

Question Paper

Financial Management ñ I (141) : April 2005

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

1. Which of the following bonds will have the greatest percentage increase in value, if the interest rates [decrease by 1 percent?](#) < Answer >
 - (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)
2. Recently the Dell Furniture Company has been facing a problem. As a result, its financial situation has deteriorated. Dell approached the 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 Dell? < Answer >
 - (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) Collecting some current accounts receivable.

(1 mark)
3. Which of the following instruments in the international capital market are fixed-interest securities having a maturity of over one year? < Answer >
 - (a) Commercial Papers
 - (b) Medium-Term Notes
 - (c) American Depositary Receipts
 - (d) Treasury Bills
 - (e) Global Depositary Receipts.

(1 mark)
4. M/s. PeeCee Ltd. has received the third highest credit rating for its issue of commercial paper. If its fund based working capital limit is Rs.3 crore and assuming other requirements are met, which of the following is **true**? < Answer >
 - (a) It can issue commercial paper within the maximum limit of Rs.3 crore
 - (b) It can issue commercial paper but the amount should not be less than Rs.5 lakh
 - (c) It can issue commercial paper for any amount
 - (d) It can issue commercial paper provided its fund based working capital limit is raised to Rs.4 crore
 - (e) It cannot issue commercial paper.

(1 mark)
5. Which of the following situations lead to the increase in volatility in the call money market? < Answer >
 - (a) Reduction in cash reserve ratio
 - (b) Prepayment of term loans by a large number of borrowers
 - (c) Entry of the financial institutions (FIs) into the market
 - (d) Payment of large amount of advance taxes by the banks and FIs
 - (e) Decrease in the demand for loanable funds in the economy.

(1 mark)
6. Which of the following is/are **correct** with respect to the act(s) of the arbitrageurs in the derivatives market? < Answer >
 - I. To protect one's anticipated position in the spot by taking suitable position in the derivatives market.
 - II. To make profit from the subsequent price movements of any particular instrument in the derivatives market.
 - III. To make risk free profits by simultaneously buying and selling different instruments in different

markets.

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

(1 mark)

7. Which of the following is/are **true** regarding the relationship between the real and nominal rate of interest? [< Answer >](#)

- I. 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.
II. Expected nominal rate of interest and real rate of interest will be equal, if the expected rate of inflation and risk premium are 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 (II) above.

(1 mark)

8. In a forex market, if an investor wants to hedge his forex payments with minimum risk, which of the following should the investor prefer? [< Answer >](#)

- (a) Sell the forex futures
(b) Enter into a forward contract to purchase the required forex
(c) Enter into a call option to purchase the required forex
(d) Buy forex futures
(e) Enter into a put option to sell the required forex.

(1 mark)

9. According to Du-Pont equation for Return On Equity (ROE), other things remaining constant, which of the following statements is **false**? [< Answer >](#)

- (a) An increase in the net profit margin will increase the ROE
(b) A decrease in debt to assets ratio will increase the ROE
(c) A decrease in return on assets will decrease the ROE
(d) An increase in the average asset turnover will increase the ROE
(e) An increase in equity multiplier will increase the ROE.

(1 mark)

10. Which of the following statements is/are **true**? [< Answer >](#)

- I. Other things being equal, as the expected growth rate in dividend increases, the expected return depends more on the capital gain yield and less on the dividend yield.
II. Other things being equal, the price-earning ratio decreases, as the expected growth rate in dividend increases.
III. High dividend yield and low price-earning ratio imply limited growth prospects.

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

(1 mark)

11. Which of the following statements is **false** with regard to a public limited company? [< Answer >](#)

- (a) It is a distinct legal entity separate from its shareholders
(b) It can raise equity capital by issuing shares to the general public
(c) At least seven persons are required to form a public limited company
(d) There is no limit on the maximum number of shareholders
(e) There is no limit on the total managerial remuneration payable by the company.

(1 mark)

12. Which of the following statements about convertibles is **not true**? [< Answer >](#)

- (a) A convertible bond issue would generally have fewer restrictive covenants than an otherwise identical nonconvertible bond

- (b) Convertible bonds can be issued at a lower coupon compared to non-convertible bonds
- (c) If the value of a convertible bond exceeds the maximum of its straight bond value and its conversion value, the difference would be referred to as the option value
- (d) On conversion of the convertible bond, there will be cash outflow to the holder
- (e) The more volatile the underlying stock, the greater the value of the conversion feature.

(1 mark)

13. 10-year corporate bond has an annual coupon payment of 9 percent. The bond is currently selling at par (Rs.1,000). Which of the following statements is **not correct**? [< Answer >](#)

- (a) The bond's yield to maturity is 9 percent
- (b) The bond's current yield is 9 percent
- (c) If the bond's yield to maturity remains constant, the bond's price will remain at par
- (d) If the yield to maturity increases the bond's price will sell at a discount
- (e) It is riskier than a 15 year corporate bond with same coupon rate and yield to maturity.

(1 mark)

14. Which of the following ratios indicates the efficiency of utilization of assets by a firm? [< Answer >](#)

- (a) Net profit margin
- (b) Debt-equity ratio
- (c) Current ratio
- (d) Asset turnover ratio
- (e) Interest coverage ratio.

(1 mark)

15. If a company appoints a number of skilled managers with a very high amount of compensation package, which of the following conditions may occur immediately after the appointment? [< Answer >](#)

- (a) The operating break-even point of the company will come down
- (b) The company will be able to reach the financial break-even point easily
- (c) The degree of operating leverage will be zero
- (d) The degree of total leverage will reduce to zero
- (e) The degree of total leverage will increase.

(1 mark)

16. Which of the following represents the amount that can be realized by a company, if it terminates its business and sells all its assets? [< Answer >](#)

- (a) Book value
- (b) Liquidation value
- (c) Replacement value
- (d) Going concern value
- (e) Market value.

(1 mark)

17. Which of the following relationships is represented by the characteristic regression line (CRL)? [< Answer >](#)

- (a) The return from an equity share and the variance of its returns
- (b) The return from an equity share and the return from the market index
- (c) The return from an equity share and its beta
- (d) The return from an equity share and the risk free rate of return
- (e) The return from an equity share and the market risk premium.

(1 mark)

18. Which of the following statements is/are **true**? [< Answer >](#)

- I. Current yield is equal to the coupon rate, if the market price is equal to the face value of the bond.
- II. Bond's price is directly proportional to its YTM.
- III. Current yield is equal to the interest paid divided by the face value of the bond.

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

(1 mark)

19. Which of the following statements is/are **true** regarding a warrant? [< Answer >](#)

- I. The actual value of warrant will be equal to the theoretical value on the expiry date.
- II. The premium associated with a warrant increases as the expiry date approaches.
- III. The greater the price volatility of the underlying stock, the larger the 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)

20. Which of the following is considered while preparing funds flow statement on working capital basis? [< Answer >](#)

- (a) Increase in pre-paid expenses
- (b) Payment of dividend
- (c) Decrease in sundry creditors
- (d) Decrease in provision for tax
- (e) Purchase of raw materials.

(1 mark)

21. Sustainable growth rate increases with a decrease in [< Answer >](#)

- (a) Payout ratio
- (b) Debt ratio
- (c) Profit margin ratio
- (d) Sales-assets ratio
- (e) Equity multiplier.

(1 mark)

22. Which of the following is **true** regarding the earning power of two companies? [< Answer >](#)

- (a) Pre-tax earnings being same, higher the tax rate, lower the earning power
- (b) Debt-equity ratio and pre-tax earnings being same, higher the interest rate, lower the earnings power
- (c) Total assets being same, higher the debt-equity ratio, higher the earning power
- (d) Pre-tax earnings being the same, greater the total assets, higher the earning power
- (e) Sales and pre-tax earnings being the same, greater the total assets turnover ratio, higher the earnings power.

(1 mark)

23. Which of the following statements is/are **true**? [< Answer >](#)

- I. The diversifying effect of each additional stock increases with an increase in the number of stocks in the portfolio.
- II. The higher the degree of positive correlation between the stocks, the greater is the amount of risk reduction that is possible.
- III. The portfolio risk will be nil, if the stocks are perfectly negatively correlated.
- (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)

24. Who among the following players in the international capital markets collect the rupee dividends on the underlying shares and repatriate the same to the depository in US dollars/foreign equity? [< Answer >](#)

- (a) Lead Managers
- (b) Underwriters
- (c) Custodians
- (d) Corporate borrowers
- (e) Lenders.

