

Question Paper

Financial Management – I (141) : April 2004

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

1. Which of following statements is/are **true** regarding issuance of Commercial Paper (CP)?

[< Answer >](#)

- I. They normally have a buyback facility.
- II. Corporate need prior approval of RBI for CP issue.
- III. CPs are issued in multiples of Rs.1 lakh.
- IV. Underwriting of a CP issue is not mandatory.

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

(1 mark)

2. A firm's equity multiplier is an indication of its

[< Answer >](#)

- (a) Liquidity level
- (b) Inventory level
- (c) Asset utilization level
- (d) Debt level
- (e) Total assets level.

(1 mark)

3. Which of the following is/are **not true**?

[< Answer >](#)

- (a) The inverse of FVIF factor is called the capital recovery factor
- (b) The present value of interest factor for annuity is equal to the product of the future value interest factor for annuity and the present value interest factor
- (c) The present value of any cash flow stream can be calculated using PVIF tables
- (d) The sinking fund factor is used to determine the amount that must be deposited periodically to accumulate a specified sum at the end of a given period at a given rate of interest
- (e) Both (a) and (b) above.

(1 mark)

4. Vipul Auto Ltd. is showing a lower dividend yield and higher price-earning ratio than Vijay Auto Ltd. If EPS, DPS and required rate of return of both the companies are same, then which of the following can be concluded?

[< Answer >](#)

- I. Price of Vipul is lower.
- II. There is considerable growth prospect in Vipul.
- III. The investors of Vipul can expect higher capital gains yield than the dividend yield.

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

(1 mark)

5. The coupon rate of bond X is greater than bond Y. The maturity and YTM of both the bonds are same. The YTM of the bonds are higher than the coupon rates of X and Y.

[< Answer >](#)

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

- (a) The percentage price change in bond X will be more than the price change in Y for a change in YTM
- (b) The market price of bond Y is more than that of X
- (c) Bond Y will be trading at discount
- (d) Bond X will be trading above par
- (e) Both (a) and (c) above.

(1 mark)

6. Which of the following is **not** a source of funds?

[< Answer >](#)

- (a) Issue of equity capital
- (b) Increase in liabilities

- (c) Decrease in assets
- (d) Increase in net loss from operations
- (e) None of these.

(1 mark)

[< Answer >](#)

7. All else equal, which of the following will result in an increase in stock price?

- I. The firm's beta decreases.
- II. The fixed assets increase.
- III. The retention ratio increases.
- IV. Net profit margin decreases.
- (a) Only (I) above
- (b) Only (II) above
- (c) Only (III) above
- (d) Both (I) and (IV) above
- (e) All (I), (II) and (III) above.

(1 mark)

[< Answer >](#)

8. If other factors are constant, the external funds requirement is

- (a) Directly related to growth rate of sales
- (b) Directly related to retention ratio
- (c) Inversely related to assets turnover ratio
- (d) Directly related to net profit margin ratio
- (e) Both (a) and (c) above.

(1 mark)

[< Answer >](#)

9. Companies A and B have the same total assets, the same ROE, the same total assets turnover ratio, and the same interest rate and tax rate. However, Company A has a higher operating income and a lower interest expense. Based upon this information, which of the following statements is/are **correct**?

- (a) Company A has a higher debt ratio
- (b) Company A has a higher ROA
- (c) Company A has a lower profit margin
- (d) Both (a) and (c) above
- (e) Cannot be concluded.

(1 mark)

[< Answer >](#)

10. Sinking fund factor is the reciprocal of

- (a) Future value interest factor
- (b) Present value interest factor
- (c) Future value interest factor of annuity
- (d) Present value interest factor of annuity
- (e) Capital recovery factor.

(1 mark)

[< Answer >](#)

11. Recently the Rebel Furniture Company has been having problems. As a result, its financial situation has deteriorated. Rebel approached the Charminar Bank for a loan, but the loan officer insisted that the current ratio (currently 0.7) be improved to at least close to 1.0 before the bank would even consider making the loan. Which of the following actions would be the most appropriate to improve the ratio in the short run and would likely be the least costly to Rebel?

- (a) Using some cash to pay off some long-term and short-term liabilities
- (b) Purchasing some additional raw materials on credit thereby creating an additional accounts payable
- (c) Paying off some notes payable with cash to reduce the firm's debt
- (d) Selling some fixed assets for cash
- (e) Collect some current accounts receivable.

(1 mark)

[< Answer >](#)

12. Which of the following statements is **not true**?

- (a) Each level of EBIT has a distinct DFL
- (b) DFL is undefined at financial breakeven point
- (c) DFL will be negative when the EBIT level goes below the financial breakeven point
- (d) DFL will be positive for all values of EBIT that are above the financial breakeven point
- (e) DTL is equal to one below the financial breakeven point.

(1 mark)

[< Answer >](#)

13. Which of the following changes does/do **not** appear in a Cash Flow Statement?

- (a) Issue of equity shares
- (b) Conversion of all FCDs into equity shares
- (c) Rights issue of equity shares
- (d) Both (b) and (c) above
- (e) All (a), (b) and (c) above.

(1 mark)

14. A firm plans to sell Rs.200 million of 15-year bonds to raise capital for expansion. Which of the following provisions, if it were included in the bond's indenture, would not tend to lower the coupon interest rate over what it would be if the provision were included? [< Answer >](#)
- (a) Provision for a sinking fund, where a set percentage of the bonds must be called for redemption at par each year
 - (b) A restrictive covenant which states that the firm's interest coverage ratio always exceeds 2.5
 - (c) A provision under which the bondholders may, at their option turn the bond to the company and receive the bond's face value; that is, the bond is redeemable at par at the holder's option
 - (d) A provision under which the firm may call the bonds for redemption after four years
 - (e) A pledge of real property as security for the bonds.
- (1 mark) [< Answer >](#)
15. Asset utilization ratios measure
- (a) The speed at which the firm is turning over its assets
 - (b) The ability of the firm to earn an adequate return on sales, total assets, and invested capital
 - (c) The firm's ability to pay off short term obligations as they are due
 - (d) The debt position of the firm
 - (e) None of the above.
- (1 mark) [< Answer >](#)
16. Which of the following statements is/are **true** regarding 91-day T-bills?
- I. They are also referred to as PSU bonds.
 - II. They are issued through auctions conducted by RBI.
 - III. They cannot be rediscounted with RBI.
- (a) Only (I) above
 - (b) Only (II) above
 - (c) Both (I) and (II) above
 - (d) Both (II) and (III) above
 - (e) Both (I) and (III) above.
- (1 mark) [< Answer >](#)
17. Which of the following statements is/are **not** correct?
- (a) The risk premium represents the additional compensation investors require in order to assume additional risk
 - (b) In an efficient market, a security's realized return will be more than its expected return
 - (c) Diversification has a stronger effect when a portfolio consists of perfectly negatively correlated stocks
 - (d) The relevant risk of a security refers to the amount of risk that can be diversified away
 - (e) Both (b) and (d) above.
- (1 mark) [< Answer >](#)
18. How can investors reduce the variability of returns in their investment portfolio?
- I. By adding perfectly correlated securities to their portfolio.
 - II. By adding securities to their portfolio that are not perfectly correlated.
 - III. By adding some mutual funds to their portfolio.
- (a) Only (I) above
 - (b) Only (II) above
 - (c) Only (III) above
 - (d) Both (II) and (III) above
 - (e) All (I), (II) and (III) above.
- (1 mark) [< Answer >](#)
19. Which of the following money market securities is a source of borrowing by large finance companies and other non-financial corporations?
- (a) Commercial paper
 - (b) Bankers' acceptances
 - (c) Certificates of deposits
 - (d) Notice money
 - (e) All of the above.
- (1 mark) [< Answer >](#)
20. Treasury bills are often said to be "risk free." Which of the following risks impact(s) T-bill investors?
- (a) Inflation or purchasing power risk
 - (b) Default risk
 - (c) Liquidity risk
 - (d) Prepayment risk

(e) Both (c) and (d) above.

