

Question Paper

Financial Management-I (141) : April 2007

- Answer all questions.
- Marks are indicated against each question.

1. Which of the following statements are **not true** regarding the functions performed by a financial system? [≤](#)
[Answer >](#)

- I. The payment function provides the investors with the opportunity to liquidate the investments.
- II. The savings function offers a very convenient mode of payment for goods and services.
- III. The liquidity function ensures that the public savings reach the hands of those in production.
- IV. The policy function allows for the exchange of current income for future income and transformation of savings into investments.

- (a) Both (I) and (II) above
- (b) Both (II) and (III) above
- (c) Both (III) and (IV) above
- (d) (I), (II) and (III) above
- (e) (II), (III) and (IV) above.

(1 mark)

2. When client does **not fix** any time or price limit for execution of order, it is known as [≤](#)
[Answer >](#)

- (a) Limit order
- (b) Best rate order
- (c) Immediate order
- (d) Stop loss order
- (e) Open order.

(1 mark)

3. Which of the following is a liability of a bank? [≤](#)
[Answer >](#)

- (a) Cash in hand and balances with the RBI
- (b) Cash credit and overdraft
- (c) Discounting of commercial bills
- (d) Time deposits
- (e) Hire purchase credit.

(1 mark)

4. Which of the following statements is **true** with respect to risk and return? [≤](#)
[Answer >](#)

- (a) Realized return is ex-ante return
- (b) Total return is expressed as a percentage of the sale price
- (c) Expected return is the weighted average rate of return where the probability of each rate of return is used as the weight
- (d) Expected return is ex-post return
- (e) Range of returns is the most popular way of measuring variability of returns.

(1 mark)

5. Which of the following statements is **not true** with respect to beta of a security?

[≤](#)
[Answer >](#)

- (a) Beta greater than 1 indicates an asset of above average risk
- (b) Beta of a portfolio is the weighted average of the betas of the securities that constitute the portfolio
- (c) Beta of a security decreases with an increase in the standard deviation of market returns
- (d) Beta of a security increases with an increase in the value of the correlation coefficient between the security's return and market return
- (e) Beta of a security increases with a decrease in standard deviation of the security's return.

(1 mark)

6. Which of the following statements is **not true** with respect to the capital asset pricing model?

[≤](#)
[Answer >](#)

- (a) The linear relationship between the required rate of return of a security and its systematic risk is called Security Market Line (SML)
- (b) The required rate of return is equal to the risk-free rate plus a risk premium
- (c) Risk premium is equal to the difference between the return on the market and the risk free rate
- (d) Any individual security's expected return and beta statistics should lie on the SML
- (e) It assumes that the market is in equilibrium and the expected rate of return is equal to the required rate of return for a given level of market risk.

(1 mark)

7. Which of the following statements is/are **true** with respect to the Security Market Line (SML)?

[≤](#)
[Answer >](#)

- I. It intersects the horizontal axis at the risk-free rate of return.
 - II. When the required rate of return is more than the expected rate of return, the security is undervalued.
 - III. When the required rate of return is less than the expected rate of return, the security lies above the SML.
 - IV. Securities that lie below the SML are defensive securities.
- (a) Only (II) above
 - (b) Only (IV) above
 - (c) Both (I) and (II) above
 - (d) Both (II) and (III) above
 - (e) Both (III) and (IV) above.

(1 mark)

8. Which of the following statements is **not true** with respect to the bond value theorems?

[≤](#)
[Answer >](#)

- (a) When the required rate of return is greater than the coupon rate, the value of the bond is less than its par value
- (b) When the required rate of return is less than the coupon rate, the premium on the bond declines as maturity approaches
- (c) For a given difference between YTM and coupon rate, the longer the term to maturity, the smaller will be the change in price with change in YTM
- (d) A change in the YTM affects the bonds with a higher YTM more than it does bonds with a lower YTM
- (e) A bond's price is inversely proportional to its YTM.

(1 mark)

9. Which of the following statements are **true** with respect to the value of a firm?

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Answ
er >

- I. Liquidation value is the amount that a company could realize if it sold its assets after having terminated its business.
 - II. Going concern value is the amount that a company could realize if it sold its business as an operating one.
 - III. Liquidation value is always higher than the going concern value.
 - IV. Replacement value is the current price at which the assets are bought or sold in the market.
- (a) Both (I) and (II) above
 - (b) Both (II) and (III) above
 - (c) Both (III) and (IV) above
 - (d) (II), (III) and (IV) above
 - (e) All (I), (II), (III) and (IV) above.

(1 mark)

10 Which of the following statements is **true** with respect to a warrant?

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Answ
er >

- (a) A warrant is a put option to sell a stated number of shares of a company
- (b) A warrant holder receives dividends and can vote like shareholders
- (c) When a warrant is issued, the exercise price is always greater than the current market price
- (d) The premium associated with a warrant will increase as the expiry date approaches
- (e) The actual value of the warrant will never be equal to the theoretical value on the expiry date.

(1 mark)

11 Other things remaining the same, the value of a convertible increases when

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Answ
er >

- I. Coupon rate on the convertible bond decreases.
 - II. Expected price of equity share on conversion increases.
 - III. Required rate of return decreases.
 - IV. Number of years to maturity increases.
- (a) Only (II) above
 - (b) Only (IV) above
 - (c) Both (I) and (II) above
 - (d) Both (II) and (III) above
 - (e) Both (I) and (IV) above.

(1 mark)

12 Which of the following statements is **not true** with respect to the equity valuation models?

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Answ
er >

- (a) Dividend capitalization approach assumes that the first payment of dividend is made one year after the equity share is bought
- (b) Single period valuation model is used when an equity share is held for one year
- (c) Multi period valuation model can be used to value equity shares with constant dividends as well as those with constant growth in dividends
- (d) Multi period valuation model cannot be used to value equity shares with variable growth in dividends
- (e) According to the P/E model, intrinsic value of share is equal to the product of expected earning per share and the appropriate price earning ratio.

(1 mark)

13 Which of the following statements is/are **not true** with respect to the impact of growth on price, returns and P/E ratio? [Answer >](#)

- I. Other things being equal, as the expected growth in dividend increases, the expected return depends more on the dividend yield and less on the capital gain yields.
- II. Other things being equal, as the expected growth in dividend increases, the P/E ratio decreases.
- III. High dividend yield and low P/E ratio imply limited growth prospects.
- IV. Low dividend yield and high P/E ratio imply considerable growth prospects.

- (a) Only (II) above
- (b) Only (III) above
- (c) Both (I) and (II) above
- (d) Both (II) and (IV) above
- (e) Both (III) and (IV) above.

(1 mark)

14 Which of the following statements is **not true** with respect to profitability ratios? [Answer >](#)

- (a) Gross profit margin ratio shows the profits relative to sales after the direct production costs are deducted
- (b) Asset turnover ratio highlights the amount of assets that the firm used to generate its total sales
- (c) Earning power is a measure of operating profitability
- (d) Return on equity measures the profitability of equity funds invested in the firm
- (e) Earning power is not suitable for inter-firm comparisons.

(1 mark)

15 Which of the following ratios is **not** an ownership ratio? [Answer >](#)

- (a) Price-earning ratio
- (b) Debt-equity ratio
- (c) Interest coverage ratio
- (d) Net profit margin
- (e) Dividend yield.

(1 mark)

16 Other things remaining the same, ROE decreases when [Answer >](#)

- I. Net Profit decreases.
 - II. Average Assets decreases.
 - III. Average Equity increases.
- (a) Only (I) above
 - (b) Only (II) above
 - (c) Both (I) and (II) above
 - (d) Both (I) and (III) above
 - (e) Both (II) and (III) above.

(1 mark)

17 Which of the following ratios measure the long-term solvency of a firm? [Answer >](#)

- (a) Liquidity ratios
- (b) Profitability ratios
- (c) Earning ratios
- (d) Leverage ratios
- (e) Coverage ratios.

(1 mark)

18 A type of analysis in which the financial ratios are compared with the industry averages or with a good player in normal conditions is known as [Answ](#)
[er >](#)

- (a) Time series analysis
- (b) Common size analysis
- (c) Du Pont analysis
- (d) Cross-sectional analysis
- (e) Financial ratio analysis.

(1 mark)

19 The shares of Aravind Industries Ltd. are currently trading at Rs.70. The company's dividend pay-out ratio is 50% and the dividend yield on the company's shares is 7%. If the company presently has 2 lakh shares outstanding, the net profit of the company is [Answ](#)
[er >](#)

- (a) Rs.14.7 lakh
- (b) Rs.16.9 lakh
- (c) Rs.19.6 lakh
- (d) Rs.20.3 lakh
- (e) Rs.21.4 lakh.

(1 mark)

20 Which of the following statements is **not true** with respect to the degree of financial leverage? [Answ](#)
[er >](#)

- (a) It is the ratio of percentage change in EPS to the percentage change in EBIT
- (b) It helps in assessing the financial risk of a firm
- (c) Financial breakeven point is that point where EBIT is the sum of interest on debt and the preference dividend adjusted for taxes
- (d) It plays an important role in production planning
- (e) It is positive for all values of EBIT greater than the financial breakeven point and decreases as EBIT increases.

(1 mark)

21 The fixed operating costs of Aniruddh Electric Works Ltd., have decreased from Rs.8,00,000 to Rs.6,00,000. Which of the following is likely to happen owing to this change in the fixed costs? [Answ](#)
[er >](#)

- (a) The degree of operating leverage increases
- (b) The financial breakeven point increases
- (c) The overall breakeven point decreases
- (d) The degree of total leverage increases
- (e) The degree of financial leverage decreases.

(1 mark)

22 Other things remaining the same, which of the following will decrease the quantity produced at the overall break-even point? [Answ](#)
[er >](#)

- I. Increase in the contribution per unit.
 - II. Increase in the fixed costs of the firm.
 - III. Decrease in the interest paid to the debt holders.
 - IV. Increase in the preference dividend paid to the preference shareholders.
- (a) Only (I) above
 - (b) Only (II) above
 - (c) Both (I) and (III) above
 - (d) Both (II) and (III) above
 - (e) (I), (II) and (IV) above.

(1 mark)

23 Which of the following statements is **not true** with respect to the external financing requirement? [Answer >](#)

- (a) The amount of external financing depends on projected growth in sales
- (b) The faster the firm grows, the more external financing it requires
- (c) At low growth rates, a firm's requirement for external finance is negative
- (d) When growth rate is zero, all the retained earnings are surplus funds with the firm, and so no external financing is required
- (e) A firm with a high volume of retained earnings relative to its assets needs to raise more funds externally.

(1 mark)

24 Other things remaining constant, which of the following will increase the rate of growth sustainable with internal equity? [Answer >](#)

- I. Increase in the net profit margin.
- II. Increase in the retention ratio.
- III. Decrease in the debt-equity ratio.

- (a) Only (II) above
- (b) Only (III) above
- (c) Both (I) and (II) above
- (d) Both (II) and (III) above
- (e) Both (I) and (III) above.