(1 mark)

25. If the degree of total leverage is 4.5 and the degree of financial leverage is 3, it means that [< Answer >](#)

- (a) 1% change in sales will result in 3% change in EBIT
- (b) 1% change in EBIT will be caused by 1.5% change in sales
- (c) 1% change in EPS will be caused by 3% change in EBIT
- (d) 1% change in sales will result in 3% change in EPS
- (e) 1% change in sales will result in 4.5% change in EPS.

(1 mark)

26. Which of the following risks is most important to an investor who is well-diversified in common stocks? [< Answer >](#)

- (a) Market risk
- (b) Total risk
- (c) Financial risk
- (d) Business risk
- (e) Liquidity risk.

(1 mark)

27. Company D has a 50 percent debt ratio, whereas Company E has no debt financing. The two companies have the same level of sales, and the same degree of operating leverage. Which of the [< Answer >](#)

following statements is/are **correct**?

- (a) If sales increase by 10 % for both companies, then Company D will have a larger percentage increase in its net income
- (b) If sales increase by 10 % for both companies, then Company D will have a larger percentage increase in its operating income (EBIT)
- (c) If EBIT increases by 10 % for both companies, then Company D's net income will rise by more than 10 percent, while Company E's net income will rise by less than 10 %
- (d) If EBIT increases by 10 percent for both the companies, then company D's EPS will increase by 10% while company E's EPS will remain constant
- (e) If sales decrease by 10%, company D's net income increases by more than 10%, while company E's net income increases by 10%.

(1 mark)

[< Answer >](#)

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

- (a) An increase in fixed cost will increase the degree of operating leverage (DOL)
- (b) An increase in interest on long term debt will decrease the degree of financial leverage (DFL)
- (c) An increase in the contribution per unit will decrease the level of output at the overall break even point
- (d) An increase in fixed costs will increase the degree of total leverage (DTL)
- (e) An increase in preference dividend will increase degree of financial leverage.

(1 mark)

29. All else equal, which of the following conditions would lead to an increase in the additional funds needed? [< Answer >](#)

- (a) An increase of the total assets turnover ratio
- (b) An increase in projected sales
- (c) An increase in spontaneous liabilities
- (d) An increase in the profit margin
- (e) A decrease in the retention ratio.

(1 mark)

30. In the foreign exchange market if an agreement on a transaction takes place on March 28, 2005 and the value date is March 30, 2005, the transaction is said to be a part of the [< Answer >](#)

- (a) Spot market
- (b) Tom market
- (c) Cash market
- (d) Ready market
- (e) Forward market.

(1 mark)

31. The greater the beta, the _____ of the security involved. [< Answer >](#)

- (a) Greater the unavoidable risk
- (b) Greater the avoidable risk
- (c) Lesser the unavoidable risk
- (d) Lesser the avoidable risk
- (e) Lesser the total risk.

(1 mark)

32. Which of the following statements is **correct**? [< Answer >](#)

- (a) Large-company stocks always provide investors with the higher average returns as compared to small company stocks
- (b) The risk premium represents the compensation investors require in order to assume risk, which can not be diversified as per CAPM
- (c) In an efficient market, a security's realized return will not be equivalent to its expected return
- (d) Diversification has a stronger effect when a portfolio consists of perfectly positively correlated stocks
- (e) The relevant risk of a security refers to the amount of risk that can be diversified away.

(1 mark)

33. Which of the following measures is most similar to beta? [< Answer >](#)

- (a) Expected return of an individual stock
- (b) Standard deviation of an individual stock
- (c) Variance of an individual stock
- (d) Correlation co-efficient of an individual stock with the market index
- (e) Expected return of a market index.

(1 mark)

34. The stock of which of the following firms would tend to have the highest beta? [< Answer >](#)

- (a) Gas company
- (b) FMCG company
- (c) Electric company
- (d) Car manufacturing company
- (e) Pharmaceutical company.

(1 mark)

35. When comparing two equal-sized investments, the _____ is an appropriate measure of total risk. [< Answer >](#)

- (a) Standard deviation
- (b) Coefficient of variation
- (c) Correlation coefficient
- (d) Covariance
- (e) Beta.

(1 mark)

36. A, B and C are three securities of which A has the least risk, B has moderate risk and C is the riskiest. Which of the following statements is **true**? [< Answer >](#)

- (a) C has the narrowest probability distribution
- (b) Variability of returns is maximum in case of B
- (c) The probability distribution of A is wider than that of B
- (d) Variability of returns is maximum in case of A
- (e) The probability distribution of C is wider than that of A.

|
[< Answer >](#)

37. Which of the following is a disadvantage of bought-out-deals?

- (a) It is difficult to convince a wholesale investor
- (b) The promoters of the company do not get the funds immediately
- (c) It is a very time consuming procedure
- (d) The issue expenses are more than that of a public issue
- (e) Sponsor may exploit the situation.

(1 mark)

38. The intervention of the government in the financial system to influence macro economic variables like interest rates or inflation is an example of which function of the financial system? [< Answer >](#)

- (a) Savings Function
- (b) Liquidity Function
- (c) Payment Function
- (d) Risk Function
- (e) Policy Function.

(1 mark)

39. In which of the following situations, price earnings ratio is applied? [< Answer >](#)

- (a) To determine the financial risk of a business entity
- (b) To determine the expected market value of the shares of a company
- (c) To assess liquidity position of a company in the near future
- (d) To examine the operational efficiency of a company
- (e) To check how efficiently the assets are utilized by a firm.

(1 mark)

40. Which of the following is sterling denominated foreign bond raised in the United Kingdom domestic securities market? [< Answer >](#)

- (a) Samurai Bonds
- (b) Yankee Bonds
- (c) Bulldog Bonds
- (d) Shibosai Bonds
- (e) Matador Bonds.

(1 mark)

41. Mr. Ashish borrowed an amount of Rs.4,80,000 from M/s. Paywell Finance Ltd. As per the loan agreement, he has to repay Rs.3 lakhs at the end of 7th year, Rs.4 lakhs at the end of 8th year, Rs.2 lakhs at the end of 9th year and Rs.1 lakh at the end of 10th year from now. In order to meet these payments, he wants to deposit money in a bank scheme that offers an interest rate of 9% p.a. The approximate amount that Mr. Ashish should invest at the end of every year for a period of 6 years, so that he can repay the loan as per the agreement is [< Answer >](#)

- (a) Rs.1,02,090
- (b) Rs.1,11,270
- (c) Rs.1,21,293
- (d) Rs.1,28,905
- (e) Rs.1,89,389.

(2 marks)

42. Mr.Jaswant has planned to purchase a flat, whose present cost is Rs.15 lakh. He has approached City Home Finance, which has agreed to finance 80% of the cost of the flat. As he, presently, has Rs.1 lakh only which is not sufficient to purchase the flat, he deferred his plan of purchase for three years and deposited the amount he had in a bank. Mr. Jaswant planned to save annually for the next three years and purchase the flat with the bank finance of 80%, at the end of three years. The rate of interest that can be earned on the bank deposits is 8% p.a. and the cost of the flat is expected to escalate by 5% p.a. The amount that Mr.Jaswant has to save annually, the first deposit being made today, is

- (a) Rs.0.631 lakh (b) Rs.0.795 lakh
(c) Rs.0.859 lakh (d) Rs.1.248 lakh (e) Rs.1.348 lakh.

(2 marks)

43. In order to buy a car, presently available at a price of Rs.2,50,000, you started to deposit your money in the monthly recurring deposit scheme of a bank for 3 years. The bank offers a rate of interest of 12 percent per annum compounded monthly. If the car price is expected to go up by 4 percent per annum, how much amount should you deposit every year beginning from the end of the first month in that scheme? (Round off your answer to the nearest integer).

- (a) Rs.5,828 (b) Rs.6,178 (c) Rs.6,528 (d) Rs.6,670 (e) Rs.7,028.

(2 marks)

44. Consider the following information:

Expected return on market	15%
Expected rate of return on stock B	15%
Required rate of return of B as per CAPM	13.2%
Beta of Stock B	0.8

Which of the following is/are true regarding stock B according to the Security Market Line (SML)?

- I. It is correctly priced as its return is equal to the market return.
 II. It is a stock of below average risk as its beta is less than 1.
 III. It is an over valued security as its expected rate of return is more than its required rate of return.
 IV. It will lie below the SML as its beta is less than 1.
 (a) Only (I) above (b) Only (II) above
 (c) Both (II) and (IV) above (d) Both (II) and (III) above
 (e) (II), (III) and (IV) above.

(2 marks)

45. The probability distributions of returns of Micorsun Ltd. and the market returns are given below:

Probability	0.40	0.25	0.15	0.20
Microsun Ltd. Return (in %)	3	4	5	7
Market return (in %)	6	9	8	7

The covariance of market returns and returns from Microsun Ltd. is $0.4625(\%)^2$. If the market return is zero, the expected return by Microsun Ltd. as per single index model is

- (a) 1.595% (b) 1.900%
(c) 2.103% (d) 5.695% (e) 6.598%.

