passive portfolio management strategies. (6)

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2. (a) An investor is evaluating two debt instruments to assess their return characteristics under different interest structures.

Bond 1:

A bond with face value Rs. 1,000 carries a coupon rate of 9% payable annually and matures after 6 years. The bond is currently selling for Rs. 950.

Bond 2:

A zero coupon bond with maturity value Rs. 10,000 is redeemable after 5 years. The investor's required rate of return is 11%.

Based on the above information, calculate :

- (i) Current yield of Bond 1
 (ii) Yield to maturity (YTM) of Bond 1
 (iii) Present value of Bond 2 (12)
- (b) Explain why bond prices move inversely with market interest rates. Why does bond price approach maturity value as time passes? (6)
3. (a) An equity analyst is valuing two companies using dividend-based valuation models.

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Company 1:

The company paid a dividend of Rs. 5 last year. Dividends are expected to grow at 16% annually for the next 2 years and 9% thereafter indefinitely. The required rate of return is 13%.

Company 2:

The Earnings Per Share (EPS) of a firm is Rs. 12. The dividend payout ratio is 30% and the return on equity (ROE) is 18%. The required rate of return is 14%.

Based on the above information, calculate :

- (i) Present value (price) of share of Company 1
 - (ii) Growth rate of Company 2
 - (iii) Expected dividend next year for Company 2
 - (iv) Price of share of Company 2 (12)
- (b) Explain the following chart patterns and indicators and their significance in technical analysis :
- (i) Double top
 - (ii) Descending triangle
 - (iii) Relative Strength Index (RSI) (6)

4. (a) An investor is analysing diversification benefits by studying the relationship between returns of two securities using both summary statistics and historical data.

Portfolio 1:

The following information relates to two securities:

Security	Expected Return (%)	Standard Deviation (%)
A	11	5
B	15	8

Correlation coefficient between A and B = 0.4

The investor allocates 50% of funds in each security. Portfolio 2 (Historical Data) :

Year	Return X (%)	Return Y (%)
1	10	12
2	14	18
3	16	20

Based on the above information, calculate :

- (i) Portfolio return
- (ii) Portfolio risk (standard deviation)