

2022

## COMMERCE

Paper : DSE-306A

(Security Analysis and Portfolio Management)

Module : I and II

Full Marks : 40

*The figures in the margin indicate full marks.**Candidates are required to give their answers in their own words as far as practicable.*

## Module - I

(Security Analysis)

Answer *any two* questions.

1. (a) Aztor Ltd. is a firm that pays dividend on the basis of Gordon model. The current dividend of Aztor Ltd. is ₹ 5.50 per share on earnings per share of ₹ 12. The company has reported a profit after tax of ₹ 20 crore. The paid up capital and the reserves of the company as reported in its financial statements are ₹ 40 crore and ₹ 5 crore respectively. You are required to find the PE ratio of Aztor Ltd. assuming that the cost of equity is 12% p.a.
- (b) Analyse the relationship of interest rate changes on the stock prices.
- (c) A growth investor is planning to invest in any one of the three companies having zero payout policy.

Firm	Expected earnings per share (₹)	Investors expected rate of return	Current Price of each share (₹)
A	10	10%	50
B	5	10%	50
C	4	10%	50

Which is the preferred firm for investment?

4+2+4

2. (a) The prevailing price of the stock of Acne Ltd. is ₹ 24 per share. The company is expected to pay a dividend of ₹ 1.20 per share at the end of the next year. It has been forecasted by many fundamental analysts that the stock will reach a price of Rs.30 at the end of one year. This is considered by many as a very reliable forecast. Should an investor be willing to buy the share at the current price, if his required rate of return is 20%?
- (b) Find yield to call (YTC) for a 5 year callable bond paying 12% interest semi-annually on a face value of ₹ 2000 and currently selling at ₹ 1770. The call may be exercised at the end of 3rd year at a strike price of ₹ 2050. If the bond is not called up at all during the maturity period, how much yield the investors can expect from the bond? Which yield should the investor prefer while taking investment decision? Comment.

2+(3+3+2)

Please Turn Over

3. (a) A bond with a coupon rate of 10%, having 4 years to maturity, face value of ₹ 1000 and market price of ₹ 770 is available in the market. Interest is payable semi-annually. Mr. Atul, a layman, seeing that the market is very buoyant wants to invest in this bond with an expectation of minimum 12% p. a. return on investment. Do you think that Mr. Atul is taking the right decision?
- (b) Mr. Biswas acquired a bond for ₹ 2500 offering 11% coupon rate. The bond was issued two years ago and at the time of purchase the bond had eight years to maturity with par value of ₹ 1800. Assuming annual interest payments, calculate Mr. Biswas's yield rate if all the interest payments were withdrawn immediately upon receipt.

[Given:  $(1.1952)^{1/6} = 1.0301$ ;  $(1.38)^{1/6} = 1.0551$ ;  $(1.3888)^{1/8} = 1.0419$ ;  $(1.3536)^{1/8} = 1.0386$ ;  
 $(1.6)^{1/8} = 1.0605$  5+5

4. (a) How do you identify primary trends in Dow Theory?
- (b) Develop a modified multiple using a valuation multiple and analyse its application in investment analysis.
- (c) At the end of 2020, analysts expect that Sun Pharma's earnings would maintain its historical growth of 4.5%. They also have projected a required rate of return of 7.5% for the Indian equity market. Currently, the company earns a profit of ₹ 8.5 per share and the book value of the company is ₹ 27 per share. Directors of Sun Pharma wanted to maintain a dividend payout of 20%. Calculate P/BV ratio. 4+3+3

### Module - II

#### (Portfolio Management)

Answer *any two* questions.

5. (a) Explain how you will measure risk of expected return on a security.
- (b) The financial year end market price of Alpha Ltd.'s shares and dividend paid by the company over the period 2016-2017 to 2021-2022 are given below.

Year ending 31 <sup>st</sup> March	Market Price of Shares (₹ per share)	Dividend paid (₹ per share)
2017	1050	1.50
2018	1065	3.50
2019	1055	2.50
2020	1070	3.00
2021	1058	2.00
2022	1072	2.50

In addition, the company has declared and paid an interim dividend of ₹ 1.00, ₹ 2.00 and ₹ 1.50 per share respectively in the month of November 2017, 2019 and 2021, and quarterly cash dividend of ₹ 2.00 per share each in the month of July 2017 and 2021.

An investor, who has been holding the shares of the company, has sold them in October 2021 for ₹ 1068 per share.

Determine single period ex-post total returns over the investor's holding period. Also, giving adequate justification, use an appropriate method to find out the average return during investor's holding period.

[Given:  $(1.03398)^{1/5} = 1.00671$ ;  $(1.03446)^{1/5} = 1.00679$ ;  $(1.03592)^{1/5} = 1.00708$ ;  $(1.03833)^{1/5} = 1.00755$ ]  
 $2\frac{1}{2}+7\frac{1}{2}$

6. (a) What do you mean by 'financial interior decorating'? Explain.  
 (b) Consider the following—

	Stock X	Stock Y
Expected Return (%)	15	40
Variance (%)	9	25
Covariance of Stock X and Stock Y	6	

A risk averse investor, who is presently holding 4:1 combination of Stock X and Stock Y in his portfolio, seeks your opinion whether further risk reduction is possible by changing the portfolio combination. Advise the investor on the basis of Markowitz diversification principle by determining minimum variance portfolio combination and risk-return profile of such combination.  $2\frac{1}{2}+7\frac{1}{2}$

7. (a) 'All feasible portfolios need not necessarily lie on Markowitz efficient frontier'. Justify the statement with the help of a graphical illustration of two risky securities' portfolio having negative, but not perfectly negative correlation between their returns.  
 (b) Distinguish between CML and SML. Use graph to explain your answer.  $6+4$
8. (a) Given the risk premium of following four stocks :

Stock P - 7.2%  
 Stock Q - 0%  
 Stock R - 18%  
 Stock N - (-)4.8%

Identify (giving appropriate reason) the nature of the above four stocks based on their beta coefficient if T-Bills return is 4% and average return on stock market index is 16%.

- (b) Explain how you will use Sharpe index to evaluate the performance of portfolios.  $7+3$