(2 marks)

46. Ms. Smitha is considering investing in the equity shares of Good Smile Tooth Paste Limited. She gathers the following information on the equity shares of the company:

Return on the stock, when the market return is zero	4%
Rate of return on the market	12%
Beta of the shares	0.9
Expected Earnings per share next year	Rs.3
Pay-out ratio	60%
Current market price of the share	Rs.40

Ms. Smitha expects the earnings of the company to grow at a constant rate and the pay-out ratio to remain constant.

If the equity share is in market equilibrium, the expected price of the share at the end of five years will be

- (a) Rs.72.50 (b) Rs.65.30 (c) Rs.58.25 (d) Rs.45.35 (e) Rs.35.70.

(2 marks)

47. The projected returns from the equity shares of Suburban Traders Ltd. for the next one year are as [< Answer >](#) follows:

Probability	0.30	0.45	0.25
Projected Returns	10 %	16 %	20 %

What is the expected risk (in terms of standard deviation) for the equity shares of Suburban Traders Ltd.?

- (a) 3.16 percent (b) 3.36 percent
(c) 3.56 percent (d) 3.76 percent (e) 3.96 percent.

(1 mark)

48. Consider the following information regarding the bond issued by XL Pharma Ltd: [< Answer >](#)

Face value of the bond Rs.1,000

Coupon per annum 10%

Issued at a discount of 10%

If the current yield of the bond is 8.33%, the bond is trading at a

- (a) Discount of 12% (b) Discount of 16.67%
(c) Premium of 20% (d) Premium of 16.67% (e) Premium of 30%.

(2 marks)

49. M/s. Paras Ltd. issued bonds having a par value of Rs.1000, maturity value of Rs.1,200 and a coupon rate of 17%. If the current market price of the bond is Rs.1,114 and the YTM of the bond by approximation method is 16.4%, the maturity period of the bond is approximately [< Answer >](#)

- (a) 6.85 years (b) 5.50 years
(c) 5.00 years (d) 4.35 years (e) 3.10 years.

(2 marks)

50. Consider the following information regarding the bond issued by M/s. Zeta Ltd.: [< Answer >](#)

Face value of the bond	Rs.1,000
Coupon (payable annually)	9% p.a
Maturity period	5 years

The above bonds are issued at a discount of 5% and are redeemed at a premium of 10%.

The intrinsic value of the bond at the required rate of return of 8% p.a. is

- (a) Rs.1,007.20 (b) Rs.1,074.80
(c) Rs.1,090.35 (d) Rs.1,108.47 (e) Rs.1,473.60.

(1 mark)

51. Consider the following data regarding the bonds issued by Neha Ltd. on March 15, 2003 to be [< Answer >](#) redeemed on March 15, 2010:

Face value of the bond	Rs.100
Issued at a discount of	10%
Redeemable at a premium of	10%
Interest payable semi-annually	8% p.a.
Current market price as on March 15, 2005	Rs.95

The yield to maturity of the bond to a prospective investor is

- (a) 9.27% (b) 10.80% (c) 12.24% (d) 12.66% (e) 13.55%.

(2 marks)

52. A Ltd. and B Ltd. are two companies that manufacture computer hardware. The most recent dividend paid by these two companies is Rs.1.80 per share and the required rate of return for both the companies is 11%. The intrinsic value of the share of A Ltd. is Rs.34.12. 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.7.60. The value of “x” approximately is

(a) 1% (b) 2% (c) 3% (d) 4% (e) 5%.

(2 marks)

53. Chandra Textiles presently pays a dividend of Rs.3 per share. The dividend is expected to grow at the rate of 4% for the next two years then at 3% for next two years, after that it is expected to grow at a rate of 1% forever. If the required rate is 10%, the value one can pay now, if the holding period is 3 years, is

(a) Rs.46.77 (b) Rs.36.76 (c) Rs.23.99 (d) Rs.37.13 (e) Rs.51.77.

(2 marks)

54. Consider the following data regarding M/s. Jargan Ltd. for the year 2004-05:

Cost of goods sold: Rs.39,00,000
Gross profit margin: 25%
Average receivables turnover ratio: 52 : 15
Quick assets: Rs.18,00,000
The cash balance is

(a) Rs.2,75,000 (b) Rs.3,00,000 (c) Rs.6,00,000 (d) Rs.9,00,000 (e) Rs.9,56,250.

(2 marks)

55. The bonds of Charity Company are presently selling at a premium of 8 percent against its face value as well as the maturity value of Rs.100. The current yield on these bonds is 8.33 percent. The coupons are paid yearly. If the bonds are to mature 3 years hence, what should be the annualized yield to an investor of today by the approximation method?

(a) 6.09% (b) 10.25 % (c) 11.22% (d) 14.85% (e) 16.35 %.

(1 mark)

56. If net profit margin is 12.50%, asset turnover ratio is 0.85 and return on net worth is 24%, then the debt-asset ratio is

(a) 0.37 (b) 0.44 (c) 0.56 (d) 0.63 (e) 0.97.

(2 marks)

57. Consider the following information regarding M/s. Z Ltd. for the year 2004-05:

Earnings after tax	Rs.9,00,000
Interest payment	Rs.8,00,000
Assets turnover	1.50
Net profit margin	5%
Corporate tax rate	40%

Earning power of the company is

(a) 7.52% (b) 8.54% (c) 14.28% (d) 19.17% (e) 25.40%.

(2 marks)

58. Consider the following data regarding the companies M/s. X Ltd. and M/s. Y Ltd.

Particulars	X Ltd.(Rs.)	Y Ltd.(Rs.)
Sales	32,00,000	30,00,000
Net profit after tax	1,23,000	1,58,000
Equity capital (Rs.10 share)	10,00,000	8,00,000

General reserves	2,32,000	6,42,000
Long-term debt	8,00,000	6,60,000
Creditors	3,82,000	5,49,000
Bank credit (short term)	60,000	2,00,000
Fixed assets	15,99,000	15,90,000
Inventories	3,31,000	8,09,000
Other current assets	5,44,000	4,52,000

The management of company X declared a dividend of 6% and company Y declared a dividend of 8% for the current year.

Which of the following statements is/are false?

- I. Asset utilization of company X is more than that of company Y.
- II. Company Y retains larger proportion of its income in the business than Company X.
- III. Company X is using the shareholders money more profitably than Company Y.

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

(2 marks)

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

[< Answer >](#)

12% Term Loan to be repaid in 5 equal annual installments commencing from this year	Rs.10 lakh
14% Debentures to be repaid in 6 equal annual installments, the payment of which has already commenced from the last year	Rs.24 lakh
15% Perpetual Preference Shares	Rs.20 lakh
Net Worth	Rs.40 lakh
Applicable tax rate	40 percent
Depreciation	Rs.5.44 lakh
Dividend per share	Rs.1.50
Number of outstanding shares	600,000
Dividend pay out ratio	100 percent

What is the fixed charges coverage ratio for TDG Ltd.?

- (a) 1.534 (b) 2.534 (c) 3.534 (d) 4.534 (e) 5.534.

(2 marks)

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

[< Answer >](#)

- (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)

61. 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?

[< Answer >](#)

- (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.

(2 marks)

62. Consider the following data regarding M/s. Delta Ltd:

[< Answer >](#)

Total assets	Rs.56 lakh
Fixed operating costs	Rs.24 lakh
Variable cost to sales ratio	0.6
Total asset turnover ratio	2
Interest coverage ratio	3.2

Which of the following statements is/are true?

- (a) If the sales increase by 1%, EPS will increase by 3.12%
- (b) If the sales decrease by 1%, EBIT will increase by 2.15%
- (c) If EBIT increase by 1%, EPS will increase by 3.12%
- (d) If the sales increase by 1%, EBIT will increase by 1.56%
- (e) If sales increase by 3.12%, EPS increases by 1%.

(2 marks)

63. Pacific Ltd. is a toy manufacturing company. The Degree of Operating Leverage and the Degree of Financial Leverage for the company are 1.1 and 1.5 respectively. The company has a debt of Rs.6 crore on which interest is paid at 10% p.a. It has a preference capital of Rs.4 crore on which preference dividend is payable at 10 % p.a. The variable cost to sales ratio is 40%. The tax rate applicable to the firm is 50%.

The sales revenue and the fixed costs of the firm are

- (a) Rs.7.7 crore and Rs.40 lakh
- (b) Rs.7.0 crore and Rs.42 lakh
- (c) Rs.7.7 crore and Rs.42 lakh
- (d) Rs.8.0 crore and Rs.50 lakh
- (e) Rs.9.6 crore and Rs.40 lakh.