(1 mark)

25 Which of the following statements is **true** with respect to funds from operations? [Answer >](#)

- (a) It is directly expressed in the income statement
- (b) It is same as profit after tax
- (c) It is equal to net profit minus depreciation
- (d) It can be got by adding back the depreciation and other non-cash charges to the profit after tax
- (e) It can be always expressed as a use of funds in the funds flow statement.

(1 mark)

26 Which of the following statements is **not true** with respect to funds flow statement? [Answer >](#)

- (a) A gross increase in fixed assets represents a use of funds
- (b) Net increase in working capital represents a source of funds
- (c) Net increase in a liability represents a source of funds
- (d) Retirement of stock represents a source of funds
- (e) Net decrease in any asset represents a source of funds.

(1 mark)

27 Which of the following activities come under the ambit of the deployment of funds function by a finance manager? [Answer >](#)

- I. Analysis of variance between the targeted costs and actual costs incurred and reporting on the same.
 - II. Interacting with banking agencies for procuring funds.
 - III. Appraisal of investment proposals given by various departments.
 - IV. Deciding the optimum quantity of raw materials to be ordered for procurement.
- (a) Both (I) and (II) above
 - (b) Both (II) and (III) above
 - (c) Both (III) and (IV) above
 - (d) Both (II) and (IV) above
 - (e) (I), (III) and (IV) above.

(1 mark)

28 Which of the following statements is **true** with respect to the sinking fund factor?

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[Answer](#)
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- (a) It is the inverse of the present value interest rate factor for annuity
- (b) It represents the accumulation of Re.1 invested or paid at the end of every year for a period of 'n' years at a predetermined rate of interest
- (c) It represents the amount that has to be invested at the end of every year for a period of 'n' years at a predetermined interest rate in order to accumulate Re.1 at the end of the period
- (d) It represents the amount that has to be invested annually to liquidate a loan over a specified period at a given rate of interest
- (e) It represents the amount that can be withdrawn periodically for a certain length of time, if a given amount is invested today.

(1 mark)

29 Which of the following statements is/are **true**?

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[Answer](#)
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- I. The nominal rate of interest is equal to the effective rate of interest when the interest is compounded annually.
 - II. The interest that is annualized using compound interest is termed as compounded interest rate.
 - III. The effective rate of interest is greater than the nominal rate of interest.
- (a) Only (I) above
 - (b) Only (II) above
 - (c) Both (I) and (II) above
 - (d) Both (I) and (III) above
 - (e) Both (II) and (III) above.

(1 mark)

30 Which of the following expressions indicates relationship between real and nominal rates of return?

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[Answer](#)
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- (a) Nominal interest rate = Real rate of interest + risk premium
- (b) Nominal interest rate = Real rate of interest + expected rate of inflation
- (c) Nominal interest rate = Real rate of interest + expected rate of inflation + risk premium
- (d) Real interest rate = Nominal rate of interest + expected rate of inflation – risk premium
- (e) Expected rate of inflation = Real rate of interest – nominal rate of interest.

(1 mark)

31 Jayanth has invested in three securities: A, B, and C. The following table shows the beta of each security and the amount of money invested in each security:

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[Answer](#)
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Security	Beta	Amount of money invested (Rs.)
A	1.50	40,000
B	2.00	25,000
C	0.50	1,00,000

What is the beta of his portfolio?

- (a) 0.85
- (b) 0.97
- (c) 1.09
- (d) 1.25
- (e) 1.40.

(1 mark)

32 Consider the following table:

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Answ
er >

Probability (%)	Return on the security X (%)	Return on the market (%)
20	22	20
30	18	21
40	12	16
10	25	24

The correlation coefficient between the security X and the market is

- (a) -0.14
- (b) -0.48
- (c) 0.23
- (d) 0.76
- (e) 0.91.

(2 marks)

33 Novelty Industries is establishing a sinking fund to redeem Rs.5 crore bond issue, which matures in 15 years. How much do they have to put into the fund at the end of each year to accumulate the Rs.5 crore, assuming the funds will earn a return of 7% compounded half-yearly?

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Answ
er >

- (a) Rs.17.76 lakh
- (b) Rs.18.88 lakh
- (c) Rs.19.71 lakh
- (d) Rs.20.09 lakh
- (e) Rs.21.13 lakh.

(2 marks)

34 Consider the following information:

<
Answ
er >

Return on the security 'X'	24%
Return on the market	14%
Covariance of returns with the market	$140.4(\%)^2$
Variance of returns from the security	$144(\%)^2$
Variance of returns from the market	$169(\%)^2$

Alpha of the security is

- (a) -8.62%
- (b) -5.92%
- (c) -2.43%
- (d) 5.92%
- (e) 12.38%.

(2 marks)

35 Srinivasa Textiles Ltd. paid a dividend of Rs.2.50 for the recently completed financial year, and the dividends are expected to grow at 10% per annum forever. The shares of the company are trading at Rs.85 in the market. The beta of the security is 1.15. Return on the market index is 14% and the risk-free rate of return is 8%. How much percentage change in the company's share price is warranted if the price of the share has to be in equilibrium?

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Answ
er >

- (a) -34%
- (b) -28%
- (c) 12%
- (d) 22%
- (e) 32%.

(2 marks)

- 36 Mr. Vishnu wants to invest in the securities of Bajaj Auto Ltd., Cipla Ltd., HDFC Bank, and ITC Ltd., The expected returns on the four securities are as follows: [Answer >](#)

Security	Expected Return
Bajaj Auto Ltd.	20%
Cipla Ltd.	10%
HDFC Bank	12%
ITC Ltd.	9%

What is the expected return on Mr. Vishnu's portfolio if he has invested Rs.80,000 equally in all the four shares?

- (a) 8.25%
- (b) 10.75%
- (c) 12.75%
- (d) 13.25%
- (e) 14.50%.

(1 mark)

- 37 The beta of stock A is 2.0 and is currently in equilibrium. The required return on the stock is 15% and the expected return on the market is 10%. Suddenly due to economic conditions, the expected return on the market increases to 15%. Other things remaining the same what would be the change in the required return on the stock? [Answer >](#)

- (a) Decreases by 7.5%
- (b) Increases by 10.0%
- (c) Decreases by 12.5%
- (d) Increases by 15.0%
- (e) Increases by 20.0%.

(1 mark)

- 38 M/S Renaissance Hotels Pvt. Ltd. has paid a dividend of Rs.5.00 per share on a face value of Rs.10 for the recently completed financial year. The following data is furnished: [Answer >](#)

Current market price of share = Rs.120
 Growth rate of earnings and dividends = 12%
 β of the share = 1.20
 Average market return = 18%
 Risk free rate = 8%

What is the intrinsic value of the company's share?

- (a) Rs.45.00
- (b) Rs.60.00
- (c) Rs.62.00
- (d) Rs.65.00
- (e) Rs.70.00.

(2 marks)

39 Hyderabad Grameena Bank (HGB) has various deposit schemes which offer the same effective rate of interest of 8 percent per annum compounded quarterly. Mr. Charan plans to save Rs.150 at the beginning of every month with HGB in a monthly recurring deposit scheme which has a maturity period of three years. What is the maturity value at the end of three years?

- (a) Rs.4,556
- (b) Rs.5,224
- (c) Rs.6,116
- (d) Rs.6,656
- (e) Rs.7,005.

(2 marks)

40 Kiran Electronics Ltd. reported an operating profit of Rs.200 lakh and paid a dividend of Rs.2.00 per share during the recently ended financial year. The company is expecting a growth rate of 8% in the dividends. The company is planning to enhance its operating capacity due to which its operating profit is expected to increase by 20%. The company pays an interest of Rs.40 lakh for its debenture holders and a preference dividend of Rs.40 lakh for its preference share holders. It presently has 10 lakh shares outstanding. The return required by the investors is 18%. The company falls in the tax bracket of 40%. The expected P/E ratio for the company is

- (a) 1.5
- (b) 1.9
- (c) 2.4
- (d) 2.7
- (e) 3.1.

(2 marks)

41 Yogi Industries Ltd. reported after-tax earnings of Rs.20 per share in the currently ended financial year out of which 40% are paid out as dividends. The dividends of the company are expected to grow at 22% for next five years and thereafter stabilize at 12% forever. The covariance of the company's stock returns with that of the market is $196(\%)^2$ and the variance of the market returns is $169(\%)^2$. The return on the market is 14% and the risk-free rate of return is 8%. Assuming that the CAPM holds good, the dividend yield from the company's stock is

- (a) 1.15%
- (b) 1.24%
- (c) 1.54%
- (d) 1.76%
- (e) 2.06%.

(2 marks)

42 Mahesh Industries Ltd. has bonds with a coupon of 12% and a remaining maturity period of five years. Currently, the bond is trading at Rs.960 and the current yield on the bond is 12.5%. The bond would be redeemed at 10% premium on maturity. If the investors' required rate of return is 16%, the intrinsic value of the bond is

- (a) Rs.906.78
- (b) Rs.916.48
- (c) Rs.934.68
- (d) Rs.965.48
- (e) Rs.980.28.

(2 marks)

43 A convertible bond of the face value Rs.1,000 had been issued at Rs.1,200 with a coupon rate of 10%. The conversion rate is 20 shares per bond. The current market price of the bond is Rs.1,300 and that of stock is Rs.55. The premium over conversion value is

- (a) 9.09%
- (b) 18.18%
- (c) 20.00%
- (d) 23.15%
- (e) 30.00%.

(1 mark)

44 Mr. Vinod purchased a coupon-bearing debenture of the face value Rs.1,500 for Rs.1,800. At the end of the year the price of the security increased to Rs.2,000. On selling the debenture, Mr. Vinod earned a return of 20%. What is the coupon rate received on the debenture?

- (a) 3.33%
- (b) 4.00%
- (c) 6.67%
- (d) 7.33%
- (e) 10.67%.

(1 mark)

45 The average collection period of a company is 40 days. If the average receivables balance is Rs.20 lakhs, the sales of the company, assuming 360 days in a year, is

- (a) Rs. 60 lakh
- (b) Rs. 90 lakh
- (c) Rs.120 lakh
- (d) Rs.180 lakh
- (e) Rs.210 lakh.

(1 mark)

46 The equity capital and total debt of Super Industries Ltd. amount to Rs.300 lakh and Rs.600 lakh respectively. The earnings before interest and taxes of the company amount to Rs.180 lakh. The return on investment of the company is

- (a) 10%
- (b) 12%
- (c) 15%
- (d) 20%
- (e) 30%.

(1 mark)

47 If the current ratio is 2.45 and the ratio of inventories to current liabilities is 0.45, the ratio of inventories to current assets is

- (a) 0.184
- (b) 0.225
- (c) 0.500
- (d) 0.900
- (e) 2.000.

