

Question Paper

Financial Management I (141): January 2005

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

1. Which of the following is a part of the financial control function of the finance manager? [< An](#)
- (a) Negotiating with banks and financial institutions for loans
(b) Negotiating with merchant banks for issue of shares and debentures
(c) Reporting on the financial performance of individual departments within the organization
(d) Appraising investment proposals submitted by various departments
(e) Deciding about the deployment of funds in various assets.
- (1 mark)
2. Which of the following statements is **false** with regard to a public limited company? [< An](#)
- (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)
3. Which of the following implies the significant advantage of a public limited company over a proprietorship firm? [< An](#)
- (a) Limited liability
(b) Difficulty in transfer of ownership interest
(c) Limited life
(d) Inability to mobilize large amount of funds
(e) Fewer government regulations.
- (1 mark)
4. Which of the following is a disadvantage of bought-out-deals? [< An](#)
- (a) It is more expensive than public issue
(b) It involves a time consuming procedure
(c) It is difficult to convince a wholesale investor
(d) Promoters are not assured of immediate funds
(e) Sponsor may misuse its power.
- (1 mark)
5. Which of the following companies generally provide risk capital to the technology oriented and highly risky businesses? [< An](#)
- (a) Venture capital funding companies
(b) Lease finance companies
(c) Hire purchase finance companies
(d) Commercial banks
(e) Insurance companies.
- (1 mark)
6. Which of the following players **cannot** act as a borrower in the call money market? [< An](#)
- (a) Discount and Finance House of India
(b) SBI Mutual Fund
(c) State Bank of India
(d) Securities Trading Corporation of India
(e) Reserve Bank of India.
- (1 mark)
7. In which of the following types of issues is the amount of share capital increased without any [< An](#)

increase in the net worth of the company?

- (a) Public issue
- (b) Rights issue
- (c) Bought-out deal
- (d) Bonus issue
- (e) Private placement.

(1 mark)

[< An](#)

8. Which of the following is **not** a feature of certificate of deposit issued by a bank?

- (a) It is a document of title to a time deposit
- (b) There is no lock-in period for transferring it to others
- (c) It is not subject to the reserve requirements of the bank
- (d) It is transferable by endorsement and delivery
- (e) The maximum maturity period is one year.

(1 mark)

[< An](#)

9. 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?

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

(1 mark)

[< An](#)

10. Which of the following money market instruments has a maturity period varying from 2 to 15 days?

- (a) Call money
- (b) Commercial Paper
- (c) Notice money
- (d) Treasury Bill
- (e) Certificate of Deposit.

(1 mark)

[< An](#)

11. Which of the following instruments is fixed-interest bearing security having a maturity of more than one year?

- (a) Commercial Papers
- (b) Medium-Term Notes
- (c) American Depository Receipts
- (d) Treasury Bills
- (e) Global Depository Receipts.

(1 mark)

[< An](#)

12. If a huge amount of Rs.500 crore is borrowed in the call money market, then the interest rate is decided by

- (a) The lender
- (b) The borrower
- (c) The Reserve Bank of India as the amount involved is huge
- (d) Negotiation between the lender and the borrower
- (e) Both lender and borrower but within the maximum limit prescribed by RBI.

(1 mark)

[< An](#)

13. Which of the following is **not** a marketable instrument?

- (a) Commercial Paper
- (b) Certificate of Deposit
- (c) Inter Corporate Deposit
- (d) Preference Share
- (e) Treasury Bill.

(1 mark)

[< An](#)

14. Which of the following functions is served by the primary capital market of an economy?

- (a) It allows the corporate houses to raise the long term capital by issuing new securities
- (b) It offers a market to trade for the outstanding long term securities
- (c) It offers a market to trade for the outstanding short term securities
- (d) It offers an excellent exit route for the venture capital funding companies
- (e) It allows the corporate houses to raise short and long term capital.

(1 mark)

[< An](#)

15. In which of the following markets, are the outstanding long-term financial instruments traded?

- (a) Money market
- (b) Forex market

- (c) Primary capital market
(d) Secondary capital market
(e) Call money market.