(1 mark)

[< Answer >](#)

21. Which of the following is/are characteristics of private placements?

- (a) There are very few filing requirements
- (b) Initial costs may be lower than that involved in a public issue
- (c) The time involved in realising the funds is less
- (d) Both (b) and (c) above
- (e) All (a), (b) and (c) above.

(1 mark)

[< Answer >](#)

22. Which of the following statements is/are **correct**?

- (a) Operating leverage determines the extent to which debt capital is used in a firm
- (b) All else equal, the lower the degree of operating leverage, the greater the firm's business risk
- (c) Auto, drug, and computer companies are examples of firms that spend fixed costs to develop new products and have a high operating leverage
- (d) Both (a) and (b) above
- (e) Both (b) and (c) above.

(1 mark)

[< Answer >](#)

23. Which of the following is **not** among the daily activities of finance manager?

- (a) Sale of shares and bonds
- (b) Cash management
- (c) Inventory control
- (d) The receipt and disbursement of funds
- (e) Receivable management.

(1 mark)

[< Answer >](#)

24. Which of the following ratios is/are more important to the short-term creditors?

- (a) Asset utilization
- (b) Profitability
- (c) Liquidity
- (d) Debt utilization
- (e) Both (a) and (c) above.

(1 mark)

[< Answer >](#)

25. Which of the following statements is/are **not correct**?

- (a) If investors were to become more risk averse, then the new security market line would have a flatter slope
- (b) The slope of the security market line is determined by beta
- (c) Two securities that have the same specific risk will also have the same beta
- (d) It is impossible for the systematic risk of a single stock to be less than the systematic risk of a well-diversified portfolio
- (e) All of the above.

(1 mark)

[< Answer >](#)

26. Which of the following is **not** a diversifiable risk?

- (a) Lock-out in a company due to workers demanding a wage hike
- (b) Recession in the economy
- (c) Lack of strategy for the management of a company
- (d) A change in the product portfolio of a company
- (e) Entry of new competitors into the market.

(1 mark)

[< Answer >](#)

27. Which of the following bonds will have the greatest percentage increase in value if all interest rates decrease by 1 percent?

- (a) 20-year, zero coupon bond
- (b) 10-year, zero coupon bond
- (c) 20-year, 10 percent coupon bond
- (d) 20-year, 5 percent coupon bond
- (e) 10-year, 5 percent coupon bond.

(1 mark)

[< Answer >](#)

28. Which of the following is a key determinant of operating leverage?

- (a) Sales variability
- (b) Physical location of production facilities
- (c) Cost of debt
- (d) Capital structure

(e) Level of fixed costs.

(1 mark)

[< Answer >](#)

29. Which of the following is a source of funds in a funds flow statement on total resources basis?

- (a) Preliminary expenses written off
- (b) Dividend payment
- (c) Decrease in accrued expenses
- (d) Increase in accrued commission
- (e) Reduction in debenture capital.

(1 mark)

[< Answer >](#)

30. Which of the following types of debt protect(s) a bondholder against an increase in interest rates?

- (a) Floating rate debt
- (b) Bonds that are callable at par at the issuer's option
- (c) Inflation-Indexed-Bonds
- (d) All (a), (b) and (c) above
- (e) Both (a) and (c) above.

(1 mark)

[< Answer >](#)

31. The minimum number of directors in a public company and a private company is _____ respectively.

- (a) 2 and 3
- (b) 2 and 7
- (c) 5 and 2
- (d) 3 and 2
- (e) 2 and 5.

(1 mark)

[< Answer >](#)

32. When the market is low which of the following methods of raising capital is preferred?

- (a) Initial public offer
- (b) Bought-out deal
- (c) Private placement
- (d) Rights issue
- (e) Either (b) or (c) above.

(1 mark)

[< Answer >](#)

33. If the stock's current P/E ratio exceeds the expected P/E, then which of the following statements is/are **true**?

- I. Stock is overpriced.
- II. It is time to buy the stock.
- III. The stock is correctly priced.
- (a) Only (I) above
- (b) Only (II) above
- (c) Only (III) above
- (d) Both (II) and (III) above
- (e) Both (I) and (II) above.

(1 mark)

[< Answer >](#)

34. Which of the following is/are **true** with regard to the convertible debentures?

- I. The conversion value is the maximum value of the convertible based on the current price of the issuer's stock.
- II. Conversion ratio gives the number of shares received for each convertible security.
- III. Conversion premium is the difference between the conversion price and the conversion value.

- (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)

[< Answer >](#)

35. Which of the following is/are **not true** regarding the dividend ratios?

- I. Dividend yield is always expressed as a percentage of earnings of the company.
- II. Dividend yield is calculated as dividend pay-out ratio divided by the P/E ratio.
- III. It is desirable to invest in a company having a high dividend yield irrespective of its profitability and liquidity.

- (a) Only (II) above
- (b) Only (III) above
- (c) Both (I) and (II) above
- (d) Both (I) and (III) above
- (e) None of the above.

(1 mark)

[< Answer >](#)

36. Which of the following decreases working capital?

- (a) Payment of funds to the holders of commercial paper on maturity
- (b) Discounting bills receivable
- (c) Issue of partly convertible debentures
- (d) Issue of bonus shares
- (e) Redemption of preference shares.

(1 mark)

[< Answer >](#)

37. Other things remaining the same, which of the following will increase the quantity produced at the operating break-even point?

- I. Decrease in the selling price per unit.
- II. Increase in the variable cost per unit.
- III. Decrease in the fixed costs of the firm.

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

(1 mark)

[< Answer >](#)

38. Which of the following is/are **true** regarding the relationship between the real and nominal rates of interest?

- I. Expected nominal rate of interest and real rate of interest will be equal if expected rate of inflation and risk premium are zero.
- II. Expected nominal rate of interest will be less than the real rate of interest if the expected rate of inflation and risk premium are more than zero.
- III. If expected rate of inflation is equal to risk premium, then expected nominal rate of interest will exceed the real rate of interest by twice the risk premium.

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

(1 mark)

[< Answer >](#)

39. Which of the following statements is/are **correct**?

- I. If an investment is compounded annually, its nominal rate must always equal its effective rate.
- II. The present value of a five year ordinary annuity will be greater than the present value of a five year annuity due, assuming that both annuities consist of a Rs.100 payment.
- III. In an amortized loan with monthly payments, the proportion of the payment that goes toward repayment of principal falls steadily over time.

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

(1 mark)

[< Answer >](#)

40. A type of analysis in which 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, is known as

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

(1 mark)

[< Answer >](#)

41. A person borrowed funds worth Rs.100,000 from a bank at 9% p.a. rate of interest to be repaid in 5 equal annual instalments. If annual instalment is Rs.25,707, then the balance amount of principal to be repaid after the second payment is

- (a) Rs.74,293
- (b) Rs.65,083
- (c) Rs.48,586
- (d) Rs.66,586
- (e) Rs.83,293.

(2 marks)

[< Answer >](#)

'P' Ltd. is a pharmaceutical company whose degree of financial leverage is 1.9. The company has a debt of Rs.4 crores on which interest is paid at 8% p.a. It has a preference capital of Rs.4 crore on which preference dividend is payable at 9% p.a. The variable cost to sales ratio is 40% and fixed cost is Rs.1.433 crores. The tax rate is

45%.

The sales revenue is approximately

- (a) Rs.0.593 crores (b) Rs.4.78 crores
(c) Rs.5.82 crores (d) Rs.6.17 crores (e) Rs.16.02 crores.