(1 mark)

48 Apple Enterprises is forecasting EPS of Rs.2.50 per share for next year. The firm has 1,00,000 shares outstanding. It pays 12 percent interest on its debt, and it faces a 40 percent marginal tax rate. Its estimated fixed costs are Rs.2,00,000 while its variable costs are estimated at 45 percent of revenue. The firm's long-term debt to equity ratio is 5:3 and its current liabilities are Rs.2,00,000. It has total assets of Rs.10,00,000. The level of sales on which the company is basing its EPS forecast is

- (a) Rs. 2.07 lakh
- (b) Rs. 9.16 lakh
- (c) Rs.10.12 lakh
- (d) Rs.12.30 lakh
- (e) Rs.24.56 lakh.

(2 marks)

49 The shares of Mohan Industries Ltd. are currently trading at Rs.70. The company's dividend payout ratio is 50% and the dividend yield is 7%. If the company has 2 lakh shares outstanding and falls in the tax bracket of 40%, the taxable income for the company is

- (a) Rs.19.65 lakh
- (b) Rs.24.46 lakh
- (c) Rs.32.67 lakh
- (d) Rs.49.08 lakh
- (e) Rs.52.29 lakh.

(2 marks)

50 Meenakshi Industries Ltd. has reported a net income of Rs.80 lakh for the current year. The company presently has 10 lakh shares outstanding. During this year, the company intends to repurchase 15% of its shares, and this is not expected to affect its net income or P/E ratio. If the current stock price is Rs.30, the price after the repurchase will be

- (a) Rs.31.43
- (b) Rs.33.64
- (c) Rs.36.92
- (d) Rs.35.29
- (e) Rs.37.55.

(2 marks)

51 If the return on assets is 10% and the debt to assets ratio is 1:3, the return on equity is

- (a) 13.26%
- (b) 14.02%
- (c) 15.00%
- (d) 15.89%
- (e) 16.19%

(2 marks)

52 Consider the following information regarding Moti Laboratories for the year ended 2006-07:

[Answer >](#)

Particulars	Rs. in lakh
Net income	500
Fixed Assets	2,835
Cash and marketable securities	1,000
Sales	10,000

The firm had an average collection period of 40 days, and its current ratio and quick ratio were 3 times and 2 times respectively. The return on assets for the firm is (Assume 360 days in a year)

- (a) 6.33%
- (b) 8.33%
- (c) 9.55%
- (d) 10.33%
- (e) 11.56%.

(2 marks)

53 Consider the following information regarding Mercury Industries Ltd. for the year ended 2006-07:

[Answer >](#)

Net income	Rs.750 lakh
Current liabilities	Rs.125 lakh
Return on equity	12%
Return on assets	8%

The long-term debt to assets ratio of the firm is

- (a) 0.16
- (b) 0.24
- (c) 0.32
- (d) 0.43
- (e) 0.52.

(2 marks)

54 Consider the following information regarding Somu Electronics Ltd. for the year ended

[Answer >](#)

2006-07:

Long-term debt to net worth	0.5
Turnover of total assets (based on year-end figure)	2
Gross profit	30%
Average collection period (360 days a year)	25 days
Inventory turnover(based on COGS and year-end inventory)	3
Acid-test ratio	0.75
Equity capital	Rs.2,00,000
Retained earnings	Rs.3,00,000
Current liabilities	Rs.2,50,000

The fixed assets turnover ratio is (Assume 360 days in a year)

- (a) 5.78 times
- (b) 7.06 times
- (c) 7.98 times
- (d) 8.08 times
- (e) 9.04 times.

(2 marks)

55 Consider the following information about Ram Enterprises Ltd. for the year ended 2006-07:

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Answ
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Interest coverage ratio	7
Debt service coverage ratio	3
Profit after tax	Rs.3,15,000
Depreciation	Rs.75,000
Tax rate	40%

The amount of loan installment paid by the company for the year is

- (a) Rs.45,000
- (b) Rs.56,000
- (c) Rs.75,000
- (d) Rs.80,000
- (e) Rs.84,000.

(2 marks)

56 Consider the following details about Naveen Constructions Ltd. for the year ended 2006-07:

<
Answ
er >

Operating leverage	3:1
Financial leverage	2:1
Interest charges per annum	Rs.20 lakh
Selling price per unit	Rs.50
Variable cost	60% of sales
Corporate tax rate	50%

Number of units sold by the company is

- (a) 2 lakh units
- (b) 3 lakh units
- (c) 4 lakh units
- (d) 5 lakh units
- (e) 6 lakh units.

(2 marks)

57 Given below is the balance sheet of Mallik industries Ltd. for the year ended 2006-07:

<
Answ
er >

Liabilities	Rs. in lakh	Assets	Rs. in lakh
Equity capital (1 lakh shares of Rs.10 each)	10	Fixed assets (net)	25
Reserves and surplus	2	Current assets	15
15% debentures	20		
Current liabilities	8		
Total	40	Total	40

Following additional information is furnished:

Fixed costs per annum (excluding interest) = Rs.8 lakh

Variable cost to sales ratio = 80%

Selling price per unit = Rs.30

Total asset turnover = 3

Tax = 50%

If the quantity produced by the company increases by 15%, what would be the change in the earning per share in absolute terms?

- (a) Decrease of Re.0.65
- (b) Decrease of Rs.1.24
- (c) Increase of Rs.1.67
- (d) Increase of Rs.1.80
- (e) Increase of Rs.2.08.

(2 marks)

58 Consider the following information about Whiteline Industries Ltd.

<
Answ
er >

Net worth	Rs.25,00,000
12% debentures	Rs.10,00,000
9% Preference shares	Rs.8,00,000
Operating profit	Rs.20,00,000
Debt/equity	3/1
Tax rate	40%

The degree of financial leverage for the company is

- (a) 1.06
- (b) 1.14
- (c) 1.22
- (d) 1.28
- (e) 1.34.

(1 mark)

59 The following information is furnished about Nirmal Enterprises Ltd.:

<
Answ
er >

Particulars	Rs. in crore
Net sales	15
Equity	5
13% Preference shares	1
15% Debentures	3

EBIT is 12% of sales and the corporate tax rate is 40%. What is the operating leverage given that the combined leverage is 3?

- (a) 1.34
- (b) 1.56
- (c) 1.67
- (d) 1.78
- (e) 1.89.

(2 marks)

60 A firm has sales of Rs.75,00,000 in the current year and its variable cost to sales ratio is 40%. Its fixed costs are Rs.5,00,000. The company has 9% debentures of Rs.45,00,000 and an equity share capital of Rs.55,00,000 (face value = Rs.10 each). If the company falls in the tax bracket of 50%, what is the EPS of the company and how much change in the EBIT is warranted if the company aims at doubling the EPS during the next year?

<
Answ
er >

- (a) Rs.2.45; Rs.30.197 lakh
- (b) Rs.3.27; Rs.34.056 lakh
- (c) Rs.3.27; Rs.36.036 lakh
- (d) Rs.4.27; Rs.39.045 lakh
- (e) Rs.4.57; Rs.39.045 lakh.

(2 marks)

61 Consider the following information:

<
Answer >

Quantity produced	2,000 units
Variable cost	Rs.47.50 crore
Sales	Rs.60.00 crore
Fixed cost	Rs.10.00 crore
10% Debentures	Rs.40.00 crore
8% Preference shares	Rs.312.5 crore
Tax rate	40%
Units produced and sold	500

Operating breakeven point and overall breakeven point occur respectively at

- (a) 375 units; 2,100 units
- (b) 400 units; 2,227 units
- (c) 400 units; 2,427 units
- (d) 450 units; 2,567 units
- (e) 500 units; 2,768 units.

(2 marks)

62 If the degree of operating leverage is increased by 40% and the degree of financial leverage is decreased by 25%, then the degree of total leverage will

<
Answer >

- (a) Decrease by 7%
- (b) Decrease by 12%
- (c) Remain unchanged
- (d) Increase by 5%
- (e) Increase by 14%.

(1 mark)

63 Given below is the income statement of Rohini Textiles Ltd. for the year ended 2006-07:

<
Answer >

Particulars	Rs.	Particulars	Rs.
To Expenses paid and outstanding	1,50,000	By Gross profit	2,25,000
To Depreciation	35,000	By Gain of sale of land	30,000
To Loss on sale of machine	2,000		
To Discount	100		
To Goodwill	10,000		
To Net profit	57,900		
Total	2,55,000	Total	2,55,000

Funds from operations for the company are

- (a) Rs.54,600
- (b) Rs.67,800
- (c) Rs.74,900
- (d) Rs.79,900
- (e) Rs.81,900.

(2 marks)

- 64 Following are the summarized balance sheets of Yamuna Industries Ltd. for the years ended 2005-06 and 2006-07: [Answer >](#)

(Rs.'000s)					
Liabilities	31.03.2006	31.03.2007	Assets	31.03.2006	31.03.2007
Share capital	200	250	Land & building	200	190
General reserve	50	60	Plant and machinery	150	169
Profit & Loss A/C	30.5	31.6	Stock	100	74
Bank loan	70	-	Sundry debtors	80	64.2
Sundry creditors	150	135.2	Cash balance	0.5	0.6
Provision for taxation	30	34	Bank balance	-	8
			Goodwill	-	5
Total	530.5	510.8	Total	530.5	510.8

Net change in the working capital for the year 2006-07 was

- (a) -Rs.15,400
- (b) -Rs.18,900
- (c) -Rs.22,900
- (d) Rs.16,500
- (e) Rs.19,700.

(2 marks)

- 65 Which of the following is/are sources of funds in the Balance Sheet? [Answer >](#)

- I. Rs.5,005 decrease in accounts receivable.
- II. Rs.7,000 decrease in cash.
- III. Rs.12,012 decrease in accounts payable.
- IV. Rs.13,001 increase in accounts payable.
- V. Rs.15,009 increase in debtors.

- (a) Only (II) above
- (b) Only (III) above
- (c) Both (I) and (V) above
- (d) Both (III) and (V) above
- (e) (I), (II) and (IV) above.

(1 mark)

- 66 The face value of a T-Bill is Rs.100. Mr.Hari made a bid for the bill and it was accepted by the RBI. If the yield earned on the bill is 7.89% p.a., and the maturity period of the bill is 90 days, the price at which Mr.Hari made the bid is (Assume 365 days a year) [Answer >](#)

- (a) Rs.96.50
- (b) Rs.97.65
- (c) Rs.98.09
- (d) Rs.98.79
- (e) Rs.99.06.

(1 mark)

67 Which of the following is **not** a source of funds in the Funds Flow Statement constructed on the [Total Resources Basis](#)? [Answer >](#)

- (a) Net profit after tax
- (b) Issue of equity capital
- (c) Increase in term loans
- (d) Decrease in fixed assets
- (e) Increase in debtors.

(1 mark)

68 Consider the following information regarding Yogesh Electronics Ltd.:

[Answer >](#)

Net profit	Rs.2,52,000
Net current Sales	Rs.96,05,936
Dividend paid	Rs.4.50
Number of shares	14,000
Total liabilities	Rs.2,00,98,864
Equity share capital	Rs.40,00,000
Reserves and surplus	Rs.65,15,476
Depreciation	Rs.5,10,208

What is the sustainable growth rate of the company?