(1 mark)

[< An](#)

16. Which of the following will decrease with an increase in the interest rate?

- (a) Future Value Interest Factor
(b) Future Value Interest Factor of Annuity
(c) Capital Recovery Factor
(d) Present Value Interest Factor of a perpetual annuity
(e) Inverse of Present Value Interest Factor of Annuity.

(1 mark)

[< An](#)

17. Mr. Anand is interested in borrowing funds. Which of the following schemes should he choose?

Scheme A: Rate of interest is 10% p.a. compounded annually.
Scheme B: Rate of interest is 10% p.a. compounded four times a year.
Scheme C: Rate of interest is 10% p.a. compounded daily.
Scheme D: Rate of interest is 10% p.a. compounded half-yearly.
Scheme E: Rate of interest is 10% p.a. compounded monthly.

- (a) Scheme A (b) Scheme B (c) Scheme C (d) Scheme D (e) Scheme E.

(1 mark)

[< An](#)

18. Which of the following is/are **true** regarding the capital recovery factor?

- I. It is the inverse of the PVIF factor.
II. It represents the amount that has to be invested at the end of every year for a period of 'n' years at the rate of interest 'k' in order to accumulate Re.1 at the end of the period.
III. It can be applied to find out the amount to be invested periodically to liquidate a loan over a specified period at a given rate of interest.

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

(1 mark)

[< An](#)

19. Time value of money considers

- (a) The preference of the individuals for future consumption to present consumption
(b) Increase in purchasing power of rupee with the passage of time
(c) The uncertainty of the future
(d) The productivity of money to earn real returns over time
(e) Both (c) and (d) above.

(1 mark)

[< An](#)

20. If the rates of return from a security are **not** at all related to the market returns, then the beta for that security will be

- (a) -1 (b) 0 (c) Between 0 and 1
(d) Greater than 1 (e) Less than -1.

(1 mark)

[< An](#)

21. If the beta of a stock is equal to zero, which of the following is/are **true** according to CAPM?

- I. Slope of SML is zero.
II. Risk free rate of return is equal to the required rate of return of the given stock.
III. Stock will lie on the SML.

- (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)

[< An](#)

22. Which of the following is an assumption in the Capital Asset Pricing Model (CAPM)?
- (a) Assets can be traded only in multiples of a minimum number of units determined by the government
 - (b) Taxes influence the investment decision
 - (c) Transaction costs are negligible
 - (d) Investors prefer to take risk
 - (e) Investors make their investment decisions on the basis of a multi period time horizon.

(1 mark)

[< An](#)

23. A, B and C are three securities of which A has the least risk, B has moderate risk and C has the highest risk. Which of the following statements is **true**?
- (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.

(1 mark)

[< An](#)

24. Which of the following does the single period equity valuation model **not** imply?

- (a) $k_e = \frac{D_1 + P_1}{P_0}$
- (b) $k_e = \frac{D_1 + P_1}{P_0} - 1$
- (c) $P_0 (1 + k_e) - P_1 = D_1$
- (d) $P_0 (1 + k_e) - D_1 = P_1$
- (e) $P_0 \times k_e - D_1 = P_1 - P_0$

(1 mark)

[< An](#)

25. Which of the following risks is diversifiable?

- (a) Changes in tax rates
- (b) Increase in inflation rate
- (c) Labour unrest in a company
- (d) Economic recession
- (e) Decrease in interest rate.

(1 mark)

[< An](#)

26. Which of the following statements is/are **true**?

- I. Current yield is equal to the coupon rate, if the market price is equal to the face value of the bond.
 - II. Current yield is more than the coupon rate, if the bond is trading at discount on its face value.
 - III. Current yield is always 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)

[< An](#)

27. Other things being equal, which of the following will cause an increase in the yield to maturity?

- (a) Decrease in coupon rate
- (b) Increase in the issue price
- (c) Decrease in the amount repayable at maturity
- (d) Decrease in the maturity period
- (e) Increase in the market price of the bond.