(2 marks)

[< Answer >](#)

43. On January 01, 2004, the market index was 5000 points. With the expectation of a bullish trend in the near future, an analyst projected the expected value of index by the end of next 6 months as

Expected Index	5978	6100	6348
Probability	0.20	0.50	0.30

What is the expected annual return from the market (Round off your answer)?

- (a) 37% (b) 46% (c) 30% (d) 20% (e) 23%.

(2 marks)

[< Answer >](#)

44. The probability distribution of the rates of return on the shares A & B is as follows:

Probability	Return (%)	
	Share A	Share B
10	- 5	- 2
20	15	10
40	27	30
20	13	15
10	8	5

A portfolio consisting of 40% of A and 60% of B is formed. The expected rate of return and the standard deviation of returns on the portfolio is respectively:

- (a) 17.06% 10.71% (b) 17.06% 3.92%
(c) 11.6% 9.68% (d) 11.6% 8.53%
(e) 17.06% 11.6%.

(2 marks)

[< Answer >](#)

45. Consider the following data:

		Rs. lakhs
Closing balance of accounts receivables	=	50
Opening balance of accounts receivables	=	25
Average collection period (days)	=	25
Credit sales are 75% of sales.		

Assuming 360 days in year, the total sales amount to

- (a) Rs.720 lakhs (b) Rs.540 lakhs (c) Rs.240 lakhs (d) Rs.320 lakhs
(e) Rs.405 lakhs.

(2 marks)

[< Answer >](#)

46. Find the return on equity for a company from following data:

Sales	=	Rs.200,000
Net profit	=	Rs.20,000
Total Debt to equity ratio	=	2
Total assets turnover ratio	=	1.79

- (a) 53.7% (b) 60% (c) 35.8% (d) 17.9% (e) 11.17%.

(2 marks)

[< Answer >](#)

47. Consider the following data:

Assets turnover ratio	=	1.15
Return on total assets =	17%	
Equity capital	=	Rs.15 lakhs

Face value per share	=	Rs.10
Dividend paid	=	Rs. 5.25 lakhs
Equity multiplier	=	3.25
Assume nil retained earnings.		

The internal growth rate that the company can achieve without resorting to external equity is

- (a) 29.2% (b) 25.7% (c) 30% (d) 23.8% (e) 20.5%.

(3 marks)

[< Answer >](#)

48. A. Ltd. and B. Ltd. are two companies manufacturing computer hardware. The most recent dividend paid by these two companies is Rs.1.50 per share and the required rate of return for both the companies is 12%. The intrinsic value of the share of A Ltd. is Rs.35. The dividends of B Ltd. are expected to grow at a rate of 8% annually for 3 years followed by 'X'% annual growth rate from year 4 to infinity. The price of the security of A Ltd. is greater than the price of the share of company B by Rs.5.50. The value of 'X' is

- (a) 5.6% (b) 4% (c) 3.2% (d) 2.2% (e) 6.4%.

(3 marks)

[< Answer >](#)

49. The current purchase price of a security is Rs.50, the last dividend paid is Rs.2 and the growth rate is 7%. If the required rate of return on security according to CAPM is 10%, then what should be the increase/decrease in the price of the security such that it is at equilibrium?

- (a) Increase by Rs.21.33 (b) Decrease by Rs.21.33
(c) Increase by Rs.15 (d) Decrease by Rs.30
(e) Security is already at equilibrium.

(1 mark)

[< Answer >](#)

50. The quantity produced by a firm is 10,000 units, variable cost per unit is Rs.100,000, selling price per unit is Rs.2,50,000 and fixed cost is Rs.30 crore. If EBIT has to increase by 5%, the percentage change in sales should be

- (a) 5% (b) 5.5% (c) 4% (d) 5.32% (e) 6.25%.

(2 mark)

[< Answer >](#)

51. The income statement of Indian Cement Company Ltd. is given below:

	Rs in crores
Sales	4050
Variable costs	1860
Fixed costs	663
Interest	80
Taxes	85
Net profit	1362

The paid up equity capital of the company consists of 2000 lakh equity shares of Rs.20 each. Further the company has employed preference share capital, which has a book value of Rs.150 crore, and the dividend rate on the same is 10%. It is expected that there will be no change in its capital structure in the near future.

If the company plans to increase its EPS by 25%, which of the following is **correct**?

- (a) As DOL is 1.434, percentage increase in sales should be 17.4%
(b) As DFL is 1.067, percentage increase in sales should be 23.4%
(c) As DTL is 1.530, percentage increase in sales should be 16.3%
(d) As DTL is 1.530, percentage increase in sales should be 38.3%
(e) As DTL is 1.434, percentage increase in sales should be 16.3%.

(2 marks)

[< Answer >](#)

52. Following is the data of Trupti Manufacturing Company:

Provision for contingencies	=	60,000
Short term working capital investment	=	60,00,000
Loan and advances (given)	=	10,00,000

The following changes have occurred during the year

Increase in provision for contingencies	=	10,000
Loan and advances (taken)	=	500,000
Decrease in short term working capital investment	=	30,00,000

After considering the above changes the net working capital of the firm is

(a) 9,30,000 (b) 100,000 (c) 34,30,000 (d) 70,000
(e) 10,70,000.

(2 marks)

[< Answer >](#)

53. You have just purchased a 15-year, Rs.1,000 par value bond. The coupon rate on this bond is nine percent p.a., with interest being paid every six months. If you expect to earn a 12 percent p.a. nominal rate of return on this bond, how much did you pay for it?

- (a) Rs.642.76 (b) Rs.793.43 (c) Rs.875.38 (d) Rs.950.75
(e) Rs.812.15.

(2 marks)

[< Answer >](#)

54. A firm has total assets of Rs.20 million and a debt/equity of 0.60. Its sales are Rs.15 million, and it has total fixed costs of Rs.6 million. If the firm's EBIT is Rs.3 million, its tax rate is 40 percent, and the interest rate on all of its debt is 9 percent, what is the firm's ROE?

- (a) 6.98% (b) 13.75% (c) 5.25% (d) 11.16% (e) 8.1%.

(2 marks)

[< Answer >](#)

55. The expected annualized yield on 91-day treasury bill priced at 98.5% of the face value is

- (a) 1.52% (b) 5% (c) 6.1% (d) 4% (e) 7.5%.

(1 mark)

[< Answer >](#)

56. Prakash and Taruni want to begin saving for their daughter's education. She will be entering college ten years from today, and they anticipate her staying in college for four years. College tuition is paid at the beginning of each year. Presently annual college tuition fee is Rs.35,000. But Prakash and Taruni expect it to increase approximately by 7% each year. Right now, they have Rs.20,000 in a savings account earning a 12% p.a. effective return. How much money will Prakash and Taruni have to contribute to their savings account at the end of each of the next ten years to be able to meet the anticipated college costs? Assume tuition fee is same during the four years of college.

- (a) Rs.5,638 (b) Rs.5,848 (c) Rs.6,052 (d) Rs.9,805 (e) Rs.7,285.

(3 marks)

[< Answer >](#)

57. The current sales and net profit of M/s. Leela Industries Ltd. is Rs.20 lakhs and Rs.4 lakhs respectively and total debt-equity ratio is 1. It is expected to increase its sales by 50%. If the company maintains the net profit margin ratio, pay out 50% as dividends and does not resort to external equity but maintains the total debt-equity ratio of 1, the increase in borrowings will be

- (a) Rs.2.10 lakhs (b) Rs.3.00 lakhs (c) Rs.5.20 lakhs (d) Rs.6.37 lakhs (e) Rs.9.10 lakhs.