- (a) 1.27%
- (b) 1.83%
- (c) 2.08%
- (d) 2.39%
- (e) 2.97%.

(2 marks)

69 Consider the following information regarding Sri Enterprises Ltd. for the year 2005-06:

[Answer >](#)

Total Assets	Rs.36,00,000
Current liabilities	Rs.15,00,000
Current sales	Rs.58,43,400
Net profit	Rs.8,76,510
Retention ratio	40%

If the sales are expected to increase by 30% during the next year, the external funds requirement for the company is

- (a) Rs.1,56,456
- (b) Rs.1,67,578
- (c) Rs.1,74,215
- (d) Rs.1,79,467
- (e) Rs.1,82,432.

(2 marks)

70 Mr. Avinash borrowed Rs.4,00,000 from the ICICI bank at an interest rate of 12% per annum. The amount has to be repaid with interest in 35 equated monthly installments. Each installment is payable at the end of every month. The amount of each installment is [Answer >](#)

- (a) Rs.11,645
- (b) Rs.12,405
- (c) Rs.13,601
- (d) Rs.14,201
- (e) Rs.15,504.

(1 mark)

71 Mr. Srinivas is planning to deposit Rs.100 at the end of every month in a finance company for a period of 40 months, and the finance company will pay Rs.6,500 at the end of five years. The effective annual rate of return to Mr. Srinivas is

- (a) 14.56%
- (b) 15.36%
- (c) 16.49%
- (d) 17.09%
- (e) 17.67%.

(2 marks)

72 Mr. Kumar borrowed an amount of Rs.5,50,000 from Margadarsi Finance Ltd. As per the loan agreement, he has to repay Rs.3 lakh at the end of 7th year, Rs.4 lakh at the end of 8th year, Rs.2 lakh at the end of 9th year and Rs.2 lakh at the end of 10th year from now. In order to meet these payments, he wants to deposit money in a bank scheme at the end of every year for six years that offers an interest rate of 11% p.a. Thereafter he plans to retain the money in the bank account and withdraw required amounts as and when warranted. The interest rate is expected to remain 11% from 7th to 10th year.

The approximate amount that Mr. Kumar should invest at the end of every year for a period of 6 years is

- (a) Rs.1,02,090
- (b) Rs.1,10,312
- (c) Rs.1,21,293
- (d) Rs.1,28,905
- (e) Rs.1,89,389.

(2 marks)

Suggested Answers

Financial Management – I (141): April 2007

1. Answer : (d) ≤

Reason : The liquidity function provides the investors with the opportunity to liquidate the investments. Statement (I) is not true.

The payment function offers a very convenient mode of payment for goods and services. Statement (II) is not true.

The savings function ensures that the public savings reach the hands of those in production. Statement (III) is not true

The policy function allows for the exchange of current income for future income and transformation of savings into investments. Statement (IV) is true.

Thus statements (I), (II) and (III) are not true and statement (IV) is true. Hence (d) is the answer.

2. Answer : (e) ≤

Reason : The orders can be classified into:

- Limit Orders: Order limited by a fixed price. It may or may not include brokerage.
- Best Rate Order: To execute the buy/sell order at the best possible price.
- Immediate or Cancel Order: Order shall get cancelled if not executed immediately at the quoted price.
- Limited Discretionary Order: To provide discretion to the broker to execute order at a price, which is almost, approximate to the price fixed by client.
- Stop Loss Order: A particular limit is given for sustenance of loss. If the price falls below that, the broker is authorized to sell immediately to stop further occurrence of losses.
- Open Order: When client does not fix any time or price limit for execution of order.

Therefore (e) is the answer.

3. Answer: (d) ≤

Reason: Banking Assets:

Investments and bank credit are major banking assets. Banks have four categories of assets - Cash in hand and balances with the RBI, assets with the banking system, and investments in government and other approved securities. Banks provide mainly short-term credit for financing working capital needs. They provide various types of advances like loans, cash credit, overdrafts, demand loans, purchase and discounting of commercial bills, and installment or hire purchase credit.

Liabilities of banks:

Demand deposits, term deposits, and time deposits from other banks, borrowings from other banks, and borrowings from the RBI constitute major liabilities of banks.

Therefore (d) is the answer.

4. Answer : (c) ≤

Reason : Realized return is ex-post return. Statement (a) is not true.

Total return is expressed as a percentage of the purchase price of the investment at the beginning of the holding period. Statement (b) is not true.

Expected return is the weighted average rate of return where the probability of each rate of return is used as the weight. Statement (c) is true.

Expected return is ex-ante return because it pertains to future. Statement (d) is not true.

Standard deviation of returns is the most popular way of measuring variability of returns. Statement (e) is not true.

Hence (c) is the answer.

5. Answer: (e) ≤

Reason: Beta equal to one indicates an asset of average risk. Beta greater than 1 indicates above-average risk stocks, and beta less than 1 indicates below average risk. Statement (a) is true.

Beta of a portfolio is the weighted average of the betas of the securities that constitute the portfolio. Statement (b) is true.

$$\beta \text{ of the security} = \frac{\text{COV}(r_s, r_m)}{\sigma_m^2}, \text{ Also } \frac{\rho_{sm} \sigma_s \sigma_m}{\sigma_m^2} = \frac{\rho_{sm} \sigma_s}{\sigma_m}, \text{ where } \rho_{sm} \text{ is the correlation coefficient of market return and stock return. Beta decreases with an increase in the standard deviation of market returns. Statement (c) is true.}$$

Increase in the value of correlation coefficient between security and market returns will increase the value of β . Decrease in standard deviation of the security's return will decrease the value of β . Hence statements (d) true and statement (e) is not true.

Hence (e) is the answer.

6. Answer: (c) ≤

Reason: The linear relationship between the required rate of return of a security and its systematic risk is called security market line (SML). Statement (a) is true.

The required rate of return is equal to the risk-free rate plus a risk premium. Statement (b) is true.

Risk premium is equal to the beta times difference between the return on the market and the risk free rate, i.e, $\beta (k_m - R_f)$. Statement (c) is not true.

Any individual security's expected return and beta statistics should lie on the SML. Statement (d) is true.

It assumes that the market is in equilibrium and the expected rate of return is equal to the required rate of return for a given level of market risk. Statement (e) is true.

Hence (c) is the answer.

7. Answer : (e) ≤

Reason : It intersects the vertical axis at the risk-free rate of return. Statement (I) is not true.

When the required return is more than the expected rate of return, the security is overvalued. Statement (II) is not true.

When the required return is less than the expected rate of return, the security lies above the SML. Statement (III) is true.

Securities that lie below the SML are defensive securities. Statement (IV) is true.

Hence (e) is the answer.

8. Answer: (c) ≤
Reason: When the required rate of return is greater than the coupon rate, the value of the bond is less than its par value. Statement (a) is true.
When the required rate of return is less than the coupon rate, the premium on the bond declines as maturity approaches. Statement (b) is true.
For a given difference between YTM and coupon rate, the longer the term to maturity, the greater will be the change in price with change in YTM. Statement (c) is not true.
A change in the YTM affects the bonds with a higher YTM more than it does bonds with a lower YTM. Statement (d) is true.
A bond's price moves inversely proportional to its YTM. Statement (e) is true.
Hence (c) is the answer.
9. Answer: (a) ≤
Reason: Liquidation value is the amount that a company could realize if it sold its assets after having terminated its business. Statement (I) is true.
Going concern value is the amount that a company could realize if it sold its business as an operating one. Statement (II) is true.
Liquidation value is always lower than the going concern value. Statement (III) is not true.
Market value is the current price at which the assets are bought or sold in the market. Statement (IV) is not true.
Hence (a) is the answer.
- 10 Answer: (c) ≤
Reason: A warrant is a call option to buy a stated number of shares of a company. Statement (a) is not true.
A warrant holder neither receives dividends nor can vote like shareholders. Statement (b) is not true.
When a warrant is issued, the exercise price is always greater than the current market price. Statement (c) is true.
The premium associated with a warrant will shrink as the expiry date approaches. Statement (d) is not true.
The actual value of the warrant will always be equal to the theoretical value on the expiry date. Statement (e) is not true.
Hence (c) is the answer.

11 Answer: (d)

≤

Reason: Value of a convertible is given by

$$\sum_{t=1}^n \frac{C}{(1+r)^t} + \frac{P_n \times \text{Conversion ratio}}{(1+r)^n}$$

where,

C = coupon rate of the convertible bond

r = required rate of return

P_n = expected price of equity share on conversion]

n = number of years to maturity.

Other things remaining the same, the value of a convertible increases when

Coupon rate on the convertible bond increases.

Expected price of equity share on conversion increases.

Required rate of return decreases.

Number of years to maturity decreases.

Hence statements (II) and (III) are true and statements (I) and (IV) are not true. Hence (d) is the answer.

12 Answer: (d)

≤

Reason: Dividend capitalization approach assumes that the first payment of dividend is made one year after the equity share is bought. Statement (a) is true.

Single period valuation model is used when an equity share is held for one year. Statement (b) is true.

Multi period valuation model can be used to value equity shares with constant dividends as well as those with constant growth in dividends. Statement (c) is true.

Multi period valuation model can be used to value equity shares with variable growth in dividends. Statement (d) is not true.

According to the P/E model, intrinsic value of share is equal to the (Expected earning per share x Appropriate price – Earning ratio). Statement (e) is true.

Hence (d) is the answer.

13 Answer: (c)

≤

Reason: Other things being equal, as the expected growth in dividend increases, the expected return depends more on the capital gain yields, and less on the dividend yield. Statement (I) is not true.

Other things being equal, as the expected growth in dividend increases, the P/E ratio increases. Statement (II) is not true.

High dividend yield and low P/E ratio imply limited growth prospects. Low dividend yield and high P/E ratio imply considerable growth prospects. Statements (III) and (IV) are true.

Hence (c) is the answer.

14 Answer: (e) ≤

Reason: Gross profit margin ratio shows the profits relative to sales after the direct production costs are deducted. Statement (a) is true.

Asset turnover ratio highlights the amount of assets that the firm used to generate its total sales. Statement (b) is true.

Earning power is a measure of operating profitability. It is a measure of the operating business performance, which is not affected by interest charges and tax payments. As it does not consider the effects of financial structure and tax rate, it is well suited for inter-firm comparisons. Statement (c) is true and statement (e) is not true.

Return on equity measures the profitability of equity funds invested in the firm. Statement (d) is true.

Hence (e) is the answer.

15 Answer: (d) ≤

Reason: Net profit margin is a profitability ratio and not an ownership ratio. Hence (d) is the answer.

16 Answer: (d) ≤

Reason: According to the Du Pont equation, ROE

$$= \frac{\text{Net profit}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Average Assets}} \times \frac{\text{Average assets}}{\text{Average equity}}$$

ROE is directly proportional to the net profit and inversely proportional to average assets and average equity. Therefore it decreases when net profit decreases, average assets increase and average equity increases. Thus statements (I) and (III) are true and hence (d) is the answer.