(3 marks)

64. The income statement of National Tyre Company Ltd. is given below:

[< Answer >](#)

	(Rs. in crore)
Net sales	2070
Cost of goods sold	1100
Selling expenses	550
Administrative expenses	65
Interest	75
Taxes	84
Net profit	196

25% of the cost of goods sold and 20% of the selling expenses are fixed costs. Administrative expenses are entirely fixed in nature. The paid up equity share capital of the company consists of 100 lakh equity shares of Rs.10 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 12%. 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%, the percentage increase in sales will be

- (a) 7.9%
- (b) 11.0%
- (c) 14.0%
- (d) 15.4%
- (e) 17.9%.

(3 marks)

65. Consider the following information of M/s. SS Ltd for the year 2004-05:

[< Answer >](#)

Assets to sales ratio	0.60
Spontaneous liabilities to sales ratio	0.15
Current liabilities to sales ratio	0.20
Net profit margin	0.06
Dividend payout ratio	0.40

The maximum sales growth that can be achieved without resorting to external financing is

- (a) 5.63%
- (b) 8.70%
- (c) 9.89%
- (d) 13.64%
- (e) 16.80%.

(2 marks)

66. 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?

[< Answer >](#)

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

(2 marks)

67. You are required to contribute Rs.2000 per year in a pension plan for 10 years from the end of the current year. The plan will start paying pension from the beginning of 16 years from now and will continue for the next 20 years. If this plan is arranged through a savings bank that pays interest @ 7% per annum on the deposited funds, what is the size of the yearly pension? [< Answer >](#)
- (a) Rs.2,578 (b) Rs.2,945 (c) Rs.3,456 (d) Rs.3,570 (e) Rs.3,659.

(2 marks)

68. The total capital employed by M/s.Jupiter Ltd. is Rs.18,00,000. The firm has debt-equity ratio of 5:4. The ratio of owner's equity to fixed assets is 8:15. The amount of fixed assets in the company is [< Answer >](#)
- (a) Rs.15,00,000 (b) Rs.18,00,000
(c) Rs.20,00,000 (d) Rs.21,00,000 (e) Rs.25,00,000.

(2 marks)

69. The balance sheet of Radha Garments Ltd. as on December 31, 2004 is as follows: [< Answer >](#)

Balance Sheet as on 31 Dec., 2004

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 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. Total assets and spontaneous liabilities are expected to increase in proportion to the increase in sales. 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)

70. 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? [< Answer >](#)
- (a) 10.73 percent (b) 11.00 percent
(c) 11.28 percent (d) 11.54 percent (e) 11.81 percent.

(2 marks)

Suggested Answers

Financial Management ñ I (141): April 2005

1. 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).
2. 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, but not possible in short run and very costly to the firm.
(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).
3. Answer : (b) [<TOP>](#)
Reason : Medium-Term Notes (MTNs) are defined as sequentially issued fixed-interest securities which have a maturity of over one year. It enables an issuer to issue Euronotes for different maturities, from one year up to the desired level of maturity.
Hence (b) is the correct choice.
Commercial Papers are short-term, unsecured promissory notes issued by well known companies that are financially strong and carry a high credit rating.
American Depositary Receipts (ADRs) are dollar denominated negotiable certificates and they represent a non-US company's publicly traded equity.
Treasury Bills are short-term instruments issued by the government. Global depository receipts are negotiable instruments which represents publicly traded local currency equity share.
Hence, options (a), (c), (d) and (e) are false.
4. Answer : (e) [<TOP>](#)
Reason : Commercial papers are short-term, unsecured promissory notes issued at a discount to face value by well-known companies that are financially strong and carry a high credit rating. As per the guidelines, any company wishing to raise money through CP has to fulfill the following requirements:
i. The tangible net worth of issuing company should not be less than Rs.4 crores.
ii. The fund based working capital limit should not be less than Rs.4 crores
iii. The company should obtain the second highest credit rating from one of the approved credit rating agencies.
iv. Board resolution authorizing the issue is required.
Of the above, in the given case, the company has not met (ii) and (iii). Hence, it cannot issue commercial paper of any amount. Hence, (a), (b) and (c) are not correct. (d) is also not correct because the condition (ii) will be met but the condition (iii) will not be met. Hence, the answer is (e).
5. Answer : (d) [<TOP>](#)

Reason : The volatility in the call money market increases with the reduction of the liquidity in the market. It generally comes down with the following reasons:

Increase in cash reserve ratio (CRR)

Larger amount borrowed by several borrowers following an increase in demand for the loanable funds

Withdrawal of funds by the banks and financial institutions suddenly to meet their respective corporate requirements

Payment of a large amount of advance taxes by the banks and FIs will lead to the reduction in liquidity in the system thereby increases the volatility in the call money market. Hence, option (d) is the answer.

6. Answer : (d)

[< TOP >](#)

Reason : The options (a) and (b) represent the acts of hedgers who are interested to minimize their risk in a volatile market. The option (c) represents the act of the speculators who wants to make profits from the price movements in a volatile market through speculation. The option (d) represents the act of the arbitrageurs who take the opportunity of improper pricing in different markets and imparts a better efficiency in the system.

7. Answer : (d)

[< 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 (II) 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 (d).

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, (I) is incorrect.

8. Answer : (c)

[< TOP >](#)

Reason : Call option is a contract that confers the right, but not an obligation to the holder to buy an underlying asset at a price agreed on a specific date or by a specific expiry date. In the given case, the investor is interested to hedge his forex payments and have a minimum risk position. Hence, it is better for him to enter into a call option to purchase the required forex at an agreed price on the expected future date. Thus if the exchange rate behaves against the expectation the investor shall not exercise his right and the loss that will be incurred will be only the premium paid by him to the writer of the option. Hence, the answer is (c).

Though payment can be hedged through purchasing the forex futures or entering into a forward contract to purchase, there is no downside limit to the loss that can be incurred.

9. Answer : (b)

[< TOP >](#)

Reason : According to Du-Pont equation:

$$\text{Return On Equity (ROE)} = \text{Net Profit Margin} \times \text{Average Asset Turnover} \times \text{Equity Multiplier}$$

$$\text{Equity Multiplier} = \frac{1}{1 - \text{Debt to assets ratio}}$$

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

Hence ROE will increase when the equity multiplier increases or in other words when the debt to assets ratio increases. Hence, option (b) is incorrect and option (e) is correct.

When net profit margin and/or average asset turnover ratio increases ROE will increase. Hence, options (a) and (d) are correct.

ROE can also be written as Return On Equity (ROE) = Return on assets x Equity Multiplier.

Hence, Decrease in Return On Assets decreases the ROE. So option (c) is also correct.

10. Answer : (c)

[< TOP >](#)

Reason : As the expected growth rate in dividends increases, other things being equal, the price increases to a greater extent than dividends. So the capital gains yield is more than the dividend yield. Hence the expected return depends more on the capital gains yield and less on the dividend yield. Therefore statement (I) is true. Also for the same expected earnings an increase in the expected growth rate in dividends causes the P/E ratio to increase. Hence statement (II) is not true. When the growth prospects are limited the expected return depends more on dividend yield and less on capital gains yield, and the P/E ratio is low. Hence high dividend yield and low P/E ratio indicate limited growth prospects. Therefore statement (III) is true. Hence option (c) is the answer.