(2 marks)

[< Answer >](#)

58. If a borrower promises to repay Rs.22,976 at the end of eight years from now in return for a loan of Rs.2,000 at the beginning of every year for a period of 8 years, the effective annual interest rate on this loan is

- (a) 8% (b) 10% (c) 2% (d) 13% (e) 14%.

(1 mark)

[< Answer >](#)

59. If Rs.10,000 is invested now, at an interest rate of 6% compounded quarterly, then after 5 years the value of the investment will be closest to

- (a) Rs.13,226 (b) Rs.13,382 (c) Rs.13,439 (d) Rs.13,469
(e) Rs.13,758.

(1 mark)

[< Answer >](#)

60. The total capital employed by M/s. Venus Ltd. is Rs.42,00,000. The firm has long-term debt-equity ratio of 6:4. Long term debt forms 60% of the total debt. The ratio of owner's equity to fixed assets is 5:11. The amount of fixed assets in the company is

- (a) Rs.30,00,000 (b) Rs.36,00,000 (c) Rs.35,20,000 (d) Rs.26,40,000
(e) Rs.52,00,000.

(2 marks)

[< Answer >](#)

61. The net fixed assets of Kanoria Jute Mills were Rs.678 crore and Rs.641 crore at the end of the years 2002 and 2003 respectively while the amount of depreciation for the year 2002-03 was Rs.127 crore. The change in gross fixed assets is equal to

- (a) Increase by Rs.37 crore (b) Increase by Rs.90 crore
(c) Decrease by Rs.127 crore (d) Decrease by Rs.164 crore
(e) Decrease by Rs.90 crore.

(1 mark)

[< Answer >](#)

62. A zero-coupon bond that matures 5 years from today has a par value of Rs.2500 and yield to maturity of 11.5% per annum, what is the current value of the issue?

- (a) Rs.2,500 (b) Rs.1,450 (c) Rs.2,242 (d) Rs.685
(e) Rs.1,827.50.

(1 mark)

[< Answer >](#)

63. An investor has purchased a security that has a beta of 0.6. The investor is expecting this security to provide a return of 12%. If the expected risk free rate is 6% and expected return on the market index is 14%, then which of the following is/are **true** according to CAPM?

- I. The security falls above the SML.
II. The security is overvalued.
III. Alpha intercept is positive.
IV. The security can be purchased.
- (a) Only (II) above (b) Both (I) and (III) above
(c) Both (II) and (III) above (d) (I), (III) and (IV) above
(e) (II), (III) and (IV) above.

(2 marks)

[< Answer >](#)

64. Karthik has a portfolio with the following characteristics:

Security	ABC	XYZ	Treasury Bill	Market Index
Weight	0.3	0.4	0.05	0.25
β	0.8	1.70		

The beta for his portfolio is

- (a) 0.875 (b) 1.17 (c) 0.92 (d) 1.22 (e) 0.97.

(2 marks)

[< Answer >](#)

65. The EBIT for a company at the level of production of 10,000 units is Rs.10,50,000. The Degree of Financial Leverage (DFL) for the company at the level of production of 10,000 units is 1.5. At the financial break-even point, the EBIT of the company is

- (a) Rs.3,50,000 (b) Rs.7,00,000 (c) Rs.4,00,000 (d) Rs.5,00,000
(e) Rs.6,00,000.

(2 marks)

[< Answer >](#)

66. Following figures are taken from the annual report of M/s TDG Ltd.:

Debentures at a rate of 14 percent per annum to be repaid in 6 equal annual installments during the coming years	Rs.24 lakh
Perpetual Preference Shares at a rate of 15 percent p.a.	Rs. 20 lakh
Net Worth	Rs. 40 lakh
Applicable tax rate	40 percent
Depreciation	Rs.5.44 lakh
Dividends paid	Rs. 9 lakh
Dividend pay out ratio	100 percent

The debt service coverage ratio is

- (a) 1.534 (b) 2.826 (c) 3.534 (d) 2.074 (e) 2.418.

(2 marks)

[< Answer >](#)

67. The bonds of Supreme Industries Ltd. (issued at a coupon rate of 10 percent) are presently selling at 5 percent discount on the face value. These bonds will be redeemed at the end of 5th year and 6th year in two equal installments. SIL has an effective tax rate of 40 percent. What is the realized yield to an investor as of now?

- (a) 10.73 percent (b) 11.00 percent (c) 11.28 percent (d) 11.54 percent
(e) 11.81 percent.

(2 marks)

[< Answer >](#)

68. Babra Ltd. has issued fully convertible debentures of face value Rs.100 each with a coupon rate of 12% p.a. The debentures will be converted into 4 equity shares at a price of Rs.25 each at the end of five years from the date of issue. After three years the share price increased to Rs.40. The value of the convertible after three years from the date of issue at the required rate of return of 16% is

- (a) Rs.86.90 (b) Rs.115.45 (c) Rs.93.56 (d) Rs.138.14
(e) Rs.180.20.

(1 mark)

[< Answer >](#)

69. The balance sheet of Radha Garments Ltd. as on December 31, 2003 is as follows:

Balance Sheet as on 31 Dec., 2003

Liabilities	Rs.	Assets	Rs.
Share Capital	5,00,000	Fixed Assets	9,00,000
Retained Earnings	40,000	Current Assets	6,00,000
Long term Loan	6,00,000		
Short term B. Borrowings	2,00,000		
Spontaneous liabilities	1,60,000		
	15,00,000		15,00,000

The company expects its sales to increase by 10% to Rs. 16,50,000. It expects its net profit margin and dividend payout ratio to be 10% and 50% respectively. If the company wants to raise the external funds required in the order of long term debt and short term borrowings and the long term debt to equity ratio cannot exceed the existing ratio, the minimum amount of short-term bank borrowings that have to be raised is

- (a) Rs.1,50,000 (b) Rs.67,500 (c) Rs.51,500 (d) Rs.31,000 (e) Nil.

(3 marks)

[< Answer >](#)

70. If current ratio is 2.5, current assets to spontaneous liabilities is 5, bank borrowings to spontaneous liabilities is

- (a) 0.6 (b) 0.4 (c) 1 (d) 2 (e) 0.5.

(2 marks)

[< Answer >](#)

71. If the amount deposited today doubles in six years and nine months, the effective interest rate per annum as per the Rule of 69 is

- (a) 9.28 per cent (b) 9.52 per cent (c) 9.72 per cent (d) 10.53 per cent
(e) 10.78 per cent.

(1 mark)

[< Answer >](#)

72. Consider the following data regarding a bond:

Face value and Maturity value	=	Rs. 500
Coupon payable annually	=	12% p.a.
Maturity period	=	5 yrs.
YTM of the bond	=	10% p.a.

The current yield of the bond is

- (a) 12% (b) 10% (c) 11.2% (d) 13.2% (e) 9.8%.