(1 mark)

[<](#)

28. A system of financial statement analysis, which highlights the inter-relationships in the contents of financial statements is called Answer >
- (a) Du Pont analysis
 - (b) Common size analysis
 - (c) Time series analysis
 - (d) Index analysis
 - (e) Comparative analysis.
- (1 mark)
29. For a firm, if the current ratio remains constant and the quick ratio decreases during the same period, which of the following is **true**? < Answer
- (a) The proportion of total debt relative to total assets is decreasing
 - (b) The proportion of total debt relative to net worth is decreasing
 - (c) The proportion of net worth relative to total assets is increasing
 - (d) The value of inventories is increasing
 - (e) The profitability is decreasing.
- (1 mark)
30. Which of the following is reflected by a current ratio? < Answer
- (a) The amount of current assets that the firm uses to produce its total sales
 - (b) The proportion of current assets in the total assets of the firm
 - (c) The ability of the firm to meet its current obligations
 - (d) The proportion of current liabilities in the total liabilities of the firm
 - (e) The ability of the firm to meet its total (long-term as well as short-term) financial obligations.
- (1 mark)
31. According to Du-Pont equation for Return On Equity (ROE), other things remaining constant, which of the following statements is/are **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) Both (b) and (c) above.
- (1 mark)
32. Which of the following is **true** regarding the earnings power of two companies? < Answer
- (a) Pre-tax earnings being the same, higher the tax rate, lower the earnings power
 - (b) Debt-equity ratio and pre-tax earnings being the same, higher the interest rate, lower the earnings power
 - (c) Total assets being the same, higher the debt-equity ratio, higher the earnings power
 - (d) Pre-tax earnings being the same, greater the total assets, higher the earnings power
 - (e) Sales and pre-tax earnings being the same, greater the total assets turnover ratio, higher the earnings power.
- (1 mark)
33. Which of the following is a source of cash in a funds flow statement drawn on cash basis? < Answer
- (a) Increase in inventory
 - (b) Decrease in accrued taxes
 - (c) Increase in receivables
 - (d) Repayment of short-term bank loan
 - (e) Increase in accounts payable.
- (1 mark)
34. Which of the following is **not** 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)

[< An](#)

35. If the degree of operating leverage is 3 and the degree of financial leverage is 2, it means that

- (a) 1% change in EPS will be caused by 5% change in sales
- (b) 1% change in EBIT will result in 3% change in EPS
- (c) 1% change in sales will result in 3 percent change in EBIT and 6% change in EPS
- (d) 1% change in EPS will be caused by 6% change in EBIT
- (e) 1% change in sales will result in 2% change in EPS.

(1 mark)

[< An](#)

36. In which of the following conditions will the degree of total leverage of a firm be zero?

- (a) The firm has no debt
- (b) The firm has redeemed all the preference shares issued by it
- (c) The sales revenue of the firm is just enough to meet the variable expenses
- (d) The earnings of the firm are exempt from tax
- (e) The firm has no fixed expenses.

(1 mark)

[< An](#)

37. If the Degree of Financial Leverage of M/s Twiky's Ltd. is zero, which of the following statements is **true**?

- (a) The company is not paying any preference dividend
- (b) The interest expense for the firm is zero
- (c) The company has only fixed costs and no variable costs
- (d) The EBIT of the company is zero
- (e) The company has no outstanding debt.

(1 mark)

[< An](#)

38. Growth with internal equity will decrease with the

- (a) Increase in debt-equity ratio
- (b) Increase in dividend pay-out ratio
- (c) Increase in net profit margin
- (d) Decrease in assets to sales ratio
- (e) Both (a) and (d) above.

(1 mark)

[< An](#)

39. Which of the following points can be considered as the starting point of financial forecasting?

- (a) Forecasting material requirements
- (b) Forecasting man power requirements
- (c) Forecasting financial requirements
- (d) Forecasting sales volume
- (e) Forecasting asset requirements.

(1 mark)

[< An](#)

40. Which of the following assumptions is **true** while calculating the external funds requirement?

- (a) The assets of the firm will increase proportionately to cost of goods sold
- (b) Net profit margin will increase at a constant rate
- (c) Dividend payout ratio will remain constant
- (d) Fixed assets will increase proportionately to sales, while current assets remain constant
- (e) The current liabilities will increase proportionately to sales.