17 Answer: (d) ≤

Reason: Leverage ratios measure the long-term solvency if a firm. Hence (d) is the answer.

18 Answer: (d) ≤

Reason: In the cross-sectional analysis, financial ratios of a firm are compared with the industry averages or with a good player.

In the Time-series analysis, financial statements are compared over two to three years by computing the year-to-year change in absolute terms and in terms of percentages.

In the common size analysis, the items of the balance sheet are expressed as percentages of total assets and the items of the income statement are expressed as percentages of the net sales.

In the Dupont analysis, return ratios are analyzed in terms of profit margin and turnover ratios.

Financial ratio analysis mainly helps in valuing the firm in quantitative terms.

Hence (d) is the answer.

19 Answer: (c)

≤

Reason: Given:

$$\frac{\text{DPS}}{\text{EPS}} = 0.5$$

$$\text{Dividend yield} = \frac{\text{DPS}}{\text{MPS}} = \frac{\text{DPS}}{70} = 0.07 \Rightarrow \text{DPS} = 70 \times 0.07 = \text{Rs.}4.9$$

$$\text{Therefore EPS} = \frac{\text{DPS}}{0.5} = \frac{4.9}{0.5} = \text{Rs.}9.8$$

$$\text{Net profit} = \text{No. of shares} \times \text{EPS} = 2,00,000 \times 9.8 = \text{Rs.}19,60,000 = \text{Rs.}19.6 \text{ lakh.}$$

Hence (c) is the answer.

20 Answer: (d)

≤

Reason: It is the ratio of percentage change in EPS to the percentage change in EBIT. Statement (a) is true.

It helps in assessing the financial risk of a firm. Statement (b) is true.

$$\text{EBIT} = I + \frac{D_p}{(1 - T)}$$

Financial breakeven point is that point where $\frac{D_p}{(1 - T)}$. Statement (c) is true.

DOL plays an important role in production planning. Statement (d) is not true.

It is undefined at the financial breakeven point and will be positive for all values of EBIT greater than the financial breakeven point. It will however start to decline as EBIT increases. Statement (e) is true.

Hence (d) is the answer.

21 Answer: (c)

≤

Reason: Degree of operating leverage = $\frac{Q(S-V)}{Q(S-V) - F}$. This decreases with a decrease in the fixed costs.

Financial breakeven point is that point where $EBIT = I + \frac{D_p}{(1-T)}$. This is not affected by fixed costs at all.

Quantity produced at the overall breakeven point = $\frac{F + I + \frac{D_p}{(1-T)}}{(S-V)}$. This decreases with a decrease in the fixed costs.

Degree of total leverage = $\frac{Q(S-V)}{Q(S-V) - F - I - \frac{D_p}{(1-T)}}$. This decreases with a decrease in the fixed costs.

Degree of financial leverage = $\frac{Q(S-V)-F}{EBIT-I-\frac{D_p}{(1-T)}}$. If fixed cost decrease DFL will increase marginally.

Hence if the fixed costs decrease, The DOL and the operating breakeven point will decrease. The DTL and the overall breakeven point will decrease. Therefore (c) is the answer.

22 Answer: (c)

≤

Reason: Quantity produced at the overall breakeven point = $\frac{F + I + \frac{D_p}{(1-T)}}{(S-V)}$

Other things remaining the same, increase in fixed costs will increase the quantity produced at overall break-even point.

Other things remaining the same, increase in the contribution per unit will decrease the quantity produced at overall break-even point.

Other things remaining the same, increase in the preference dividend paid to the preference shareholders will increase the numerator; hence it will increase the quantity produced at overall break-even point.

Other things remaining the same, decrease in the interest paid to the debt holders will decrease the quantity produced at overall break-even point.

Hence statements (I), (III) are true and statement (II) and (IV) are not true. Hence (c) is the answer.

- 23 Answer: (e) ≤
Reason: The external financing requirement (EFR) = $A/S(\Delta S) - L/S(\Delta S) - mS_1(1-d)$
The equation highlights that the amount of external financing depends on projected growth in sales. At high growth rates, the firm needs to invest more and therefore it needs to raise more capital. At low growth rates, a firm's requirement for external finance is negative. A firm with a high volume of retained earnings relative to its assets need not have to raise new funds externally. When growth rate is zero, all the retained earnings are surplus funds with the firm, and so no external financing is required. Therefore statement (e) is not true and is the answer.
- 24 Answer: (c) ≤
Reason: Growth with internal equity (g) = $[m(1-d)A/E] / [A/S - m(1-d)A/E]$
It can be observed from the formula that
As profit margin (m) increases 'g' increases. Statement (I) is true.
As retention ratio increases, dividend payout ratio (d) decreases and 'g' increases. Statement (II) is true.
As debt-equity ratio decreases the assets to equity ratio (A/E) decreases and 'g' decreases. Statement (III) is not true.
Hence (c) is the answer.
- 25 Answer: (d) ≤
Reason: It is not directly expressed in the income statement and it is not same as profit after tax. It can be got by adding back the depreciation and other non-cash charges to the profit after tax. It can be always expressed as a source of funds in the funds flow statement. Hence only statement (d) is true and is the answer.
- 26 Answer: (d) ≤
Reason: Sources of funds that increase cash are:
 - A net decrease in any asset other than cash or fixed assets
 - A gross decrease in fixed assets
 - A net decrease in any liability
 - Proceeds from the sale of equity or preference stock
 - Funds from Operations.
 - Increase in working capital
Uses of funds that decrease cash are:
 - A net decrease in any asset other than cash or fixed assets
 - A gross increase in fixed assets
 - A net decrease in any liability
 - A retirement or purchase of stock
 - Decrease in working capital
 - Cash dividends.
Hence statement (d) is not true and is the answer.
- 27 Answer: (c) ≤
Reason: Alternative (I) is a part of the 'control' function of the finance manager. Alternative (II) is related to the 'mobilization of funds' function. Alternative (III) is a part of the 'deployment of funds' function. Alternative (IV) is also related with the 'deployment of funds' function.
Hence (c) is the answer.

- 28** Answer: (c) ≤
Reason: Sinking fund is the inverse of the future value interest rate factor for annuity. It represents the amount that has to be invested at the end of every year for a period of 'n' years at a predetermined interest rate in order to accumulate Re.1 at the end of the period
Statements (d) and (e) correspond to the capital recovery factor. Therefore statement (c) is true and is the answer.
- 29** Answer: (d) ≤
Reason: When the compounding is done more number of times in a year, the effective rate of interest differs from the nominal interest rate. But when compounded annually, both are same. Statement (I) is true.
The interest rate that is annualized using compound interest is termed as effective rate of interest. Statement (II) is not true.
The effective rate of interest is greater than the nominal rate of interest. Statement (III) is true.
Thus (d) is the answer.
- 30** Answer: (c) ≤
Reason: In inflationary period, a rupee today has higher purchasing power than a rupee in the future. Since future is characterized by uncertainty, individuals prefer current consumption to future consumption. The manner in which these determinants combine to determine the rate of interest can be symbolically represented as:
Nominal or market interest rate = Real rate of interest or return + Expected rate of inflation + Risk premiums to compensate for uncertainty.
Therefore (c) is the answer.
- 31** Answer: (b) ≤
Reason: Total investment in the portfolio is Rs.1,65,000.
Proportion of money invested in Security A = $\text{Rs.}40,000/\text{Rs.}1,65,000 = 0.2424$
Proportion of money invested in Security B = $\text{Rs.}25,000/\text{Rs.}1,65,000 = 0.1515$
Proportion of money invested in Security C = $\text{Rs.}1,00,000/\text{Rs.}1,65,000 = 0.6061$
Portfolio beta = $\sum W_i \beta_i = (0.2424)(1.5) + (0.1515)(2.00) + (0.6061)(0.5) = 0.97$
Hence (b) is the answer.

32 Answer : (e)

≤

Reason :

P_i	R_x	R_m	$R_x - E(R_x)$	$(R_x - E(R_x))^2$	$R_m - E(R_m)$	$(R_m - E(R_m))^2$	$P_i(R_x - E(R_x))^2$	$P_i(R_m - E(R_m))^2$	$P_i(R_x - E(R_x))(R_m - E(R_m))$
0.2	2	20	4.9	24.01	0.9	0.81	4.802	0.162	0.882
0.3	8	21	0.9	0.81	1.9	3.61	0.243	1.083	0.513
0.4	2	16	-5.1	26.01	-3.1	9.61	10.404	3.844	6.324
0.1	5	24	7.9	62.41	4.9	24.01	6.241	2.401	3.871
							$\sigma_i^2 = 21.69$	$\sigma_m^2 = 7.49$	$Cov_{(i,m)} = 11.59$
							$\sigma_i = 4.66\%$	$\sigma_m = 2.74\%$	

Correlation coefficient between the security 'X' and the market ($\rho_{(i,m)}$)

$$= \frac{Cov_{(i,m)}}{\sigma_i \sigma_m} = \frac{11.59}{4.66 \times 2.74} = 0.91.$$

Hence (e) is the answer.

33 Answer : (c)

≤

Reason : First find out the effective annual rate (EAR)

$$EAR = r_e = \left(1 + \frac{r_n}{m}\right)^m - 1$$

Where,

r_n – nominal rate of interest, i.e., 7%

m – number of times compounding done = 2

$$\therefore r_e = \left(1 + \frac{0.07}{2}\right)^2 - 1 = 0.071225 = 7.123\%$$

Now, let the sinking fund payment be A.

$$\therefore \text{Rs. } 5,00,00,000 = A \times FVIFA_{(7.123\%, 15)}$$

$$A = \frac{5,00,00,000}{25.368} = \text{Rs. } 19,70,987.07 \approx \text{Rs. } 19,70,987.$$

Therefore Rs.19.71 lakh has to be paid into the sinking fund at the end of each year.

Hence (c) is the answer.

34 Answer : (e) ≤

Reason : According to the single-index model or the market model developed by William Sharpe,

$$\alpha = k_j - \beta k_m$$

But

$$\beta = \frac{\text{Cov}(i,m)}{\sigma_m^2} = \frac{140.4}{169} = 0.83$$

$$\alpha = 24\% - 0.83 \times 14\% = 24\% - 11.62\% = 12.38\%.$$

Hence (e) is the answer.

35 Answer : (a) ≤

Reason : At equilibrium, required rate of return = expected rate of return

$$\text{Required rate of return as per CAPM} = R_f + \beta(k_m - R_f) = 8\% + 1.15(14 - 8) = 14.9\%$$

$$\text{Expected rate of return as per the dividend discount model} = \frac{D_0(1+g)}{P_0} + g$$

At equilibrium, required rate of return = expected rate of return.

i.e.,

$$0.149 = \frac{2.5(1+0.10)}{P_0} + 0.10$$

$$0.049 = \frac{2.75}{P_0}$$

$$P_0 = \text{Rs.} 56.12$$

Therefore the purchase price should decrease by Rs.28.88 (Rs.85 – Rs.56.12), i.e, by 34%. Hence (a) is the answer.