(2 marks)

END OF QUESTION PAPER

Suggested Answers

Financial Management – I (141) : April 2004

1. Answer : (d) [<TOP>](#)
Reason : CPs are normally issued in multiples of Rs.5 lakhs. Hence, III is not true. The issuance of CPs does not require the approval of RBI. Hence, II is not true. Underwriting of a CP issue is not mandatory and the issuers generally have a buy back facility. Hence, I and IV are true and the answer is (d).
2. Answer : (d) [<TOP>](#)
Reason : Equity multiplier is average assets divided by average equity. Hence, in a way it indicates the debt level of the firm.
3. Answer : (e) [<TOP>](#)
Reason : Capital recovery factor is the inverse of PVIFA. Hence, (a) is not correct. The present value of interest factor for annuity is the reciprocal of the product of the PVIFA and FVIF. Hence, (b) is not correct. The present value of any cash flow stream can be found out by using PVIF tables. Hence, (c) is correct. To determine the amount that must be deposited periodically to accumulate a specified sum at the end of a given period, sinking fund factor is used. Hence, (d) is correct and the answer is (e).
4. Answer : (c) [<TOP>](#)
Reason : EPS, DPS and required rate of return being the same, low dividend yield and high P/E ratio implies that there is considerable growth prospects in Vipul. Hence, II is correct. As the growth rate increases, the expected return depends more on the capital gains yield and less on the dividend yield. Hence, III is correct. As growth prospects are higher the price of Vipul should be higher. Hence, I is not correct and the answer is (c).
5. Answer : (c) [<TOP>](#)
Reason : The percentage price change is more in case of small coupon bonds than the high coupon bonds. Hence, (a) is not correct. As coupon rate of X is greater than Y, the price of X will be higher than Y. Hence, (b) is not correct. As the YTM is higher than the coupon rates of both X and Y both the bonds will be trading below par. Hence, (c) is correct and (d) is not correct and the answer is (c).
6. Answer : (d) [<TOP>](#)
Reason : Issue of equity, increase in liabilities and decrease in assets are the sources of funds. Increase in net loss from operations is a use of funds.
7. Answer : (a) [<TOP>](#)
Reason : Increase in stock price is directly related to dividends (or decrease in retention ratio) and decrease in required rate of return (or decrease in beta). Hence, I will increase the stock price while II does not determine the stock price and III decreases the stock price. The correct answer is (a).
8. Answer : (e) [<TOP>](#)
Reason : EFR is directly related to the inverse of assets turnover ratio and growth rate and inversely related to spontaneous liabilities to sales ratio, net profit margin ratio and retention ratio. Hence, (e) is the answer.
9. Answer : (b) [<TOP>](#)
Reason : Higher operating income and lower interest expense and tax rate being the same, company A has higher income. But, if the ROE is same, A should be having more equity and a lower debt ratio. Hence, (a) is not correct. As total assets and total assets turnover ratio is same, ROA of A will be more as Profits are more. Hence, (b) is correct. As total assets and total assets turnover ratio are same, net sales are also same. Hence, net profit margin in case of A should be higher. Hence, (c) is not correct. Hence, (b) is the answer.
10. Answer : (c) [<TOP>](#)
Reason : Sinking fund factor is the reciprocal of FVIFA. Hence, (c) is the correct answer.
11. Answer : (b) [<TOP>](#)
Reason : To improve the current ratio Rebel Furniture Company is evaluating the following alternatives:

- (i) Using some cash to pay off some long term and short term liabilities – It will further deteriorate the current ratio as the amount of current assets reduced is more than the amount of current liabilities.
- (ii) Purchasing some additional raw materials on credit and thereby creating an additional accounts payable – Current assets and current liabilities increase by same amount and as the existing ratio is less than the one the increase in the both the components will improve the current ratio.
- (iii) Paying off some notes payable with cash – Current assets and current liabilities will decrease by the same amount and as the existing ratio is less than one the decrease in both the components will further reduce the current ratio.
- (iv) Selling fixed assets for cash – This will definitely improve the current ratio.
- (v) Collect some accounts receivable – The components of the current assets will change but this will not change the current ratio.

Hence, of the five alternatives, ii and iv will improve the current ratio but ii is least costly and the answer is (b).

12. Answer : (e) [<TOP>](#)
Reason : At the financial breakeven point, DFL is undefined. Hence, DTL will also be undefined. Hence, (e) is not correct and the rest are correct options.
13. Answer : (d) [<TOP>](#)
Reason : Issue of equity sales involves cash inflow whereas conversion of FCDs into shares and issue of bonus shares does not involve cash inflow or outflow hence, only (a) appears in the cash flow statement and the answer is (d).
14. Answer : (d) [<TOP>](#)
Reason : Creation of sinking fund, stipulation of minimum interest coverage ratio, put option and pledging of property as security reduces the risk of the security and hence an inclusion of one of the above will lower the interest rate. Call option where the issuer has the option to call the bond before the maturity of the bond results prepayment risk and hence increases the interest rate. Hence, (d) is the answer.
15. Answer : (a) [<TOP>](#)
Reason : Asset utilization ratios measure the speed at which the firm is turning over its assets. The ability of the firm to earn an adequate return on sales, total assets and invested capital is measured by the profitability ratios. The ability of the firm to pay short term debts is measured by current ratio. Debt position of the firm is indicted by the capital structure ratios. Hence, (a) is the answer.
16. Answer : (d) [<TOP>](#)
Reason : Treasury bills are also referred to as gilt securities. PSU bonds are the securities issued by the public sector entities. Hence, I is not true. 91 days Treasury bills are issued by auctions conducted by RBI. Hence, II is true. RBI neither rediscounts nor participates in auctions of these T-Bills. Hence, III is also true and the answer is (d).
17. Answer : (e) [<TOP>](#)
Reason : The risk premium represents the additional compensation investors require in order to assume additional risk. The relevant risk to the investor is the non-diversifiable risk and the diversification has a stronger effect when the portfolio consists of perfectly negatively correlated stocks. In an efficient market, the expected return will be equal to the realized return. Hence, (b) and (d) are not correct.
18. Answer : (e) [<TOP>](#)
Reason : Variability of returns of a portfolio is reduced by adding securities to the portfolio. The reduction would be more if the securities have negative correlation. Hence, all the three statements are true and the answer is (e).
19. Answer : (a) [<TOP>](#)
Reason : Of the given alternatives, Commercial paper is the only source of borrowing by large finance and non-finance companies. The other alternative are not the sources of borrowing of non-bank entities.
20. Answer : (a) [<TOP>](#)

Reason : Though treasury bills are risk-free, they are prone to inflation or purchasing risk. As these bills are issued by the Government default risk is nil. There is no prepayment risk as these bills are paid on maturity. Liquidity risk is also nil as these are short-term bills and have high liquidity.

21. Answer : (e)

[<TOP>](#)

Reason : Private placement financing is the direct sale by a company to a limited number of sophisticated investors like UTI, etc. There are very few filing requirements. Compared to a public issue the cost of issue in case of private placement is less. The funds are also realized within short time. Hence, all the given alternatives are the characteristics of private placement

22. Answer : (c)

[<TOP>](#)

Reason : Fixed costs determines the impact of the DOL. It determines the change in the EBIT with change in sales whereas DFL determines the change in EPS with a change in EBIT. Hence, (a) is not true. Higher the fixed costs involved higher is the DOL and higher is the business risk. Hence, (b) is incorrect and the answer is (c).

23. Answer : (a)

[<TOP>](#)

Reason : Of the alternatives given, sale of shares and bonds are not the daily activities of the finance manager.

24. Answer : (c)

[<TOP>](#)

Reason : To the short term creditors the most important is the liquidity. Hence answer is (c).

25. Answer : (e)

[<TOP>](#)

Reason : SML represents the risk-return tradeoff. It shows the relationship between the required rate of return and beta. Y axis of the graph represents the required rate of return and X axis of the graph represents the beta. Risk averse investors requires higher return in case of higher risk. Hence, SML will be a steep line indicating that a slight increase in risk will also result in higher required rate of return. Hence, (a) is not correct. $R_m - R_f$ is the slope of the SML and (b) is incorrect. Specific risk is the risk specific to the company i.e. the diversifiable risk. Hence, two companies having same specific risk may not have same beta which is systematic risk and (c) is also not correct. Systematic risk of a single stock can be more or less than the systematic risk of a portfolio. Hence, (d) is also incorrect and the answer is (e).

26. Answer : (b)

[<TOP>](#)

Reason : Diversifiable risk is that component of risk that is specific to the company. It can be eliminated by diversification. Of the given alternatives, recession in the economy is not diversifiable risk.