(1 mark)

41. Mr. Jaswant has planned to purchase a flat, whose present cost is Rs.15 lakh. He 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 deposit is 8% p.a. and the cost of the flat is expected to escalate by 5% p.a. The amount to be saved by Mr. Jaswant annually is (Round off your answer)

- (a) Rs.0.630 lakh
- (b) Rs.0.795 lakh
- (c) Rs.0.859 lakh
- (d) Rs.1.248 lakh
- (e)

[< Answer >](#)

Rs.1.348 lakh.

(3 marks)

42. Mr. Naresh deposited Rs.2,000 at the beginning of every month for five years in a scheme in which interest is compounded monthly. If he received Rs.1,64,973 at the end of five years, the nominal rate of interest per annum on the scheme is

(a) 12% (b) 14% (c) 15% (d) 16%
(e) 18%.

(1 mark)

43. If the interest rate is 9% per annum, how much should Mr. Ashish invest today in a bank scheme that would fetch him an annuity of Rs.2,000 for a period of 6 years commencing from the beginning of third year? (Round off your answer to the nearest integer)

(a) Rs.6,352 (b) Rs.6,926 (c) Rs.7,554 (d) Rs.8,232 (e) Rs.10,655.

(2 marks)

44. Vijay Finance, is offering a pension scheme for people who are at the age of 40 years. According to the scheme the individuals who subscribe will have to deposit Rs.15,000 per year for 20 years. Every subscriber will receive a specific sum at the end of 20th year. In addition to that, he will also receive an annuity of Rs.75,000 per annum for a period of 25 years, commencing from the beginning of the 21st year. If the depositors wish to earn 11% rate of return, the minimum amount to be paid by Vijay finance at the end of the 20th year, as the specific sum, is

(a) Rs.1,18,007 (b) Rs.3,31,395 (c) Rs.6,31,650 (d) Rs.9,63,045 (e) Rs.15,94,695.

(2 marks)

45. Asita borrowed an amount of Rs.41,000 from a bank to be repaid in five equal annual installments. If the rate of interest is 7% p.a. on the reducing balances, the amount of principal amortized in the first payment is

(a) Rs.2,870 (b) Rs.7,130 (c) Rs.10,000 (d) Rs.12,345 (e) Rs.13,130.

(2 marks)

46. The expected returns for the next one year from the shares of Eastern Sugars Ltd. (ESL) vis-à-vis the returns from the market portfolio under different situations are projected as follows:

Probability	0.20	0.50	0.30
Return on ESL Share (%)	12	16	22
Return on Market Portfolio (%)	10	12	20

What should be the Beta coefficient for the equity shares of ESL?

(a) 0.875 (b) 1.000 (c) 1.125 (d) 1.250
(e) 1.375.

(3 marks)

47. The correlation coefficient between the return on the equity shares of Surya Rashmi Ltd. and the market return is 0.90. The variance of return on equity shares of the company is $49\%^2$ and the same for the market is $36\%^2$. Presently the government securities are traded at a return of 5.5 percent, while the market return is 12 percent. What is required rate of return from the equity shares of the above company?

(a) 5.50 % (b) 6.50 % (c) 6.83 % (d) 12.00 %
(e) 12.33 %.

(2 marks)

48. On September 30, 2004, the BSE sensx was at 5700 points. With the expectation of a bullish trend in the near future, an analyst projected the expected value of sensx by the end of next six months as:

Sensex	6127.50	6412.50	6697.50
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Probability	0.3	0.4	0.3
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What is the expected annualized return from the market? (Round off your answer)

- (a) 15 % (b) 20 % (c) 25 % (d) 30 %
(e) 35 %.

(2 marks)

49. 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: ≤
Answer
≥

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 according to the Single-index model, the expected price of the share at the end of five years will be (Round off your answer to the nearest integer)

- (a) Rs.72 (b) Rs.65 (c) Rs.58 (d) Rs.45
(e) Rs.35.