36 Answer : (c) ≤

Reason : The expected rate of return is the weighted average of expected rates in the portfolio:

$$E(R_p) = \sum_{i=1}^n W_i E(R_i)$$

The portfolio weights are first determined by the formula

$$W_{BA} = \frac{\text{Rs. invested in Bajaj Auto}}{\text{Total equity investment}}$$

Since Mr.Aryan has invested equally in four securities and total investment is Rs.80,000, the portfolio weights are equal ($W_{BA} = W_{Cipla} = W_{HDFC} = W_{ITC}$) and are determined as:

Amount of investment in each security = Rs.80,000

Total investment = Rs.20,0000

$$W_{BA} = W_{Cipla} = W_{HDFC} = W_{ITC} = \text{Rs.} 20,000 / \text{Rs.} 80,000 = 0.25$$

Hence, the expected return on the individual securities and the expected rates of return on the portfolio is:

$$\begin{aligned} R_p &= (W_{BA} \times r_{BA}) + (W_{Cipla} \times r_{Cipla}) + (W_{HDFC} \times r_{HDFC}) + (W_{ITC} \times r_{ITC}) \\ &= (0.25 \times 0.20) + (0.25 \times 0.10) + (0.25 \times 0.12) + (0.25 \times 0.09) \\ &= 0.1275 = 12.75\%. \text{ hence (c) is the answer.} \end{aligned}$$

37 Answer : (b)

≤

Reason : Required rate of return as per CAPM = $R_f + \beta(k_m - R_f)$

$$15 = R_f + 2(10 - R_f)$$

$$\text{i.e., } R_f = 20 - 15 = 5\%$$

After the expected return on the market increases to 15%,

$$\text{Revised Required rate of return} = 5 + 2(15 - 5) = 25\%$$

Therefore the required rate of return increases by 10%.

Hence (b) is the answer.

38 Answer : (e)

≤

Reason : Intrinsic value is given by the following formula:

$$P_0 = \frac{D_1}{k-g}$$

$$k = R_f + \beta(R_m - R_f)$$

$$k = 8 + 1.2(18 - 8) = 20\%$$

Given

$$D_0 = \text{Rs.}5.00, g = 12\%$$

$$D_1 = 5.00(1.12) = \text{Rs.}5.60$$

$$\therefore P_0 = \frac{5.60}{0.20-0.12} = \text{Rs.}70.$$

Hence (e) is the answer.

39 Answer : (c)

≤

Reason : Effective monthly rate of interest per month:

$$(1+r)^{12} = \left(1 + \frac{0.08}{4}\right)^4 = (1.02)^4$$

$$(1+r) = (1.02)^{1/3}$$

$$r = 1.006623 - 1 = 0.006623\%$$

This is a case of annuity due because the cash flows are occurring at the beginning of every month.

$$\text{Hence maturity value} = \text{Rs.}150 \times \text{FVIFA}_{(r\%,n)} (1+r) = \text{Rs.}150 \times \text{FVIFA}_{(0.6623\%,36)}(1+0.006623)$$

$$= 150 \times 40.504 \times 1.006623 = \text{Rs.}6,115.84 \approx \text{Rs.}6,116 \text{ (approx.) hence (c) is the answer.}$$

40 Answer : (d)

≤

$$\text{Reason : } E(P/E) = \frac{\text{PV per share}}{E(\text{EPS})} = \frac{D_1}{k-g} \times \frac{1}{E(\text{EPS})}$$

$$E(\text{EPS}) = \frac{\text{Expected PAT - Preference dividend}}{\text{Number of equity shares outstanding}}$$

$$= \frac{\text{EBIT - Interest - Tax - Preference dividend}}{\text{Number of equity shares outstanding}}$$

$$= \frac{200(1.2) - 40 - 80 - 40}{10} = \frac{80}{10} = \text{Rs.8}$$

$$E(P/E) = \frac{2.00(1.08)}{0.18 - 0.08} \times \frac{1}{8} = 2.7$$

Hence (d) is the answer.

41 Answer : (d)

≤

$$\text{Reason : } \beta = \frac{\text{COV}_{(i,m)}}{\sigma_m^2} = \frac{196}{169} = 1.16$$

$$k_e = R_f + \beta(R_m - R_f) = 8\% + 1.16(14 - 8) = 14.96\%.$$

Year	EPS	DPS	PVIF	PV of DPS @ 14.96%
1	24.40	9.76	0.870	8.490
2	29.77	11.91	0.757	9.010
3	36.32	14.53	0.658	9.562
4	44.31	17.72	0.573	10.147
5	54.05	21.62	0.498	10.769
PV of dividends				47.977

$$\text{Terminal price of the share} = \frac{D_5(1+g)}{k_e - g} = \frac{21.62(1 + 0.12)}{0.1496 - 0.12} = \text{Rs.818.054}$$

$$\text{PV of terminal price} = \frac{818.054}{(1.1496)^5} = \text{Rs.407.43}$$

$$\text{PV of share} = \text{PV of dividends} + \text{PV of terminal price} = \text{Rs.47.977} + \text{Rs.407.425} = \text{Rs.455.402}$$

When CAPM holds good, Intrinsic value = Market price

$$\text{Dividend yield} = \frac{\text{DPS}}{\text{Market price}} = \frac{8}{455.402} = 1.76\% . \text{ Hence (d) is the answer.}$$

42 Answer : (b)

≤

Reason : Given, n = 5 years

Coupon rate 12%

Price (P) = Rs.960

$$\text{Current yield} = 12.5\% = \frac{0.125 = \frac{\text{Coupon interest}(C)}{\text{market price}(P)}}$$

$$\frac{C}{P} = 0.125 \Rightarrow C = 0.125P = 0.125 \times 960 = \text{Rs.}120$$

$$\text{Par value of the bond} = \frac{C}{\text{Coupon rate}} = \frac{120}{0.12} = \text{Rs.}1,000$$

Investors' required rate of return = 16%.

Therefore, intrinsic value at a required return of 16%

$$= C \times \text{PVIFA}_{(16\%,5)} + F \times \text{PVIF}_{(16\%,5)}$$

$$= 120 \times 3.274 + 1,100 \times 0.476$$

$$= \text{Rs.}916.48.$$

Hence (b) is the answer.

43 Answer : (b)

≤

Reason : Premium over conversion value =

$$\frac{\text{Market price of the bond} - \text{Conversion value of the bond}}{\text{Conversion value of the bond}} \times 100$$

$$\text{Conversion value} = \text{Conversion rate} \times \text{price of the stock} = 55 \times 20 = 1,100$$

$$\text{Premium over conversion value} = \frac{1300 - 1100}{1100} \times 100 = 18.18\%.$$

Hence (b) is the answer.

44 Answer : (e)

≤

$$\text{Reason : Rate of return} = k = \frac{\text{coupon payment} + (P_t - P_{t-1})}{P_{t-1}}$$

$$0.2 = \frac{\text{Coupon payment} + (2,000 - 1,800)}{1,800}$$

$$\text{Coupon payment} = \text{Rs.}160$$

$$\text{Therefore coupon rate} = \frac{160}{1,500} = 10.67\% . \text{ Hence (e) is the answer.}$$

45 Answer : (d)

≤

$$\begin{aligned} \text{Reason : Average collection period} &= \frac{\text{Average receivables balance}}{\text{Average daily sales}} \\ \text{Average daily sales} &= \frac{\text{Sales}}{360} \\ \therefore \text{Average collection period} &= \frac{\text{Average receivables balance}}{\text{sales}} \times 360 \\ \text{Average collection period} &= 40 \text{ days (given)} \\ \text{Average receivables balance} &= \text{Rs.20 lakhs} \\ \therefore 40 &= \frac{20}{\text{Sales}} \times 360 \\ \text{or Sales} &= \frac{20 \times 360}{40} = \text{Rs.180 lakhs. Hence (d) is the answer.} \end{aligned}$$

46 Answer : (d)

≤

$$\begin{aligned} \text{Reason : Return on investment (ROI)} &= \text{EBIT} / \text{Total assets} \\ \text{Total assets} &= \text{Debt} + \text{Equity} = 600 + 300 = \text{Rs.900 lakhs} \\ \text{EBIT} &= \text{Rs.180 lakhs (given)} \\ \therefore \text{ROI} &= 180 / 900 = 20\%. \text{ Hence (d) is the answer.} \end{aligned}$$

47 Answer : (a)

≤

$$\begin{aligned} \text{Reason : CR} &= \frac{\text{Current assets}}{\text{Current liabilities}} = 2.45 \\ \frac{\text{Inventories}}{\text{Current liabilities}} &= 0.45 \\ \frac{\text{Inventories}}{\text{Current Assets}} &= \frac{\text{Current liabilities}}{\text{Current Assets}} \times \frac{\text{Inventories}}{\text{Current liabilities}} \\ &= \frac{1}{\text{CR}} \times \frac{\text{Inventories}}{\text{Current liabilities}} = \frac{0.45}{2.45} = 0.184. \\ \text{Hence (a) is the answer.} \end{aligned}$$

48 Answer : (d)

≤

$$\frac{[(\text{Sales} - \text{Variable costs} - \text{Fixed costs} - \text{Interest}) (1 - \text{tax rate})]}{\text{Number of shares outstanding}}$$

Reason : EPS =

Number of shares outstanding.

Total assets = Total liabilities = Long-term debt + Equity + Current liabilities

Since long-term debt-equity ratio = 5/3, long-term debt = $\frac{5}{8} \times 8,00,000 = \text{Rs.}5,00,000$

Interest expense = $5,00,000 \times 0.12 = \text{Rs.}60,000$.

Now,

$$\text{EPS} = 2.50 = \frac{[(\text{Sales} - 0.45 \text{ Sales} - 2,00,000 - 60,000) \times (1 - 0.4)]}{1,00,000}$$

$$2.50 = \frac{[(0.55 \text{ Sales} - 2,60,000) \times (0.6)]}{1,00,000}$$

$$2.50 = \frac{[0.33 \text{ Sales} - 1,56,000]}{1,00,000}$$

$$250,000 = 0.33 \text{ Sales} - 1,56,000$$

$$4,06,000 = 0.33 \text{ Sales}$$

$$\text{Sales} = \text{Rs.}12,30,303 \approx \text{Rs.}12.30 \text{ lakh.}$$

Hence (d) is the answer.