27. Answer : (a)

[<TOP>](#)

Reason : Longer the term to maturity, higher will be the price change. Of the 20-year zero coupon bond and 10-year zero coupon bond, price change is high in case of 20 year bond. Smaller the coupon rates higher is the price change with a change in YTM. Hence, of (a), (c) and (d), the change in price is higher in case of (a).

28. Answer : (e)

[<TOP>](#)

Reason : DOL determines the change in the EBIT with change in sales. It is determined by the level of fixed costs.

29. Answer : (a)

[<TOP>](#)

Reason : Funds from operations, issue of equity capital, increase in liabilities and decrease in assets are the sources of funds on total resources basis. Dividends, decrease in liabilities and increase in assets are the uses of funds. Of the given alternative, preliminary expenses written off are the sources of funds. These are added to the profit after tax to get the funds from operations.

30. Answer : (e)

[<TOP>](#)

Reason : Interest rate risk is the variability in a security's return resulting from changes in the level of interest rates. Other things being equal, security prices move inversely to interest rates. In case of floating rate bond, the interest of the bond varies with the general level of interest rate and thus reduces the interest rate risk. Inflation index bonds also in a way reduces the interest rate risk. Bonds having a put option does not reduce the interest rate risk. Hence, (e) is the answer.

31. Answer : (a)

[<TOP>](#)

Reason : The minimum number of directors in a private limited company and a public limited company is 2 and 3 respectively.

32. Answer : (e) [<TOP>](#)
Reason : When the market is low, public issue and rights issue may not be successful. Of the given methods of private placement and bought out deal should be preferred. Of the two, bought out deal is the most preferred because the sponsor or the merchant banker who is involved in the deal takes up the issue with an intention of offloading to the public at a later stage when the market picks up.
33. Answer : (a) [<TOP>](#)
Reason : If the expected P/E exceeds the current P/E, the stock is said to be currently overpriced and it is time to sell the stock. Hence, only I is correct.
34. Answer : (e) [<TOP>](#)
Reason : Conversion value is the minimum value of the convertible based on the current price of the issuer's stock. Hence, I is incorrect. Conversion ratio gives the number of shares received for each convertible security. Hence, II is correct. Conversion premium is the difference between the conversion price and the conversion value. Hence, III is also correct and the answer is (e).
35. Answer : (d) [<TOP>](#)
Reason : Dividend yield is the dividend per share divided by market price per share. It can also be calculated as dividend pay out ratio divided by P/E ratio. A company must be liquid and profitable to pay consistent and adequate dividends. Hence, II is correct and I and III are not true.
36. Answer : (e) [<TOP>](#)
Reason : Redemption of preference shares reduces the outstanding cash balance and hence decreases the working capital and the answer is (e).
Payment of funds to the holder of commercial paper on maturity reduces both current assets and current liabilities and hence does not change the working capital. Discounting bills receivables changes the composition of the working capital but does not change the working capital. Issue of bonus shares does not affect the working capital. Issue of partly convertible debentures increases the working capital.
37. Answer : (d) [<TOP>](#)
Reason : The quantity produced at operating break-even point is computed as $\frac{F}{(S - V)}$,
where F represents the fixed costs of the firm
S represents the selling price per unit.
V is the variable cost per unit.
Other things remaining the same, increase in fixed costs will increase the quantity produced at operating break-even point.
Other things remaining the same, increase in the variable costs will decrease the denominator, hence it will increase the quantity produced at operating break-even point. Hence, II is correct and III is not correct.
Other things remaining the same, increase in the selling price per unit will increase the denominator, hence it will decrease the quantity produced at operating break-even point. Hence, I is correct and the answer is (d).
38. Answer : (e) [<TOP>](#)
Reason : Expected nominal rate of interest is equal to Real rate of interest + expected rate of inflation + risk premium. If expected rate of inflation and risk premium are zero, expected nominal rate of interest is equal to real rate of interest. Hence, statement I is true. In the above equation if expected rate of interest is equal to risk premium, expected nominal rate of interest exceeds the real rate of interest by twice the risk premium. Hence, III is also true and the answer is (e).
If expected rate of inflation and risk premium are more than zero, expected nominal rate of interest will be more than the real rate of interest. Hence, II is incorrect.
39. Answer : (a) [<TOP>](#)
Reason : If interest is compounded annually the nominal rate always equal the effective rate. Hence, I is true. The present value of the annuity due is always greater than the present value of the regular annuity. Hence, II is incorrect. In an amortized loan with monthly payments, the proportion of the payment that goes toward repayment of principal increases steadily over time. Hence, III is

also incorrect and the answer is (a).

40. Answer : (b)

[<TOP>](#)

Reason : Self-explanatory

41. Answer : (b)

[<TOP>](#)

Reason : Annual instalment = Rs.25,707
Interest component = $100,000 \times 0.09$ = Rs.9,000
Principal repaid in first instalment = Rs.16,707
Balance of principal after the first instalment = $Rs.1,00,000 - 16,707$
= Rs.83,293
Interest component in the second instalment = $Rs.83,293 \times 0.09$
= Rs.7,497
Principal component in the second instalment = $Rs.25,707 - 7,497$
= Rs.18,210
Balance of principal after the second instalment = $Rs.83,293 - 18,210$
= Rs.65,083.

42. Answer : (c)

[<TOP>](#)

Reason : $EBIT = S(P - V) - F$
 $= 0.6S - 1.433$

$$\text{Again DFL} = \frac{\frac{EBIT}{EBIT - I - \frac{D_p}{(1-t)}}}{\frac{0.6S - 1.433}{0.6S - 1.433 - 0.32 - 0.655}}$$

$$1.9 = \frac{0.6S - 1.433}{0.6S - 1.433 - 0.32 - 0.655}$$

$$1.14S - 4.575 = 0.6S - 1.433$$

$$0.54S = 3.142$$

$$S = Rs.5.82 \text{ crores.}$$

43. Answer : (b)

[<TOP>](#)

Reason : Returns from the market under various scenarios can be estimated as

Index	5978	6100	6348
Return	$\left[\frac{5978 - 5000}{5000} \right] \times 2 \times 100$ = 39.12	$\left[\frac{6100 - 5000}{5000} \right] \times 2 \times 100$ = 44	$\left[\frac{6348 - 5000}{5000} \right] \times 2 \times 100$ = 53.92
Probability	.20	.50	.30

Required expected return = $39.12 \times .20 + 44 \times .50 + 53.92 \times .30$
 $= 7.824 + 22 + 16.176 = 46\%$

Alternatively, the problem can be worked out as follows:

Expected index = 6150

Expected annual return = $\frac{6,150 - 5,000}{5,000} \times 2 = 46\%$.

44. Answer : (a)

[<TOP>](#)

Reason :

Return ($.40 \times r_A + .60 \times r_B$)	Probability	Ripi	$R_i - \Sigma R_i$	$(R_i - \Sigma R_i)^2 p_i$
$-2 - 1.2 = -3.2$	0.1	-0.32	-20.26	41.05
$6 + 6 = 12$	0.2	2.4	-5.06	5.12
$10.8 + 18 = 28.8$	0.4	11.52	11.74	55.13

5.2 + 9 = 14.2	0.2	2.84	-2.86	1.64
3.2 + 3 = 6.2	0.1	0.62	-10.86	11.79
Total		17.06		114.73

∴ Expected return = 17.06%

Standard deviation of return = $\sqrt{114.73} = 10.71\%$.