(3 marks)

50. The following information is given with respect to Foren Kapital Services Ltd. ≤
Answer
≥

Current dividend	Rs.2.00 per share
Constant rate of growth in dividends (%)	5
Expected return from the market index (%)	12
Beta of the stock	1.50
Risk free rate of return (%)	6

The present market price per share will be approximately equal to

- (a) Rs.14 (b) Rs.16 (c) Rs.20 (d) Rs.21
(e) Rs.30.

(2 marks)

51. Bright Metals Ltd. issued fully convertible debentures with a face value of Rs.100 each. The coupon rate is 9 percent and the interest is payable half yearly over a period of three years. After three years, each bond will be converted into 10 equity shares of face value Rs.10 per share, which is expected to fetch a dividend of Rs.1.00 per share every year thereafter. Presently, the yield on the risk-free securities is 5 percent per annum. The bondholders of the company need 3 percent more as the risk premium, while the expected return to the equity shareholders will go up by an additional risk premium of 4 percent over the bondholders. The intrinsic value of these fully convertible debentures is: (Round off your answer to the nearest integer). ≤
Answer
≥

- (a) Rs.83 (b) Rs.98 (c) Rs.118 (d) Rs.129
(e) Rs.136.

(2 marks)

52. 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 fifth year and sixth 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% (b) 11.00% (c) 11.28% (d) 11.81%
(e) 12.11%.

(3 marks)

53. Super Cement Ltd. issued debentures at a coupon rate of 12 percent per annum that are presently ≤
Answer
≥

selling at 8 percent premium on the face value. What is the current yield on these debentures?

- (a) 8.00% (b) 11.11% (c) 12.00% (d) 13.34%
(e) 15.00%.

(1 mark)

54. Mr. Vivek purchased a coupon-bearing debenture of the face value Rs.1,500 for Rs.1,800. At the end of the year the price of the security increased to Rs.2,000. If the rate of return earned on this debenture is 20%, the amount of coupon received on the debenture is

- (a) Rs.50 (b) Rs.60 (c) Rs.100 (d) Rs.110
(e) Rs.160.

(1 mark)

55. Consider the following data:

Face value of a bond	Rs.1,00,000
Time period of redemption	20 years
Coupon rate	12% p.a.
Redemption premium	10% of face value

The approximate yield to maturity of the bond, if it is currently trading at a 10% discount to its face value, is

- (a) 10.0% (b) 11.0% (c) 11.9% (d) 13.0%
(e) 13.7%.

(1 mark)

56. Standard Ferrites Ltd. is trying to determine the growth rate in sales, given its future plans. While the firm wants to expand, it does not want to use any external funds to support such expansion due to high interest rates prevailing in the market now. With the following data, calculate the maximum sustainable growth rate without using additional funds? (Round off your answer up to one decimal)

Assets to Sales Ratio	= 1.2
Profit margin	= 10%
Dividend payout ratio	= 50%
Current sales	= Rs100,000
Spontaneous liabilities	= Rs10,000

- (a) 3.6% (b) 4.8% (c) 5.2% (d) 6.1%
(e) 5.7%

(2 marks)

57. Maruti Beverages has the following balance sheet for the year ended on 31.12.2004:

(Rs in lakh)

Liabilities	Assets
Equity Capital 270	Net plant & equipment 420
Retained earnings 110	Accounts receivable 240
Long-term bonds 260	Inventory 320
Accounts payable 360	Cash 20

By the next year, Maruti's current assets and accounts payable will grow in proportion to sales. The sales turnover in 2004 was Rs.800 lakh and is expected to increase by 40 percent by the year 2005. The firm will retain Rs.58 lakh of earnings to fund current asset growth, and the rest of the increase will be funded entirely with accounts payable during the year 2005. The net plant and equipment account will increase to Rs.500 lakh and will be funded directly by a new equity issue. What will Maruti's new current ratio be, after the changes in the firm's financial structure in 2005, are completed?

- (a) 1.52 (b) 1.61 (c) 1.26 (d) 1.21
(e) 1.37

(2 marks)

58. Tuff Cement finances its assets by taking debt to the extent of 66.67 percent of the value of the

assets. If the company plans to acquire a machine at a cost price of Rs.69 lakh, then the minimum amount of retained earnings that can be used for this procurement is Answer ≤ ≥

- (a) Rs.69 lakh (b) Rs.46 lakh (c) Rs.23 lakh (d) Rs.13 lakh
(e) Insufficient data.