49 Answer : (c)

≤

Reason : Given

$$\text{D/P ratio} = \text{DPS/EPS} = 0.5$$

$$\text{Dividend yield} = \text{DPS/MPS} = 0.07$$

$$\therefore \frac{\text{DPS}}{70} = 0.07 \Rightarrow \text{DPS} = 70 \times 0.07 = \text{Rs.}4.9$$

$$\text{Now } \frac{\text{DPS}}{\text{EPS}} = 0.5 \Rightarrow \frac{4.9}{\text{EPS}} = 0.5 \Rightarrow \text{EPS} = \frac{4.9}{0.5} = \text{Rs.}9.8$$

Net profit = EPS x Number of shares outstanding

$$= 9.8 \times 2,00,000$$

$$= 19,60,000.$$

$$\text{Taxable income (profit before tax)} = \frac{\text{Net profit}}{(1 - \text{tax})} = \frac{19,60,000}{0.6} = \text{Rs.}32,66,667 \approx \text{Rs.}32.67 \text{ lakh.}$$

Hence (c) is the answer.

50 Answer : (d)

≤

Reason : Number of shares re-purchased = $0.15 \times 10,00,000 = 1,50,000$

$$\text{EPS}_0 = \text{NI/No. of shares} = \text{Rs.}80,00,000/10,00,000 = \text{Rs.}8$$

$$\text{Current P/E} = \text{P}_0/\text{EPS}_0 = \text{Rs.}30/\text{Rs.}8 = 3.75$$

$$\text{EPS}_1 = \text{Rs.}80,00,000/(10,00,000 - 1,50,000) = \text{Rs.}9.41$$

$$\text{The price after re-purchase} = \text{P}_1 = \text{EPS}_1 \times \text{P/E} = \text{Rs.}9.41 \times 3.75 = \text{Rs.}35.29.$$

Hence (d) is the answer.

51 Answer : (c)

≤

Reason : According to Du-Pont analysis

Return On Equity (ROE) = Return on assets × Equity multiplier

Where, Equity Multiplier = $\frac{1}{1 - \text{Debt to assets ratio}} = \frac{1}{1 - 1/3} = 3/2$.

Hence, Return On Equity = $0.10 \times 3/2 = 0.15$ or 15%.

52 Answer : (b)

≤

Reason : Return on assets (ROA) = $\frac{\text{Net income}}{\text{Total assets}} = \frac{\text{Net income}}{\text{Fixed assets} + \text{Current assets}}$

Fixed assets is given, we need to find the current assets.

Given

Quick ratio = $\frac{\text{Cash and marketable securities} + \text{Accounts receivables}}{\text{Current liabilities}}$

Average collection period = $40 = \frac{\text{Accounts receivables}}{\text{Sales}} \times 360$

Accounts receivables = $\frac{\text{ACP} \times \text{Sales}}{360} = \frac{40 \times 10,000}{360} = \text{Rs.}1111.11 \text{ lakh}$

$2 = \frac{1,000 + 1,111.11}{\text{Current liabilities}}$

Current liabilities = Rs.1,055.56 lakh.

Now current ratio = 3

i.e.,

$\frac{\text{Current assets}}{\text{Current liabilities}} = 3 \Rightarrow \text{Current assets} = 3 \times \text{Current liabilities} = \text{Rs.}3,166.68 \text{ lakh}$

Total assets = Fixed assets + Current assets = Rs.2,835 lakh + Rs.3,166.68 lakh = Rs.6,001.68 lakh

Therefore, ROA = $\frac{500}{6,001.68} \times 100 = 8.33\%$.

Hence (b) is the answer.

53 Answer : (c)

≤

$$\text{Reason : Return on equity} = \frac{\text{Net income}}{\text{Equity}} = 0.12 \Rightarrow \text{Equity} = \frac{\text{Rs.750 lakh}}{0.12} = \text{Rs.6,250 lakh}$$

Total assets = Total liabilities

Return on assets (ROA) =

$$\frac{\text{Net income}}{\text{Total assets}} = 0.08 \Rightarrow \text{Total assets} = \frac{\text{Rs.750 lakh}}{0.08} = \text{Rs.9,375 lakh}$$

Therefore,

$$9,375 = \text{Current liabilities} + \text{Long-term debt} + \text{Equity}$$

$$9,375 = 125 + \text{Long-term debt} + 6,250$$

$$\text{Long-term debt} = 9,375 - 125 - 6,250$$

$$= \text{Rs.3,000 lakh.}$$

$$\frac{\text{Long-term debt}}{\text{assets}} = \frac{3,000}{9,375} = 0.32.$$

Hence (c) is the answer.

54 Answer : (a)

≤

Reason : Given:

$$\frac{\text{Long-term debt}}{\text{Net worth}} = \frac{\text{Long-term debt}}{5,00,000} = 0.5$$

$$\text{Long-term debt} = \text{Rs.} 2,50,000$$

$$\begin{aligned}\text{Total assets} &= \text{Net worth} + \text{Long-term debt} + \text{Current liabilities} \\ &= \text{Rs.} 5,00,000 + \text{Rs.} 2,50,000 + \text{Rs.} 2,50,000 \\ &= \text{Rs.} 10,00,000.\end{aligned}$$

$$\frac{\text{Sales}}{\text{Total assets}} = 2 \Rightarrow \text{Sales} = 10,00,000 \times 2 = \text{Rs.} 20,00,000.$$

$$\text{Gross profit} = \text{Sales} - \text{Cost of goods sold (COGS)}$$

$$\frac{\text{Gross profit}}{\text{Sales}} = 0.3 \Rightarrow \text{Gross profit} = 0.3 \times \text{Sales}.$$

$$\text{COGS} = 0.7 \times \text{Sales} = 0.7 \times 20,00,000 = \text{Rs.} 14,00,000$$

$$\text{Average collection period} = 25 = \frac{\text{Accounts receivables}}{\text{Sales}} \times 360$$

Accounts receivables

$$\begin{aligned}\frac{\text{ACP} \times \text{Sales}}{360} &= \frac{25 \times 20,00,000}{360} = \text{Rs.} 1,38,888.89 \\ &= \text{Rs.} 1,38,888.89\end{aligned}$$

$$\frac{\text{COGS}}{\text{Year-end inventory}} = 3 \Rightarrow \text{Year-end inventory} = \frac{14,00,000}{3} = \text{Rs.} 4,66,666.67$$

$$\frac{\text{Liquid assets}}{\text{current liabilities}} = \frac{\text{Liquid assets}}{2,50,000} = 0.75 \Rightarrow \text{Liquid assets} = \text{Rs.} 1,87,500$$

$$\text{Cash} = \text{Liquid assets} - \text{Accounts receivables} = 1,87,500 - 1,38,888.89 = \text{Rs.} 48,611.11.$$

Therefore

$$\begin{aligned}\text{Fixed assets} &= \text{Total assets} - \text{Inventory} - \text{Accounts receivables} - \text{Cash} \\ &= \text{Rs.} 10,00,000 - \text{Rs.} 4,66,666.67 - \text{Rs.} 1,38,888.89 - \text{Rs.} 48,611.11 \\ &= \text{Rs.} 3,45,833.33\end{aligned}$$

$$\text{Fixed assets turnover ratio} = \frac{\text{Sales}}{\text{Fixed assets}} = \frac{20,00,000}{3,45,833.33} = 5.78$$

Hence (a) is the answer.

55 Answer : (d)

≤

$$\text{Reason : Interest coverage ratio} = \frac{\text{PBIT}}{\text{Interest}}$$

$$\text{PBIT} = \text{PAT} / (1 - \text{Tax rate}) = \text{Rs.} 3,15,000 / 0.6 = \text{Rs.} 5,25,000$$

$$\text{Interest coverage ratio} = 7 = \frac{5,25,000}{\text{Interest}} \Rightarrow \text{Interest} = \text{Rs.} 75,000$$

Given Debt service coverage ratio = 3

$$3 = \frac{\text{PAT} + \text{Depreciation} + \text{Interest}}{\text{Loan installment} + \text{Interest}}$$

$$3 = \frac{3,15,000 + 75,000 + 75,000}{\text{Loan installment} + 75,000}$$

$$3(\text{Loan installment}) + 2,25,000 = 4,65,000$$

$$\text{Loan installment} = \text{Rs.} 80,000.$$

Hence (d) is the answer.

56 Answer : (e)

≤

$$\text{Reason : Financial leverage} = \frac{\frac{Q(S-V)-F}{\text{EBIT}-I} = \frac{\text{EBIT}}{\text{EBT}}}{(1-T)}$$

$$2 = \frac{\text{EBIT}}{\text{EBIT} - \text{Interest}} = \frac{\text{EBIT}}{\text{EBIT} - 20,00,000}$$

$$\text{EBIT} = \text{Rs.} 40,00,000$$

Operating leverage = 3

Therefore

$$3 = \frac{Q(S-V)}{Q(S-V)-F} = \frac{\text{Contribution}}{\text{EBIT}} = \frac{\text{Contribution}}{40,00,000}$$

$$\text{Contribution} = \text{Rs.} 1,20,00,000$$

$$\text{EBIT} = \text{Contribution} - \text{Fixed cost}$$

$$\text{Fixed cost} = \text{Contribution} - \text{EBIT} = \text{Rs.} 1,20,00,000 - \text{Rs.} 40,00,000 = \text{Rs.} 80,00,000$$

$$\text{Variable cost to sales ratio} = 60\% \Rightarrow \text{Contribution to sales ratio} = 40\%$$

$$\frac{\text{Contribution}}{\text{sales}} = 0.4$$

$$\text{Sales} = \text{Rs.} 3,00,00,000.$$

Since selling price = Rs.50,

$$\text{Number of units sold by the company} = 6,00,000 \text{ units.}$$

Hence (e) is the answer.

57 Answer : (d)

≤

Reason : Total assets = Rs.40 lakh

Sales

Total assets turnover = 3 = $\frac{\text{Sales}}{\text{Assets}} \Rightarrow \text{Sales} = 3 \times \text{Assets} = \text{Rs.120 lakh.}$

	Rs.(lakh)
Sales	120
(-) Variable cost (80%)	96
Contribution	24
(-) Fixed cost	8
EBIT	16
(-) Interest (0.15 x 20)	3
EBT	13
(-) Tax @ 50%	6.5
EAT	6.5
EPS (EAT/No. of shares)	6.5

Degree of total leverage (DTL) gives the relationship between the change in the quantity produced and the EPS. It indicates the % change in the EPS for a 1% change in the quantity produced.

$$\text{DTL} = \frac{\text{Contribution}}{\text{EBT}} = \frac{24}{13} = 1.85.$$

For 1% increase in the quantity produced, the EPS will increase by 1.85%. Therefore for 15% in the quantity produced, the EPS will increase by $1.85 \times 15 = 27.75\%$

Thus new EPS = $6.5 \times 1.2775 = \text{Rs.8.3}$

Increase in EPS = Rs.1.80.

Hence (d) is the answer.

58 Answer : (b)

≤

Reason :

	Rs.(lakh)
EBIT	20,00,000
(-) Interest (0.12 x 10,00,000)	1,20,000
EBT	18,80,000

$$\frac{\text{EBIT}}{\text{EBT} - \frac{D_p}{(1-T)}} = \frac{20,00,000}{18,80,000 - 1,20,000} = 1.14$$

Degree of financial leverage =

Hence (b) is the answer.