45. Answer : (a)

[<TOP>](#)

Reason : $\text{Average collection period} = \frac{\text{Average receivables balance}}{\text{Average daily credit sales}}$

$$25 = \frac{37.5}{x}$$

$$x = \frac{37.5}{25} = 1.5$$

Average daily credit sales = 1.5

There fore Credit sales (Total) = 1.5 x 360 = 540

$$\text{Total sales} = \frac{540}{75} \times 100 = \text{Rs.720 lakh}$$

46. Answer : (a)

[<TOP>](#)

Reason : $\text{ROE} = \frac{\text{Net profit}}{\text{Net worth}} = \frac{\text{Net profit}}{\text{Sales}} \times \frac{\text{Sales}}{\text{T.A.}} \times \frac{\text{T.A.}}{\text{Net worth}}$

$$\frac{\text{T.A.}}{\text{Net worth}} = \frac{\text{D} + \text{E}}{\text{E}} = \left(\frac{\text{D}}{\text{E}} + 1 \right) = (2 + 1) = 3$$

$$\text{ROE} = .10 \times 3 \times 1.79 = 53.7\%$$

47. Answer : (b)

[<TOP>](#)

Reason : $\text{Sustainable gr. Rate} = \frac{m(1-d) \frac{A}{E}}{\frac{A}{S} - m(1-d) \frac{A}{E}}$

Equity capital = Rs.15 lakh

ROA = 0.17

NP = 48.75 × 0.17 = Rs.8.29 lakhs

Assets To Ratio = 1.15

NS = 1.15 × 48.75 = Rs.56.06 lakhs

$$d = \frac{\text{Dividends}}{\text{PAT}} = \frac{5.25}{8.29} = .63$$

$$M = \frac{8.29}{56.06} = 0.148$$

$$\text{SGR} = \frac{\frac{.148(1-.63) \frac{48.75}{15}}{1.15 - .148(1-.63) \frac{48.75}{15}} = \frac{0.1780}{0.6916} = 25.7\%$$

48. Answer : (e)

[<TOP>](#)

Reason : IV of A Ltd. = Rs.35 [I.V. = intrinsic value]

Price of B Ltd. = Rs.29.5

Price = PV of dividend + PV of IV

$$\begin{aligned}
&= \frac{1.5(1.08)}{1.12} + \frac{1.5(1.08)^2}{(1.12)^2} + \frac{1.5(1.08)^3}{(1.12)^3} + \frac{1.5(1.08)^3(1+X)}{(k-x)(1.12)^3} = 29.5 \\
&= \frac{1.345(1+x)}{0.12-x} = 29.5 \\
&= \frac{1.345(1+X)}{.12-X} = 25.32 \\
&= 1.345 + 1.345X = 3.04 - 25.32X \\
&= 26.67x = 1.695 \\
&= x = 6.4\%
\end{aligned}$$

49. Answer : (a)

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Reason : $P_0 = \frac{D_0(1+g)}{k_e - g}$

$$P_0 = \frac{2(1.07)}{.10 - .07} = \frac{2.14}{.03} = 71.33$$

Therefore the increase in the price of the security
 $= 71.33 - 50 = \text{Rs.}21.33$

50. Answer : (c)

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Reason :
$$\text{DOL} = \frac{Q(S-V)}{Q(S-V)-F} = \frac{10,000(2,50,000-1,00,000)}{10,000(2,50,000-1,00,000)-30,00,00,000}$$

$$= \frac{1500,000,000}{1200,000,000} = 1.25$$

The percentage increase in EBIT

$$\frac{\Delta \text{EBIT}}{\text{EBIT}} = \text{DOL} \times \frac{\Delta S}{S}$$

Hence, percentage increase in sales should be $= \frac{5}{1.25} = 4\%$.

51. Answer : (c)

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Reason :
$$\frac{Q(P-V)}{Q(P-V)-F} = \frac{QP-QV}{QP-QV-F}$$

$$\text{DOL} = \frac{4050-1860}{4050-1860-663} = \frac{2190}{1527} = 1.434$$

$$\text{DFL} = \frac{\text{EBIT}}{\text{EBIT} - I - \frac{DP}{(1-t)}}$$

$$\begin{aligned}
\text{EBIT} &= \text{Net profit} + \text{Taxes} + \text{Interest (or)} Q(P-V) - F \\
&= 1362 + 85 + 80 \text{ or } 4050 - 1860 - 663 \\
&= \text{Rs.}1527 \text{ crores}
\end{aligned}$$

$$\text{Interest} = \text{Rs.}80 \text{ (given) crore}$$

$$\text{Tax rate (t)} = \frac{\text{Taxes}}{\text{Pr ofit before tax}} = \frac{85}{1362} = 6.2\% \text{ (approx.)}$$

$$\text{Preference dividend (Dp)} = 150 \times .10 = \text{Rs.}15 \text{ crs}$$

$$\therefore \frac{D_p}{(1-t)} = \frac{15}{0.94} = \text{Rs.}15.96 \text{ crs}$$

$$\therefore \text{DFL} = \frac{1527}{1527 - 80 - 15.96} = \frac{1527}{1431.04} = 1.067$$

$$\text{Degree of total leverage (DTL)} = \text{DOL} \times \text{DFL} = 1.434 \times 1.067 = 1.53$$

$$\text{DTL} = \frac{\text{Percentage change in EPS}}{\text{Percentage change in sales revenue}}$$

$$\therefore \text{Percentage change in sales revenue} = \frac{\text{Percentage change in EPS}}{\text{DTL}}$$

Give : Desired increase in EPS = 25%

$$\therefore \text{Required increase in net sales} = \frac{25}{1.530} = 16.3\% \text{ (approx.)}$$

52. Answer : (c)

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Reason :	Provision for contingencies = 60,000 + 10,000	=	Rs. 70,000
	Short term investment = 60,00,000 – 30,00,000	=	Rs.30,00,000
	Therefore current assets = 30,00,000 + 10,00,000	=	Rs.40,00,000
	Current liabilities = 70,000 + 500,000	=	Rs. 570,000
	Net working capital = 40,00,000 - 570,000	=	Rs.34,30,000.

53. Answer : (b)

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$$\begin{aligned} \text{Reason : MP} &= 45 \text{ PVIFA}_{6,30} + 1000 \text{ PVIF}_{6,30} \\ &= 619.43 + 174 = \text{Rs.}793.43 \end{aligned}$$

54. Answer : (d)

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$$\frac{E}{\text{TA}} = \frac{E}{D+E} = \frac{1}{\frac{D+E}{E}} = \frac{1}{\frac{D}{E}+1} = \frac{1}{1.6} = 0.625$$

Reason :

$$\frac{D}{\text{TA}} = 1 - 0.625 = 0.375$$

$$\begin{aligned} \text{PAT} &= (\text{EBIT} - I)(1 - t) \\ &= (3 - 20 \times 0.375 \times 0.09) 0.6 \\ &= 1.395 \end{aligned}$$

$$\text{ROE} = \frac{\text{PAT}}{\text{NW}} = \frac{1.395}{20 \times 0.625} = 11.16\%$$

55. Answer : (c)

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$$\begin{aligned} \text{Reason : K} &= \frac{F-P}{P} \times \frac{365}{d} \\ &= \frac{100-98.5}{98.5} \times \frac{365}{91} = 6.1\% \end{aligned}$$

56. Answer : (d)

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Reason :	Per annum tuition fee payable	=	35,000(1.07) ¹⁰	=	Rs.68,850
	PV of tuition fee at the end of 10 years	=	68,850 PVIFA _{12%,4} (1.12)		

=

$$\text{Future value of present balance in savings account} = 20,000 \text{ FVIF}_{12,10}$$

$$\text{Required future value at the end of 10 years} = \text{Rs.}1,72,072.$$

$$\text{i.e. } A \times \text{FVIFA}_{12,10} = 1,72,072$$

$$A = \text{Rs.}9805.$$

57. Answer : (b)

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Reason : New sales = 20 (1.5) = Rs.30 lakhs
 NPM = 4/20 = 20%
 New PAT = 30 x 0.20 = Rs.6 lakhs
 Dividends = 50% of 6 = Rs.3 lakhs
 Retained earnings = Rs.3 lakhs
 Increase in borrowings = Rs.3 lakhs x 1 = Rs.3 lakhs.