(1 mark)

59. The sales turnover of M/s Garodia Rubber is Rs.500 lakh. They are planning to increase it by 20 percent by the next year. Total assets of the company are Rs.320 lakh, out of which Rs. 120 lakh is financed by the spontaneous liabilities. Its net profit for the last year was Rs.37.50 lakh while dividend paid was Rs.3. per share. If the number of outstanding shares is 500,000, what will be the amount of external funds requirements? (Assume that net profit margin and dividend pay-out ratio will remain constant) ≤ Answer ≥

- (a) Rs.5.00 lakh (b) Rs.7.00 lakh (c) Rs.9.00 lakh (d) Rs.11.00 lakh (e) Rs.13.00 lakh.

(2 marks)

60. The following information have been collected from the Annual Report of Garden Restaurant, selling biryanis in parcel packets: ≤ Answer ≥

Total sales	Rs.1400,000
Contribution ratio	25 percent
Fixed expenses	Rs.150,000
Outstanding bank loan	Rs.400,000 @ 12.50 percent
Preference Share Capital	Rs.200,000 @ 15.00 percent
Applicable Tax rate	40 percent

The degree of financial leverage (DFL) for Garden Restaurant is

- (a) 1.33 (b) 1.50 (c) 1.67 (d) 2.00
(e) 2.33.

(2 marks)

61. For ABC Corporation, the degree of operating leverage (DOL) is 3 and the degree of financial leverage is 1.67. If the management targets to increase the EPS by 10 percent, by how much percentage should the sales volume be increased? (Round off your answer to the nearest value) ≤ Answer ≥

- (a) 1.67 % (b) 2.00 % (c) 3.00 % (d) 5.00 %
(e) 10.00 %.

(1 mark)

62. Consider the following information for M/s. ABC Ltd: ≤ Answer ≥

Preference dividend	Rs.30,000
Corporate tax rate	40%
Interest	Rs.65,000
Fixed expenses	Rs.6,00,000
Selling price per unit	Rs.900
Variable cost per unit	Rs.400

The level of output at which DTL will be undefined is

- (a) 1480 units (b) 1430 units (c) 1390 units (d) 1366 units (e) 1354 units.

(2 marks)

63. Consider the following data regarding M/s. X Ltd.: ≤ Answer ≥

Operating profit	Rs.1,00,000
Profit after tax	Rs. 50,000
10% Preference Shares	Rs.1,00,000
Degree of total leverage	4
Tax rate	20%

If EBIT has to increase by 10%, sales have to be increased by

- (a) 10% (b) 8% (c) 5% (d) 4%
(e) 2.5%.

(2 marks)

64. Consider the following:

Provision for contingencies	Rs.30,000
Loans and advances (given)	Rs.20,00,000
Stipulated amount for provident fund	Rs.10,00,000
Short-term investments	Rs.30,00,000

The following changes have occurred during the year:

Increase in provision for contingencies	Rs.20,000
Increase in the stipulated amount for provident fund	Rs.10,00,000
Loans and advances (taken)	Rs.10,00,000
Decrease in short-term investments	Rs.20,00,000

After considering the above changes, the new net working capital will be

- (a) –Rs.50,000 (b) Rs.9,50,000 (c) Rs.19,70,000 (d) Rs.39,70,000 (e) Rs.49,50,000.

(1 mark)

65. During the year 2003-04, M/s. X Ltd. realized receivables worth Rs.10,000 and there was an increase of Rs.30,000 in the inventories, which was bought on credit. The impact of the above on the net working capital will be

- (a) Increase by Rs.10,000 (b) Decrease by Rs.40,000
(c) No change in the net working capital (d) Increase by Rs.40,000
(e) Decrease by Rs.10,000.

