

2025

COMMERCE

Paper : DSE-306A

(Security Analysis and Portfolio Management)

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) Mr. Alfred has submitted the following data of Dower's Ltd.

Particulars	Amount (in Lakhs)
Equity Share Capital	280
Preference Share Capital	100
6% Debentures	50
Reserves and Surpluses	20
Profits After Tax	15
Dividend Paid	9
Sales	150

Mr. Alfred wants to know the growth rate that he can expect by investing in Dower's Ltd.

- (b) The Return on Equity (ROE) of D Ltd. for 2020 to 2024 are as follows : 7.5%, 10%, 1.5%, 5.5%, and 8.5%, respectively. The ROE of B Ltd. during the same period are as follows : 7%, 5.5%, 5%, 7.5% and 8%. Which company is more volatile in terms of their ROE?
- (c) How do you measure marketability of a market and marketability of a security? 2+2+6
2. Rostro Ltd. earned ₹ 50 per share during the last year and paid dividend of ₹ 20 per share. The earnings have been growing @ 15% for the last five years but are expected to grow @10% for the next two years, @ 8% for the third year and thereafter stabilise @ 3%. The payout ratio is expected to remain at the same level during the next two years and then decline to 25%. The required rate of return is 13% p.a.
- (a) Is it worth investing in Rostro Ltd. if the shares are currently selling at ₹ 150 per share?
- (b) What will be the price of a share at the end of the second year?

Please Turn Over

(3083)

- (c) If the growth rate in dividend falls linearly for the next 4 years and then stabilises at the long run rate, assuming payout ratio to remain constant throughout, what is the price of a share of Rostro Ltd.? 4+3+3
3. (a) Three years ago, Tulip Ltd. offered a bond with the issue price of ₹ 1,000, annual coupon rate 8% with a maturity period of seven years. If the bond is redeemed at ₹ 1,200 and the investor faces a 25% tax on income and 10% on capital gains tax, (difference between issue price and maturity value), what is the yield to maturity rate of the bond at present?
- (b) Mr. B is considering investing in a bond currently selling at ₹ 4,500. The bond has 5 years to maturity and has a face value of ₹ 5,500. The coupon rate is 5% and next interest payment is due one year from now. The discounting factor for investments with similar risks is 7%. What will be the proportionate change in the price of the bond, if the yield rate increases by 150 basis points? 5+5
4. (a) What do you mean by support and resistance level? Give a diagram of a strong stock.
- (b) Using a stock price line and a moving average line generate all buy signals.
- (c) What is the relationship between volumes and trends? 3+3+4

Module - II

(Portfolio Management)

Answer *any two* questions.

5. (a) Discuss the causal factors of unsystematic risk of investment in a security.
- (b) The financial year end market price of Spring Ltd.'s shares and dividend paid by the company over the period 2019 - 2020 to 2024 - 2025 are given below :

Year ending 31st March	Market Price of Shares (₹ per share)	Dividend Paid (₹ per share)
2020	1025	2.00
2021	1030	1.50
2022	1020	2.50
2023	1015	1.50
2024	955	2.00
2025	1005	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 2020, 2022 and 2024.

An investor, who has been holding the shares of the company, has sold them in October 2024 for ₹ 1,010 per share.

Determine single period ex post total returns and real average rate of return over the investor's holding period if the inflation rate was 5% on an average over the period. 4+6

6. (a) What do you understand by 'Naïve Diversification'? Explain.
 (b) Consider the following -

	<u>Stock X</u>	<u>Stock Y</u>
Expected Return (%)	25	40
Variance (%)	16	25
Covariance	15	

A risk averse investor is holding an equally weighted portfolio of above two stocks X and Y and 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 suggest risk-return profile of your recommended combination.

2½+7½

7. (a) Discuss the difference between CML and SML. Use graph to explain your answer.
 (b) You have invested ₹ 100 lakh in a complete portfolio comprising of one risky portfolio which has an expected standard deviation of 15% and a risk-free Government security with a return of 5%. In the risky portfolio, there are two stocks A and B with S.D. of returns of 18% and 12% respectively, while expected returns of stocks A and B are 16% and 8% respectively.

Required :

- (i) Calculate the risk of your complete portfolio, if you desire that your portfolio should have a return of 9%.
 (ii) Suppose, instead of 9% yearly returns, you expect that your portfolio should have a value of ₹ 115 lakh at the end of the year. Calculate the amount invested in risky portfolio (borrowing at the risk-free rate is allowed).

4+6

8. (a) Given the risk premium of following three securities :
- Security P – 20%
 Security Q – 12%
 Security R – 0%

Identify (giving appropriate reason) the nature of the above three securities based on their beta coefficient if the market risk premium is 16%.

Please Turn Over

(3083)

- (b) The following information is available on the performance of five funds over the past ten-year period :

Funds	Average Annual Return (%)	Standard Deviation (%)	Beta
Star Fund (equity)	17	10	1.6
Zinc Fund (index)	15	8	1
Silver Fund (growth)	20	12	1.5
Gold Fund (balanced)	14	6	1.2
Copper Fund (diversified)	16	5	0.98

If the risk free rate of return is 6%, evaluate the performance of the above five funds using an appropriate measure giving adequate justification and rank them.

5+5