11. Answer : (e) [<TOP>](#)
Reason : A public limited company is a legal entity, different from its shareholders, which can be formed with at least 7 members. Generally, a public limited company raises capital against the issue of equity shares among the general public. However, the managerial remuneration payable by the company cannot exceed 11 percent of net profit earned by the company.
12. Answer : (d) [<TOP>](#)
Reason : On conversion of the convertible bond the holder is not required to pay anything. Hence (d) is not true.
13. Answer : (e) [<TOP>](#)
Reason : Given the difference between YTM and the coupon rate, the longer term bonds have a higher risk than the shorter term bonds.
14. Answer : (d) [<TOP>](#)
Reason : Assets turnover ratio is the ratio of sales value to total assets. For a company, generally, the sales value can be improved in a very short term and the higher the sales value at a certain level of asset size, more will be assets turnover ratio that implies a better utilization of the assets the company.
15. Answer : (e) [<TOP>](#)
Reason : Appointment of the managers at a very high compensation package will increase the fixed cost of the company thereby decreasing the denominator of the DOL, DFL and DTL. As a result of this, these leverages will go up. So, the operating break-even point and the financial break-even point will increase. So, the option (e) is correct.
16. Answer : (b) [<TOP>](#)
Reason : Book Value is an accounting concept. Assets are recorded at historical costs and they are depreciated over years. Book value may include intangible assets at acquisition cost minus amortized value.
Replacement Value is the amount that a company would be required to spend if it were to replace its existing assets in the current condition.
Liquidation Value is the amount that a company could realize if it sold its assets after having terminated its business.
Going Concern Value is the amount that a company could realize if it sold its business as an operating one.
Market Value of an asset or security is the current price at which the asset or the security is being sold or bought in the market.
17. Answer : (b) [<TOP>](#)
Reason : The equation for the Characteristic Regression Line (CRL) is given as: $K_j = \alpha_j + \beta_j k_m + e_j$
The CRL is plotted by plotting K_j along the Y-axis and K_m along X-axis.
18. Answer : (a) [<TOP>](#)
Reason : Current yield = $\frac{\text{Coupon amount}}{\text{Market price}}$
Coupon rate = $\frac{\text{Coupon amount}}{\text{Face value}}$
 $\therefore$ Current yield = Coupon rate implies that market price = face value. Further this means that the bond is trading at its face value.
A bond's price moves inversely proportional to its yield to maturity.
Hence only statement (I) is true.
19. Answer : (e) [<TOP>](#)
Reason : A warrant is a call option to buy a stated number of shares. It gives the holder the right to subscribe to the equity shares of the company. When a warrant is issued, the exercise price is always greater than the current market price. This price may be fixed for entire life of warrant or increased periodically. The existence of positive premium on a warrant means that it will be more beneficial for the warrant holder to sell his warrant, thus realizing the theoretical value

plus premium when he exercises it. The premium associated will shrink as the expiry date approaches. The actual value of the warrant will be equal to the theoretical value on the expiry date. Higher the volatility of the underlying stock, larger the premium fixed. Hence, statements (I) and (III) are true and (II) is untrue.

20. Answer : (b) [< TOP >](#)

Reason : All the alternatives except option (b) will cause either an equal increase in current assets and current liabilities or an increase in one current asset and decrease in another current asset by the same amount or an equal decrease in current liabilities and current assets or a decrease in one current liability and increase in another current liability by the same amount. These will not cause any change in the working capital position. Hence, these are not considered while preparing funds flow statement on working capital basis.

21. Answer : (a) [< TOP >](#)

Reason : A decrease in the pay-out ratio increases the sustainable growth rate. Hence (a) is the answer.

22. Answer : (e) [< TOP >](#)

Reason : Earnings power is not affected by tax and leverage. Hence, (a), (b) and (c) are not correct. Greater the total assets, lower the earning power. Hence, (d) is also not correct. Sales and pre-tax earnings being the same, earning power would be higher if the total assets turnover ratio is higher. Hence, the answer is (e).

23. Answer : (c) [< TOP >](#)

Reason : The amount of risk reduction depends on the degree of correlation between the stocks. The portfolio risk will be minimum if the stocks are perfectly negatively correlated. Hence, statement (III) is correct.

Lower the degree of positive correlation, greater is the amount of risk reduction that is possible. Hence, statement (II) is incorrect.

Statement (I) is incorrect as the diversifying effect of each additional stock diminishes with increase in number of stocks. Hence, (c) is the answer.

24. Answer : (c) [< TOP >](#)

Reason : Custodians hold the underlying shares and collect rupee dividends on the underlying shares and repatriate the same to the depository in US dollars/foreign equity.

Hence (c) is the answer.

Lead managers undertake activities like preparation of offer circular, marketing the issues etc.

Underwriters of the issue bear interest rate or market risks moving against the issuer before they have placed bonds or depository receipts.

25. Answer : (e) [< TOP >](#)

Reason : DTL of 4.5 indicates that 1 % change in sales will results in 4.5 % change in EPS and DFL of # indicates that 1 % change in EBIT will result in 3 % change in EPS. Hence (e) is correct.

26. Answer : (a) [< TOP >](#)

Reason : The most important risk to an investor who is well-diversified in common stocks is the market risk i.e. the non-diversifiable risk. Hence, the answer is (a).

Total risk comprises of diversifiable and non-diversifiable risks. Due to diversification, all the diversifiable risks are reduced and the only risk that prevails is the non-diversifiable risk. Hence, (b) is not the answer. Financial risk, business risk and the liquidity risks are the diversifiable risks which are reduced or eliminated due to diversification and hence are not important to a well diversified investor. Hence, (c), (d) and (e) are not the answers.

27. Answer : (a) [< TOP >](#)

Reason : If sales increase by 10 percent for both companies, then Company D will have a larger percentage increase in its net income because the interest paid on the debt is tax deductible.

28. Answer : (b) [< TOP >](#)

Reason :
$$DFL = \frac{\frac{EBIT}{EBIT - I - \frac{D_p}{(1-T)}}}{1} .$$
 Hence, increase in interest on long-term debt (i.e. I) and preference dividend would increase the Degree of Financial Leverage (DFL). So the statement in option

(b) is false. Degree of Operating Leverage = $\frac{Q(S - V)}{Q(S - V) - F}$. Therefore, increase in fixed costs (i.e. F) increases the Degree of Operating Leverage. So the statement in option (a) is correct.

The level of output at the overall break-even point can be computed as:

$$Q = \frac{F + I + \frac{D_p}{(1 - T)}}{(S - V)}$$

Therefore, increase in the contribution per unit (i.e. S-V) would decrease the level of output at the overall break even point. So statement in option (c) is correct.

DTL = $\frac{Q(S - V)}{Q(S - V) - F - I - \frac{D_p}{(1 - T)}}$. Hence, increase in fixed costs increases the Degree of Total Leverage (DTL). So option (d) is correct.

As already explained increase in preference dividend increases the DFL.

29. Answer : (e) [< TOP >](#)
Reason : A decrease in the retention ratio, would lead to an increase in the additional funds needed.
30. Answer : (a) [< TOP >](#)
Reason : If the delivery take place on second business day after the agreement on transaction takes place it is called 'spot market'. If the delivery date is next working day it is called 'TOM market'. If the agreement to buy & sell is agreed upon and executed on same day it is called Ready market (transaction) or cash transaction. Hence the answer is (a).
31. Answer : (a) [< TOP >](#)
Reason : The greater the beta, the greater the unavoidable risk of the security involved.
32. Answer : (b) [< TOP >](#)
Reason : The risk premium represents the additional compensation investors require in order to assume additional risk.
33. Answer : (d) [< TOP >](#)
Reason : Covariance of an individual stock and a market index is similar to beta.
34. Answer : (b) [< TOP >](#)
Reason : Firms whose products are much more discretionary to their customers should have a higher beta. Gas company electric company and pharmaceutical companies are utility companies whereas car manufacturing company cater to higher income group consumers. So in case of FMCG company where earnings are very sensitive to the disposable income in the hands of consumers, the beta should be highest. Hence (b) is the correct answer.
35. Answer : (a) [< TOP >](#)
Reason : When comparing two equal-sized investments, the standard deviation is an appropriate measure of total risk.
36. Answer : (e) [< TOP >](#)
Reason : The width of the probability distribution of rates of return of a security is a measure of risk. The wider the probability distribution, the greater is the risk (i.e. greater the variability of returns). Hence, in the above question, A will have the narrowest probability distribution as it is least risky. In other words the variability in the returns of security A will be minimum. Security C will have the widest probability distribution as it is the riskiest of all the three. In other words, the variability of returns is maximum in case of security C. Security B will be intermediate to these two securities. Hence, options (a), (b), (c) and (d) are wrong. Option (e) is the correct choice.
37. Answer : (e) [< TOP >](#)
Reason : Since, in a bought-out-deal, the shares are initially offered to the sponsor and the sponsor has the discretion to offload the shares to the public at an appropriate time in future as per the discretion of the sponsor. The sponsor may exploit the situation where the promoter of the company may be in the dire need for funds by offering a substantially low price and may also misuse its discretion to divest the shares in favor of the public. All these facts may affect the interests of the promoters of the company. The points as stated in the other options are not

correct with respect to bought out deals.

38. Answer : (e)

[<TOP>](#)

Reason : The intervention of the government in the financial system to influence macro economic variables like interest rates or inflation is an example of policy function of the financial system.

39. Answer : (b)

[<TOP>](#)

Reason : The financial risk of a firm may be estimated by using the leverage and coverage ratios while the earning potential of a company may be evaluated through the profitability ratios. The operational and the level of efficiency in utilizing the assets may measured by using the turnover ratios. But price-earnings ratio is used to determine the expected market price per share of the company. One may project the EPS of a company for the next few years and thereafter by assuming the continuity of the same P/E multiple, the future market price per share may be calculated.