58. Answer : (a)

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Reason : The effective annual interest is the value of 'r' in the following:
 $2000 \text{ FVIFA}_{r,8} (1 + r) = 22,976$
 $\text{FVIFA}_{r,8} (1 + r) = 11.488$
 At $r = 8\%$, L. H. S. = 11.488
 Hence, $r = 8\%$.

59. Answer : (d)

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Reason : $\text{Rs.}10000 \times \text{FVIF}(1.5, 20) = 13468.55 = 13469$

60. Answer : (d)

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Reason : Long term Debt Equity ratio = 6:4
 Long term debt = 0.6 of total debt
 Short term debt = 0.4 of total debt
 Let total debt be Rs.x
 Long term debt = 0.6x
 Equity = 0.4x
 Total capital employed = $x + 0.4x = 1.4x$
 $= x + 0.4x = 1.4x$

$$\begin{aligned} \text{Equity} &= \frac{4200,000}{1.4} \times 0.4 \\ &= \text{Rs.}12,00,000 \end{aligned}$$

Computation of fixed assets:

It is given that ratio of owner's equity to fixed assets is 5:11.

$$\text{i.e. } \frac{12,00,000}{\text{Fixed Assets}} = \frac{5}{11}$$

Therefore, fixed assets = $12,00,000 \times \frac{11}{5} = \text{Rs.} 26,40,000$.
 Hence Choice (d) is the correct option.

61. Answer : (b)

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Reason : The gross change in fixed assets is Rs.641 crore + Rs.127 crore – Rs.678 crore = Rs.90 crore (increase).

62. Answer : (b)

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$$\text{Reason : Value of zero coupon bond} = \frac{2,500}{(1.115)^5} = \text{Rs.}1,450.$$

63. Answer : (d)

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Reason : $R_i = R_f + \beta (R_m - R_f)$
 $R_i = 6 + 0.6(14 - 6) = 10.8\%$
 As the required return from the stock is lower than the actual return produced by the stock, the stock is undervalued, will fall above the SML and will have positive alpha. Hence the stock can be purchased and the answer is (d).

64. Answer : (b)

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Reason : Weighted beta of the portfolio = $0.3 \times 0.8 + 0.4 \times 1.70 + 0.05 \times 0 + 0.25 \times 1 = 1.17$

65. Answer : (a)

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Reason : At the financial break even point, $EBIT = I + \frac{D_p}{(1-t)}$

$$\begin{aligned} DFL &= \frac{\frac{EBIT}{EBIT - I - \frac{D_p}{(1-T)}}}{\frac{EBIT}{EBIT - (I + \frac{D_p}{(1-T)})}} = \frac{\frac{10,50,000}{10,50,000 - I + \frac{D_p}{(1-T)}}}{1.50} \\ &= \frac{\frac{D_p}{I + (1-T)}}{1.5} = \frac{10,50,000}{1.5} + 10,50,000 \\ &= \text{Rs.} 3,50,000 \end{aligned}$$

66. Answer : (b)

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$$\begin{aligned} \text{Reason : DSCR} &= \frac{\text{PAT} + \text{Dep} + \text{Int}}{\text{Int} + \text{Loan repayment}} \\ \text{PAT} &= \text{E. Dividends} + \text{Pref. Dividends} \\ &= 9 + 20 \times 0.15 = \text{Rs.} 12 \text{ lakhs} \\ \text{DSCR} &= \frac{12 + 5.44 + 3.36}{3.36 + 4} = 2.826 \end{aligned}$$

67. Answer : (c)

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Reason : Let the face value of the bond be Rs.100 and the interest on the bond is Rs.10 per annum.

The present market price of the bond = Rs.95.

Let k be the effective yield on the bond.

So, from the condition of the present values of the cash inflows and outflows

$$\text{Rs.} 95 = \text{Rs.} 10 \times \text{PVIFA}(k, 5) + \text{Rs.} 50 \text{ PVIF}(k, 5) + \text{Rs.} 55 \text{ PVIF}(k, 6)$$

At $k = 11\%$, the right hand side

$$= 10 \times 3.696 + 50 \times 0.593 + 55 \times 0.535 = 36.96 + 29.65 + 29.425 = 96.035$$

and at $k = 12\%$, the right hand side

$$= 10 \times 3.605 + 50 \times 0.567 + 55 \times 0.507 = 36.05 + 28.35 + 27.885 = 92.285$$

By interpolation, we get

$$\frac{k - 11}{12 - 11} = \frac{95 - 96.035}{92.285 - 96.035}$$

$$\text{or, } k = 11 + \frac{1.035}{3.75}$$

$$\text{or, } k = 11.28.$$

So, the required effective yield to the investor = 11.28 percent.

68. Answer : (d)

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Reason : Value of convertible = PCV of cash in flow

$$\begin{aligned} &= 100 \times 0.12 \text{ PVIFA}_{16,2} + 40 \times 4 \text{ PVIF}_{16,2}^{0.743} \\ &= 19.26 + 118.88 = \text{Rs.} 138.14 \end{aligned}$$

69. Answer : (e)

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Reason : External funds required

$$= \Delta A - \Delta \text{spontaneous liabilities} - \text{Retained earnings}$$

$$= 15,00,000 (0.1) - 1,60,000 (0.1) - 16,50,000 \times 0.1 \times 0.5$$

$$= 1,50,000 - 16,000 - 82,500$$

$$= \text{Rs.} 51,500$$

$$\text{New equity} = 5,00,000 + 40,000 + 82,500 = 6,22,500$$

$$\text{Current debt equity} = \frac{6,00,000}{5,40,000} = 1.11$$

∴ New debt should be less than = Rs.6,90,975

Debt that can be raised = 6,90,975 – 6,00,000 = Rs.90,975

As EFR is less than debt that can be raised, short term bank borrowings that can be raised is nil.

70. Answer : (c)

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Reason : Current ratio = 2.5

$$\frac{CA}{CL} = 2.5 \Rightarrow CA = 0.4$$

$$\frac{CA}{\text{Spontaneous liabilities}} = 5$$

$$\frac{SL}{CA} = \frac{1}{5} = 0.2$$

$$\frac{CL}{CA} = \frac{BB + SL}{CA} = \frac{BB}{CA} + \frac{SL}{CA} = 0.4$$

$$\frac{BB}{CA} = 0.4 - 0.2 = 0.2$$

$$\frac{BB}{SL} = \frac{BB}{CA} \times \frac{CA}{SL} = 0.2 \times 5 = 1$$

0.2 ×

71. Answer : (e)

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Reason : According to the rule of 69, doubling period

$$= 0.35 + \frac{69}{\text{Interest rate}}$$

$$6 \text{ years and } 9 \text{ months} = 6 + \frac{9}{12} = 6.75 \text{ years}$$

$$\text{Hence, } 6.75 \text{ years} = 0.35 + \frac{69}{i}$$

$$i = \frac{69}{6.75 - 0.35} = 10.78\%$$

72. Answer : (c)

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$$\begin{aligned} \text{Reason : Current yield} &= \frac{\text{Interest}}{\text{Market price}} \\ \text{Market price} &= 60 \text{ PVIFA}_{10\%,5}^{3.791} + 500 \text{ PVIF}_{10\%,5} \\ &= 227.46 + 310.50 = \text{Rs.}537.96 \end{aligned}$$

$$\text{Current yield} = \frac{60}{537.96} = 11.2\%$$

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