59 Answer : (e)

≤

Reason :

	Rs.(lakh)
Sales	1500
EBIT (12% of net sales)	180
(-) Interest (0.15 x 300)	45
EBT	135
(-) Tax @ 40%	54
EAT	81

Given DTL = 3

i.e, DOL x DFL = 3

$$\frac{\text{EBIT}}{\text{EBT} - \frac{D_p}{(1-T)}} = \frac{180}{135 - \frac{13}{0.6}} = 1.588$$

Degree of financial leverage =

$$\text{DOL} = \frac{\text{DTL}}{\text{DFL}} = \frac{3}{1.588} = 1.89$$

Hence (e) is the answer.

60 Answer : (c)

≤

Reason :

	Rs.
Sales	75,00,000
(-) Variable cost (40%)	30,00,000
Contribution	45,00,000
(-) Fixed cost	5,00,000
EBIT	40,00,000
(-) Interest	4,05,000
EBT	35,95,000
(-) Tax @ 50%	17,97,500
EAT	17,97,500
EPS (EAT/No. of shares)	3.27

DFL gives the percentage change in the EPS for a 1% change in the EBIT.

$$\text{DFL} = \frac{\text{EBIT}}{\text{EBT}} = \frac{40,00,000}{35,95,000} = 1.11$$

Therefore 1% change in EBIT will cause 1.11% change in the EPS. If EPS has to double, i.e, increase by 100%, EBIT has to increase by 90.09%, i.e., (100/1.11).

New EBIT = Rs.40,00,000 x 1.9009 = Rs.76.036 lakh

Thus increase in the EBIT = Rs.36.036 lakh.

Hence (c) is the answer.

61 Answer : (b)

≤

Reason : Operating breakeven point occurs at a level of output given by $Q = \frac{F}{S-V}$

Where,

S = Selling price per unit = Rs.60 crore/500 units = Rs.12 lakh

V= Variable cost per unit = Rs.47.5 crore/500 units = Rs.9.5 lakh

Therefore $Q = \frac{F}{S-V} = \frac{10 \text{ crore}}{12 \text{ lakh}-9.5 \text{ lakh}} = 400 \text{ units.}$

Overall breakeven point occurs at a level of output given by $Q = \frac{F + I + \frac{D_p}{(1-T)}}{S-V}$

Interest = 0.1 x 40 crore = 4 crore

Preference dividend = 0.08 x 312.5 crore = 25 crore

Therefore,

$Q = \frac{10 \text{ crore} + 4 \text{ crore} + \frac{25 \text{ crore}}{(1-0.4)}}{12 \text{ lakh} - 9.5 \text{ lakh}} = \frac{55.67 \text{ crore}}{2.5 \text{ lakh}} = 2,226.8 \approx 2,227 \text{ units.}$

Hence (b) is the answer.

62 Answer : (d)

≤

Reason : DTL = DOL x DFL

If DOL is increased by 40%, it can be written as (1.4 DOL)

Similarly, if DFL is decreased by 25%, it can be written as (0.75 DFL)

∴ DTL = 1.4 DOL x 0.75 DFL = 1.05 DTL

Thus DTL will increase by 5%.

Hence (d) is the answer.

63 Answer : (c)

≤

Reason :

Net profit (as given)		57,900
Add:		
Non-fund or non-operating items which have been debited to the P&L account:		
Depreciation	35,000	
Loss on sale of machine	2,000	
Goodwill	10,000	47,000
		1,04,900
Less:		
Non-fund or non-operating items which have been debited to the P&L account:		
Gain on sale of land	30,000	30,000
Funds from operations		74,900

Hence (c) is the answer.

64 Answer : (c)

≤

Reason :

	31.03.06	31.03.07	Increase in WC	Decrease in WC
Current Assets:				
Stock	1,00,000	74,000	-	26,000
Sundry debtors	80,000	64,200	-	15,800
Cash balance	500	600	100	-
Bank	-	8,000	8,000	-
Current Liabilities:				
Sundry creditors	1,50,000	1,35,200	14,800	-
Provision for taxation	30,000	34,000	-	4,000
Working capital	500	-22,400	-	-
Decrease in working capital	-	22,900	22,900	-
			45,800	45,800

Hence (c) is the answer.

65 Answer : (e)

≤

- Reason : – Decrease in a current asset is a source of funds.
 – Increase in a current asset is a use of funds
 – Decrease in a current liability is a use of funds
 – Increase in a current liability is a source of funds

Therefore, Rs.5,005 decrease in accounts receivable, Rs.7,000 decrease in cash, and Rs.13,001 increase in accounts payable are sources of funds. Rs.12,012 decrease in accounts payable and Rs.15,009 increase in debtors are uses of funds. Therefore (I), (II) and (IV) are true and (e) is the answer.

66 Answer : (c)

≤

Reason : The yield on a T-Bill, (k) = $\frac{(F-P)}{P} \times \frac{365}{d}$

Where,

‘d’ is the maturity period

‘F’ is the face value

‘P’ is the price

$$0.0789 = \frac{(100 - P)}{P} \times \frac{365}{90}$$

$$7.101P = 36500 - 365P$$

$$372.101P = 36500$$

$$P = \text{Rs.}98.09$$

Hence (c) is the answer.

67 Answer : (e)

≤

Reason : Under the Total Resources basis, the sources and uses of funds can be summarized as:

Sources:

1. Operations
 - PAT
 - Depreciation and other non-cash charges
2. Issue of equity capital
3. Increase in liabilities
4. Decrease in assets

Uses:

1. Payment of dividends
2. Decrease in liabilities
3. Increase in assets

Thus increase in debtors is a use of funds. Therefore (e) is the answer.

68 Answer : (b)

≤

Reason : Sustainable growth rate $(g) = \frac{[m(1-d)A/E]}{[A/S - m(1-d)A/E]}$

$$m = \text{Net profit margin} = \frac{\text{Net profit}}{\text{Net sales}} = \frac{2,52,000}{96,05,936} = 0.02623$$

$$\text{EPS} = \frac{\text{Net Profit}}{\text{No. of shares}} = \frac{2,52,000}{14,000} = \text{Rs.18}$$

$$\text{Dividend pay-out} = \frac{\text{Dividend paid}}{\text{EPS}} = \frac{4.50}{18} = 25\%$$

Total Liabilities = Total Assets = Rs.2,00,98,864

E = Net worth = Equity capital + Reserves & Surplus

= 40,00,000 + 65,15,476 = Rs.1,05,15,476

S_0 = Current sales = Rs.96,05,936

Substituting the values,

$$\frac{[0.02623(1-0.25)2,00,98,864/1,05,15,476]}{[2,00,98,864/96,05,936 - 0.02623(1-0.25)2,00,98,864/1,05,15,476]}$$

$$\frac{0.0376}{2.0923-0.0376} = \frac{0.0376}{2.0547} = 0.0182995$$

= 1.83%

Hence (b) is the answer.

69 Answer : (c)

≤

Reason : Sales (S_0) = Rs. 58,43,400

Sales growth rate = 30%

S_1 = Rs. 75,96,420

ΔS = Rs. 17,53,020

$$\therefore \text{Profit margin} = \frac{\text{Net profit}}{\text{Net sales}} = \frac{8,76,510}{58,43,400} = 0.15 = 15\%$$

Dividend pay-out ratio = (1 – retention ratio) = (1 - 0.4) = 60%

$$\text{External Fund Requirement (EFR)} = \left(\frac{A}{S} - \frac{L}{S} \right) \Delta s - m s_1 (1 - d)$$

$\frac{A}{S}$ and $\frac{L}{S}$ are assets and current liabilities as % of sales respectively.

Δs = Expected increase in sales

m = net profit margin

s_1 = next year sales

D = Dividend pay-out ratio

$$\begin{aligned} \Rightarrow \text{EFR} &= \left(\frac{36,00,000}{58,43,400} - \frac{15,00,000}{58,43,400} \right) 17,53,020 - 0.15 \times 75,96,420 (0.4) \\ &= 6,30,000 - 4,55,785.2 \end{aligned}$$

EFR = Rs. 1,74,214.8 $\approx$ Rs. 1,74,215.

Hence (c) is the answer.

70 Answer : (c)

≤

$$\text{Reason : Monthly interest} = \frac{12\%}{12} = 1\%$$

$$\text{EMI} = \frac{\text{Rs. 4,00,000}}{\text{PVIFA}_{(1\%,35)}} = \frac{\text{Rs. 4,00,000}}{29.409} = \text{Rs. 13,601.28} \approx \text{Rs. 13,601}.$$

Hence (c) is the answer.

71 Answer : (c)

≤

Reason : Amount to be deposited at the end of every month = Rs.100

Number of months = 40

Number of months after which maturity value will be received = 60

PV of outflows = $100 \times \text{PVIFA}_{(r,40)}$

PV of maturity value = $6,500 \times \text{PVIF}_{(r,60)}$

PV of outflows = PV of maturity value

$100 \times \text{PVIFA}_{(r,40)} = 6,500 \times \text{PVIF}_{(r,60)}$

Or, $100 \times \text{PVIFA}_{(r,40)} - 6,500 \times \text{PVIF}_{(r,60)} = 0$

By trial and error,

when $r = 1$, $100 \times 32.835 - 6,500 \times 0.550 = -291.5$

when $r = 2$, $100 \times 27.355 - 6,500 \times 0.305 = 753$

r lies between 1% and 2%

By interpolation, $r = 1\% + \frac{0 - (-291.5)}{753 - (-291.5)} = 1.28\%$

Nominal rate of return = $1.28 \times 12 = 15.36\%$

Effective rate of interest = $\left(1 + \frac{0.1536}{12}\right)^{12} - 1 = 0.1649 = 16.49\%$. Hence (c) is the answer.

72 Answer : (b)

≤

Reason : At the end of 6 years, the future value of the amount that Mr.Kumar deposits each year for a period of 6 years, should be equal to the present value of the payments that he has to make under the loan agreement in the 7th, 8th, 9th and 10th years.

The discounted value of the payments to be made at the end of 7th, 8th, 9th and 10th

years, as at the end of the 6th year = $\frac{3}{(1.11)} + \frac{4}{(1.11)^2} + \frac{2}{(1.11)^3} + \frac{2}{(1.11)^4} = 8.729$ lakh.

Let 'X' be the amount to be invested at the end of every period till 6 years

Future value of the deposits made at the end of every year, for a period of 6 years =

X. $\text{FVIFA}_{(11\%, 6 \text{ years})}$

X. $\text{FVIFA}_{(11\%, 6 \text{ years})} = \text{Rs.}8.729$ lakh

$X = \frac{\text{Rs.}8.729 \text{ lakh}}{\text{FVIFA}_{(11\%, 6)}} = \frac{\text{Rs.}8.729 \text{ lakh}}{7.913} = \text{Rs.}1,10,312$

Hence Mr.Kumar has to deposit Rs.1,10,312 at the end of every period for 6 years so as to be able to make the payments under the loan agreement. Hence (b) is the answer.

[< TOP OF THE DOCUMENT >](#)