40. Answer : (c)

[<TOP>](#)

Reason : Bulldog bonds are sterling denominated foreign bonds which are raised in the United Kingdom domestic securities market. Hence option (c) is the correct choice.

Samurai bonds are bonds issued by non-Japanese borrowers in the domestic Japanese markets.

Yankee bonds are US dollar denominated bonds issued by foreign borrowers in the US domestic markets.

Shibosai Bonds are Yen denominated privately placed bonds issued in the Japanese Markets.

Matador bonds are foreign bonds issued in Spain.

41. Answer : (b)

[<TOP>](#)

Reason : At the end of 6 years, the future value of the amount that Ashish 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

$$\frac{3}{1.09} + \frac{4}{(1.09)^2} + \frac{2}{(1.09)^3} + \frac{1}{(1.09)^4} = \text{Rs.8.371 lakh}$$

at the end of the 6th year =

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

X. FVIFA(9%, 6 years) (where X is the amount to be invested at the end of every period till 6 years).

X. FVIFA(9%, 6 years) = Rs. 8.371 lakh

$$X = \frac{8.371 \text{ lakh}}{\text{FVIFA}_{(9\%, 6 \text{ years})}} = \frac{8.371 \text{ lakh}}{7.523} = \text{Rs.1.1127 lakh} \quad \text{i.e. Rs. 1,11,270.}$$

Hence Ashish has to deposit Rs. 1,11,270 at the end of every period for 6 years so as to be able to make the payments under the loan agreement.

42. Answer : (a)

[<TOP>](#)

Reason : $1(1.08)^3 + x \text{ FVIFA}_{8\%,3} (1.08) = 15(1.05)^3 \times 0.2 = 1.260 + 3.506x = 3.473$

$$x = \frac{3.473 - 1.260}{3.506} = \text{Rs.0.631 lakhs}$$

43. Answer : (C)

[<TOP>](#)

Reason : The maturity value of the deposit should be $\text{Rs.}250,000 \times (1.04)^3 = \text{Rs.}281,216$

Here, the installments are being deposited at the end of every month and the concept of FVIFA may be applied in this case.

Now, the number of installments to be paid = $3 \times 12 = 36$ and so

$$\text{FVIFA (1 percent, 36)} = \frac{(1.01)^{36} - 1}{0.01} = 43.077$$

Hence, the amount of each installment will be $= \frac{\text{Rs.}281,216}{43.077} = \text{Rs.}6528.24 \approx \text{Rs.}6528$ (approximately).

44. Answer : (b)

[<TOP>](#)

Reason : Beta is a measure of the non-diversifiable risk of an asset relative to that of the market portfolio. Beta of the market portfolio is 1 and the securities with beta of less than 1 are classified as securities with below average risk and beta of more than 1 as securities with above average risk. Hence, statement (II) is true.

According to SML, a security is said to be correctly priced, if its required rate of return according to SML is equal to its expected return. As the required rate of return is not equal to the expected return the stock cannot be said to be correctly priced. Hence, statement (I) is not true. If the expected rate of return is more than the required rate of return the stock is said to be undervalued and if the expected rate of return is less than the required rate of return it is said to be overvalued. In the given case, as the expected rate of return is more than the required rate of return, the stock is an undervalued security. Hence, statement (III) is not true. When security's expected return and beta are plotted on a graph with reference to the SML of the security, the security will lie above the SML if it is undervalued and will lie below the SML if it is overvalued. In the given case, as the security is undervalued it will lie above the SML and the beta of the security is immaterial. Hence, statement (IV) is not true.

45. Answer : (c)

[<TOP>](#)

Reason : $\bar{k}_a = 0.40 \times 3 + 0.25 \times 4 + 0.15 \times 5 + 0.20 \times 7 = 4.35\%$.

$$\bar{k}_m = 0.40 \times 6 + 0.25 \times 9 + 0.15 \times 8 + 0.20 \times 7 = 7.25\%$$

$$\beta = \frac{COV_{sm}}{\sigma_m^2}$$

$$\begin{aligned}\sigma_m^2 &= (6 - 7.25)^2 0.4 + (9 - 7.25)^2 0.25 + (8 - 7.25)^2 0.15 + (7 - 7.25)^2 0.2 \\ &= 0.625 + 0.766 + 0.084 + 0.0125 \\ &= 1.4875\end{aligned}$$

$$\beta = \frac{0.4625}{1.4875} = 0.31$$

The alpha factor helps us in computing the rate of return that the security will earn when market return is zero.

$$\alpha = \bar{k}_a - \beta \bar{k}_m = 4.35\% - (0.31) 7.25\% = 2.1025\% = 2.103 \text{ (approx.)}$$

Hence, the security will earn a return of 2.103% when the market return is zero.

46. Answer : (b)

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Reason : $R_i = \alpha + \beta R_m$

$$\Rightarrow = 0.04 + 0.9 \times 0.12$$

$$= 14.8\%$$

As the shares are said to be in equilibrium,

$$\frac{D_1}{P_0} + g = R$$

$$= \frac{3 \times 0.6}{40} + g = 0.148$$

$$0.045 + g = 0.148$$

$$g = 0.103$$

$$\text{MP at the end of 5 years} = \frac{D_6}{k - g}$$

$$= \frac{3 \times 0.6 \times (1.103)^5}{0.148 - 0.103}$$

$$= \text{Rs. } 65.30.$$

47. Answer : (d)

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Reason : Expected return from that equity share = $0.3 \times 10 + 0.45 \times 16 + 0.25 \times 20 = 3 + 7.20 + 5.0 = 15.20$ percent.

Expected risk may be calculated as: $\sigma = \sqrt{\sum P_i (R_i - \bar{R})^2}$

$$\sigma = \sqrt{0.3 \times (10 - 15.20)^2 + 0.45 \times (16 - 15.20)^2 + 0.25 \times (20 - 15.20)^2}$$

$$= \sqrt{0.3 \times 27.04 + 0.45 \times 0.64 + 0.25 \times 23.04}$$

$$= \sqrt{8.112 + 0.288 + 5.76}$$

$$= \sqrt{14.160} = 3.76 \text{ (approximately)}$$

So, the expected risk = 3.76.

48. Answer : (c)

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Reason : Current yield = $\frac{\text{Coupon interest}}{\text{Market Price}} = 8.33\%$

$$\therefore \text{Market Price} = \frac{\text{Coupon Interest}}{0.0833} = \frac{0.10 \times 1000}{0.0833} = \text{Rs. } 1,200 \text{ (approx.)}$$

Hence, the bond is trading at a premium of Rs.200 i.e., 20%. Hence, answer is (c).

49. Answer : (d)

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$$\text{Reason : YTM} = \frac{I + \frac{(F - P)}{n}}{\frac{(F + P)}{2}} \quad \text{i.e.} \quad 0.164 = \frac{170 + \frac{(1200 - 1114)}{n}}{\frac{(1200 + 1114)}{2}}$$

Solving we get n = 4.35 years.

50. Answer : (d)

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Reason : The value of the bond is computed as:

$$V_0 = I (\text{PVIFA}_{k\%, n}) + F (\text{PVIF}_{k\%, n})$$

Where I is the annual interest payment and F is the redemption value.

$$V_0 = 90 \times \text{PVIFA}(8\%, 5 \text{ years}) + 1,100 \text{ PVIF}(8\%, 5 \text{ years})$$

$$= 90 \times 3.993 + 1,100 \times 0.681 = \text{Rs. } 1,108.47.$$

Hence, option (d) is correct.

51. Answer : (b)

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Reason : The YTM is the value of 'i' in the following:

$$95 = 4\text{PVIFA}_{i, 10} + 110\text{PVIF}_{i, 10}$$

At i = 5%, RHS = 98.428

At i = 6%, RHS = 90.82

$$i = \frac{5 + \frac{98.428 - 95}{98.428 - 90.82}}{1} = 5.4$$

Annual YTM = 10.8% (approximately)

Hence, the answer is (b).

52. Answer : (c)

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Reason : Intrinsic value (IV) of A Ltd. = Rs.34.12

$$\therefore \text{IV of B Ltd.} = 34.12 - 7.60$$

Price of B Ltd. = 34.12 - 7.60 = Rs.26.52

Price = PV of dividends

$$= \frac{1.8(1.08)}{1.11} + \frac{1.8(1.08)^2}{(1.11)^2} + \frac{1.8(1.08)^3}{(1.11)^3} + \frac{1.8(1.08)^3(1+x)}{(k-g)(1.11)^3} = 26.52$$

$$= 1.751 + 1.704 + 1.658 + \frac{1.658(1+x)}{0.11-x} = 26.52$$

$$\frac{1.658(1+x)}{0.11-x} = 21.407$$

$$1.658 + 1.658x = 2.355 - 21.407x$$

$$23.065x = 0.6968$$

$$x = 0.03$$

Hence $x = 3\%$ and answer is (c).

53. Answer : (b)

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Reason : For any holding period the value of the share is the present value of the infinite dividend stream.

(Amount in Rs.)

End of year	Dividend	Present value of dividends at 10 %
1	3(1.04)	$3.12 \times 0.909 = 2.84$
2	3(1.04) ²	$3.24 \times 0.826 = 2.68$
3	3(1.04) ² (1.03)	$3.34 \times 0.751 = 2.51$
4	3(1.04) ² (1.03) ²	$3.44 \times 0.683 = 2.35$
		10.38

$$\text{Year 5 dividend} = \text{Rs. } 3.44 \times 1.01$$

$$= \text{Rs. } 3.477$$

$$\frac{3.477}{0.1-0.01}$$

Therefore Market price at the end of year four = $\frac{3.477}{0.1-0.01} = \text{Rs. } 38.63$

Present value of Rs.38.63 at 10% discount rate $\text{Rs. } 38.63 \times 0.683 = \text{Rs. } 26.38$

Intrinsic value if the holding period is infinite = $\text{Rs. } 26.38 + \text{Rs. } 10.38 = \text{Rs. } 36.76$.

54. Answer : (b)

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Reason : Cost of goods sold = Rs. 39,00,000.

Gross profit margin is given to be 25%. In other words gross profit is 25% of sales.

Let Sales be x.

Therefore, Cost of goods sold + 0.25 x = x

$$39,00,000 + 0.25x = x$$

Hence x (i.e. Sales) = Rs. 52,00,000.

Average receivables turnover ratio is given to be 52:15

$$\text{i.e. } \frac{\text{Net credit sales}}{\text{Average accounts receivable}} = \frac{52}{15} \quad (\text{assume that the entire sales are on a credit basis})$$

$$\frac{52,00,000}{\text{Average accounts receivable}} = \frac{52}{15}$$

Therefore, Debtors (or average account receivables) = Rs. 15,00,000.

Cash and Bank = Quick assets – debtors = $18,00,000 - 15,00,000 = \text{Rs. } 3,00,000$.

55. Answer : (a)

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Reason : Present market value of the bond is Rs.108 and the amount of coupon interest to be received annually = $\text{Rs. } 108 \times 8.33 \text{ percent} = \text{Rs. } 8.9964 = \text{Rs. } 9$

So, the approximate yearly realized yield to an investor will be

$$= \frac{I + (F - P)/n}{(F + P)/2} = \frac{\text{Rs. } 9 + (100 - 108)/3}{(100 + 108)/2} = 6.09\%$$

56. Answer : (c)

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Reason : Return on net worth = Net profit margin $\times$ Asset turnover $\times$ $\frac{\text{Assets}}{\text{Equity}}$

$$\text{or } 0.24 = 0.125 \times 0.85 \times \left(\frac{\text{Assets}}{\text{Equity}} \right)$$

$$\text{or } \frac{\text{Assets}}{\text{Equity}} = \frac{0.24}{0.125 \times 0.85} = 2.26$$

$$\therefore \text{Assets} = 0.443$$

$$1 - \frac{\text{Equity}}{\text{Assets}} = \frac{\text{Assets} - \text{Equity}}{\text{Assets}} = \frac{\text{Debt}}{\text{Assets}} = 1 - 0.443 = 0.557 \approx 0.56.$$

57. Answer : (d)

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Reason : Earning Power = $\frac{\text{EBIT}}{\text{Average Total Assets}}$
Earnings After Tax = Rs. 9.0 lakhs.

$$\text{Therefore, Earnings Before Tax} = \frac{9}{(1 - 0.40)} = \text{Rs. 15 Lakhs}$$

$$\text{EBIT} = \text{Earnings Before Tax} + \text{Interest} = 15 + 8 = \text{Rs. 23 lakhs.}$$

$$\text{Net profit margin} = \frac{\text{Net profit}}{\text{Net sales}} \text{ i.e. Net sales} = \frac{\text{NP}}{\text{NPM}} = \frac{9,00,000}{0.05} = \text{Rs. 180,00,000}$$

$$\text{ATO ratio} = \frac{\text{Net sales}}{\text{Total assets}} \text{ i.e. TA} = \frac{180 \text{ lakhs}}{1.5} = \text{Rs. 120 lakhs}$$

$$\text{Therefore, Earning power} = \frac{\text{EBIT}}{\text{Average Total Assets}} = \frac{23}{120} = .1917 \text{ i.e.} = 19.17$$

Hence, the correct option is (d).

58. Answer : (c)

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Reason : Efficiency in the utilization of assets is measured by asset turnover ratio.

Asset turnover ratio = sales/total assets

$$\text{Asset turnover ratio (company X)} = \text{Rs. 32,00,000} / \text{Rs. 24,74,000} = 1.29 \text{ times}$$

$$\text{Asset turnover ratio (company Y)} = \text{Rs. 30,00,000} / \text{Rs. 28,51,000} = 1.05 \text{ times}$$

So asset utilization of company X is greater than company Y.

Hence statement (I) is correct.

Payout ratio determines the amount that is paid-out by the company and (1- paid-out) gives the amount retained

(Amount in Rs.)		
	X	Y
Dividends declared	$0.06 \times 10 \times 1,00,000$ = Rs.60,000	$0.08 \times 10 \times 80,000$ = Rs.64,000
Net profit	Rs.1,23,000	Rs.1,58,000
Retained earnings	Rs.63,000	Rs.94,000
R E as % of N P	51.2%	59.5%

Hence company Y retains larger proportion of its income & statement II is also true.

Utilization of shareholders money is determined by return on net worth.

(Amount in Rs.)		
	X	Y
Net worth	12,32,000	14,42,000
Net profit	1,23,000	1,58,000
R O N W	9.98%	10.96%

Hence, company Y utilizes shareholders funds more profitably than company X.
Hence, statement III is not true and the answer is (c).

59. Answer : (a)

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Reason : Fixed charges coverage ratio =

$$\frac{\text{Earnings before depreciation, interest and taxes}}{\text{Debt interest} + \frac{\text{Loan repayment installemn}}{1 - \text{tax rate}} + \frac{\text{Pr eference dividends}}{1 - \text{tax rate}}}$$

Here interest on term loan and debentures = $10 \times 12\% + 24 + 14\% = \text{Rs.}4.56$ lakhs.

Loan repayment installments = $\frac{10}{5} + \frac{24}{6} = 2 + 4 = \text{Rs.}6$ lakhs.

Preference dividends = $20 \times 0.15 = \text{Rs.}3.00$ lakhs.

The amount of dividend paid by the company = $\text{Rs.}1.50 \times 600,000 = \text{Rs.}9.00$ lakh

and so the net profit of the company is = $9 + 3 = \text{Rs.}12$ lakh.

So, profit before tax = $12 / (1 - 0.4) = \text{Rs.}20$ lakh

Hence, the profit before interest, depreciation and taxes was

= $20 + 5.44 + 4.56 = \text{Rs.}30$ lakh

So, the required fixed charges coverage ratio is = $\frac{30}{4.56 + \frac{6+3}{1-0.4}} = \frac{30}{4.56 + 15.00} = \frac{30}{19.56} = 1.534$.

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 = $x + 0.4x = 1.4x$

$$= x + 0.4x = 1.4x$$

$$\frac{42,00,000}{1.4}$$

$$\text{Equity} = \frac{42,00,000}{1.4} \times 0.4$$

$$= \text{Rs.}12,00,000$$

Computation of fixed assets:

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

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

i.e.

$$\text{Therefore, fixed assets} = 12,00,000 \times \frac{11}{5} = \text{Rs.} 26,40,000.$$

Hence Choice (d) is the correct option.

61. Answer : (a)

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

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

Therefore the increase in the price of the security

$$= 71.33 - 50 = \text{Rs.}21.33$$

62. Answer : (a)

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Reason : Change in EBIT with change in sales is reflected by DOL, change in EPS with change in EBIT is measured by DFL and change in EPS with change in sales is measured by DTL.

$$\text{DOL} = \frac{\text{Contribution}}{\text{EBIT}}$$

$$\text{Total assets turnover} = \frac{\text{Sales}}{\text{Total assets}} \quad \text{i.e. } 2 = \frac{\text{Sales}}{56,00,000}$$

Hence, sales = Rs. 1,12,00,000.

(in Rs.)

Sales	1,12,00,000
Less: Variable costs (60% of sales)	67,20,000
Contribution	44,80,000
Less fixed costs	24,00,000
Earnings Before Interest and Taxes	20,80,000

$$\text{Degree of Operating Leverage} = \frac{\text{Contribution}}{\text{EBIT}} = \frac{44,80,000}{20,80,000} = 2.15$$

DOL = 2.15 indicates that if the sales increase or decrease by 1%, then EBIT will increase or decrease by 2.15%.

Hence, (b) and (d) are incorrect.

$$\text{DFL} = \frac{\text{EBIT}}{\text{EBIT} - I - \frac{P_d}{1-t}} \quad \text{Where EBIT} = 20,80,000$$

$I = \frac{\text{EBIT}}{3.2}$, given by interest coverage ratio of 3.2 and P_d is nil

$$\text{DFL} = \frac{20,80,000}{20,80,000 - 6,50,000} = \frac{20,80,000}{14,30,000} = 1.45$$

DFL of 1.45 indicates if EBIT increase/decrease by 1%, EPS will increase/decrease by 1.45%
Hence, (c) is incorrect.

$$\text{DTL} = \text{DOL} \times \text{DFL} = 2.15 \times 1.45 = 3.12$$

DTL of 3.12 indicates if sales increase/decrease by 1%, EPS will increase/decrease by 3.12%,
Hence (a) is correct and (e) is incorrect. Hence, (a) is the answer.

63. Answer : (c)

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Reason : Let S represent Sales, V represent variable costs and F represent fixed costs.

$$\text{Degree of Operating Leverage} = \frac{\text{Sales} - \text{Variable Costs}}{(\text{Sales} - \text{Variable Costs}) - \text{Fixed Cost}} = 1.1 \quad \text{i.e. } \frac{S - 0.4S}{(S - 0.4S) - F} = 1.1$$

$$\text{i.e. } 0.6S = 0.66S - 1.1F \quad \text{i.e. } 0.06S - 1.1F = 0 \quad \text{----- (Equation 1)}$$

Degree of Financial Leverage

$$= \frac{(\text{Sales} - \text{Variable Costs}) - \text{Fixed Cost}}{(\text{Sales} - \text{Variable Costs}) - \text{Fixed Costs} - \text{Interest payment} - \frac{\text{Preference dividend}}{1 - \text{tax rate}}} = 1.5$$

$$\text{i.e. } \frac{(S - 0.4S) - F}{(S - 0.4S) - F - 60,00,000 - \frac{40,00,000}{1 - 0.50}} = 1.5 \quad \frac{0.6S - F}{0.6S - F - 60,00,000 - 80,00,000} = 1.5$$

$$\text{i.e. } 0.6S - F = 0.9S - 1.5F - 210,00,000 \quad \text{i.e. } 0.3S - 0.5F = 210,00,000 \quad \text{----- (Equation 2)}$$

Multiplying equation 1 by 0.3 and multiplying equation 2 by 0.06, and solving the resultant

equations, we get

$$0.018 S - 0.33 F = 0$$

$$0.018 S - 0.03 F = 12,60,000.$$

$$-0.30 F = -12,60,000 \quad \text{i.e. } F = \text{Rs. } 42,00,000.$$

Putting the value of F in equation 1, we get $S = \frac{1.1 \times 42,00,000}{0.06} = \text{Rs. } 770,00,000$. Hence the sales revenue for the firm is Rs.7,70,00,000 and the fixed costs are Rs.42,00,000.

64. Answer : (a)

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$$\text{Reason : Degree of operating leverage (DOL)} = \frac{Q(P - V)}{Q(P - V) - F} = \frac{QP - QV}{QP - QV - F}$$

$$= \frac{\text{Sales} - \text{Variable cost}}{\text{Sales} - \text{Variable cost} - \text{Fixed cost}}$$

	(Rs. in crores)
Variable costs:	
Cost of goods sold (75%)	825
Selling expenses (80%)	440
Total variable cost	1265
Fixed costs:	
Cost of goods sold (25%)	275
Selling expenses (20%)	110
Administrative expenses	65
Total fixed cost	450

$$\text{Sales} = \text{Rs. } 2070 \text{ crores (given)} \quad \therefore \text{DOL} = \frac{2070 - 1265}{2070 - 1265 - 450} = 2.268$$

$$\text{Degree of financial leverage (DFL)} = \frac{\text{EBIT}}{\text{EBIT} - I - \frac{D_p}{1-t}}$$

$$\text{EBIT} = \text{Net profit} + \text{Taxes} + \text{Interest} = 196 + 84 + 75 = \text{Rs. } 355 \text{ crores}$$

$$\text{Interest} = \text{Rs. } 75 \text{ crores (given)}$$

$$\text{Dividend on preference shares adjusted for tax} = \frac{D_p}{1-t}$$

$$\text{Tax rate, } t = \frac{\text{Taxes}}{\text{Pr ofit before tax}} = \frac{\text{Taxes}}{\text{Net profit} + \text{Taxes}} = \frac{84}{196 + 84} = 0.30 \text{ i.e. } 30\%$$

$$\text{Preference dividend (Dp)} = 150 \times 0.12 = \text{Rs. } 18 \text{ crores.}$$

$$\therefore 1-t = 1-0.30 = \text{Rs. } 25.71 \text{ crores. } \therefore \text{DFL} = \frac{355}{355 - 75 - 25.71} = 1.396$$

$$\text{Degree of total leverage (DTL)} = \text{DOL} \times \text{DFL} = 2.268 \times 1.396 = 3.166$$

$$\text{Percentage increase in sales, if EPS increases by } 25\% = 25/3.166 = 7.9.$$

65. Answer : (b)

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Reason : The maximum sales growth rate that can be financed without resorting to external financing

$$\text{can be computed by equating } \frac{A}{S} - \frac{L}{S} - \frac{m(1+g)(1-d)}{g} \text{ to zero, i.e. } \frac{A}{S} - \frac{L}{S} - \frac{m(1+g)(1-d)}{g} = 0.$$

$$0.6 - 0.15 - \frac{0.06(1+g)(1-0.40)}{g} = 0$$

$$\frac{(1+g)}{0.45} = 0.036 \quad g$$

$$12.5g = 1+g$$

Hence, $g = 1/11.5 = 8.7\%$.

Alternative solution:

$$EFR = 0$$

$$\frac{A}{S} \Delta S - \frac{L}{S} \Delta S - mS_1(1-d) = 0$$

$$\frac{A}{S} \Delta S - \frac{L}{S} \Delta S - m(S + \Delta S)(1-d) = 0$$

$$0.6 \Delta S - 0.15 \Delta S - 0.06 \times 0.6 (S + \Delta S) = 0$$

$$0.6 \Delta S - 0.15 \Delta S - 0.036S - 0.036\Delta S = 0$$

$$0.414\Delta S = 0.036S$$

$$\frac{\Delta S}{S} = g = 8.7\%$$

66. Answer : (d)

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

Reason :

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

$$PAT = (EBIT - I)(1 - t)$$

$$= (3 - 20 \times 0.375 \times 0.09) 0.6$$

$$= 1.395$$

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

67. Answer : (e)

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Reason : Future value of the 10-payments annuity = $2000 \times FVIFA(7,10) = 2000 \times 13.816 = \text{Rs } 27632$.
The amount of Rs 27632 is available immediately after the last payment. The future value of this at the end of the 15th year
 $FV = 27632 \times FVIF(7,5) = 27632 \times 1.403 = \text{Rs } 38768$

$$\text{The annuity amount of the retirement annuity} = \frac{38768}{PVIFA(7,20)} = \frac{38768}{10.594} = \text{Rs } 3659.$$

68. Answer : (a)

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Reason : Debt Equity ratio = 5:4

$$\text{Therefore Equity} = \frac{4}{9} \times 18,00,000 = \text{Rs. } 8,00,000.$$

Computation of fixed assets:

It is given that ratio of owner's equity to fixed assets is 8:15.

$$\frac{8,00,000}{\text{i.e. Fixed Assets}} = \frac{8}{15}$$

$$\text{Therefore, fixed assets} = 8,00,000 \times \frac{15}{8} = \text{Rs. } 15,00,000.$$

Hence Choice (a) is the correct option.

69. Answer : (e)

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Reason : External funds required

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

$$\begin{aligned}
&= 15,00,000 (0.1) - 1,60,000 (0.1) - 16,50,000 \times 0.1 \times 0.5 \\
&= 1,50,000 - 16,000 - 82,500 \\
&= \text{Rs.} 51,500
\end{aligned}$$

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

$$\frac{6,00,000}{}$$

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

$$\therefore \text{New debt should be less than} = \text{Rs.} 6,90,975$$

$$\text{Debt that can be raised} = 6,90,975 - 6,00,000 = \text{Rs.} 90,975$$

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 : 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

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

$$\frac{1.035}{}$$

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

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

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

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