(1 mark)

66. The following items are extracted from the Balance Sheet of M/s. PAL Ltd.

	2004	2003
	Amount (in Rs.)	Amount (in Rs.)
Stock	2,90,000	2,20,000
Sundry Debtors	2,65,000	2,45,000
Sundry Creditors	2,82,000	1,90,000
Bills Payable	1,30,000	1,20,000
Cash in hand	85,000	60,000
Prepaid expenses	42,000	45,000

The net increase/decrease in the working capital for the year 2003 - 2004 is

- (a) A decrease of Rs.15,000 (b) A decrease of Rs.10,000
(c) An increase of Rs.10,000 (d) An increase of Rs.15,000
(e) An increase of Rs.2,14,000.

(1 mark)

67. Madhav Organics Ltd. raised money from the debt market at a rate of 8 percent per annum to achieve a total debt-equity ratio of 0.5. For the last year, if its return on investment (ROI) is 14 percent, what was its return on equity? (Assume the applicable tax rate as 40 percent)

- (a) 9.20 percent (b) 10.20 percent (c) 11.20 percent (d) 12.20 percent (e) 14.00 percent.

(2 marks)

68. Garodia Textiles Ltd. sells its goods on credit only. The average collection period of the company is 30 days. Its balance sheet shows outstanding debtors of Rs.20 lakh as on 01.04.2003 and of Rs.30

lakh as on 31.03.2004. What was its annual sales turnover for the year 2003-04? (Assume 360 days in a year.) ≤
Answer
≥

- (a) Rs.250 lakh (b) Rs.300 lakh (c) Rs.360 lakh (d) Rs.450 lakh (e) Rs.750 lakh.

(2 marks)

69. The net worth and total debt (carrying an average interest rate of 8 percent) of Subsonic Industries Ltd. amount to Rs.150 lakh and Rs.250 lakh respectively. The net profit of the company after deducting a marginal tax rate of 20 percent is 24 lakh. The return on investment of Subsonic Industries is ≤
Answer
≥

- (a) 3.00 % (b) 5.00 % (c) 12.50 % (d) 20.00 %
(e) 33.33 %.

(2 marks)

70. The following information is related to Padmaja Industries Ltd. ≤
Answer
≥

Current liabilities and provisions	Rs.70 lakh
Net sales	Rs.350 lakh
Inventory turnover ratio	7
Current ratio	1.40
Receivables/Quick Assets Ratio	0.75

What is the amount of cash and bank balance? (Assume 360 days in a year)

- (a) Rs.8 lakh (b) Rs.10 lakh (c) Rs.12 lakh (d) Rs.15 lakh (e) Rs.17 lakh.

(3 marks)

71. Following figures are taken from the annual report of M/s TDG Ltd.: ≤
Answer
≥

Term Loan at a rate of 12 percent per annum to be repaid in 5 equal annual installments during the coming years	Rs.10 lakh
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
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.

(3 marks)

72. If the retention ratio is 40 percent and the P/E ratio is 10, the dividend yield for the company is ≤
Answer
≥
- (a) 4 percent (b) 6 percent (c) 10 percent (d) 12 percent (e) 15 percent.

(1 mark)

Suggested Answers

Financial Management-I (141): January 2005

1. Answer : (c) [< TOP](#)
[>](#)
Reason: The management of an organization exercises its control on the overall performance of the organization on the basis of the reports sent by the finance manager on the performance of the individual departments. Since this function of the finance manager helps the management to exercise control over the overall performance of the organization it is considered to be a part of the control function of the finance manager.
2. 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.
3. Answer: (a) [< TOP](#)
[>](#)
Reason: A public limited company is said to be in a significant advantage owing to its limited liability. If the company turned to an insolvent one, the members don't have any further liability to bail out whereas in a proprietorship firm, the liability of the owner is unlimited. However, for a public limited company, the ownership can be easily transferred and resources can be mobilized with a unlimited life. But for a proprietorship company, these advantages are not available to a proprietorship company.
4. 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, it may misuse its discretion to disinvest the shares in favor of the public; this may affect the interests of the promoters of the company.
5. Answer: (a) [< TOP](#)
[>](#)
Reason: Venture capital funding companies generally provide risk capital to the technology oriented and highly risky businesses. No other entities, as mentioned in the other options, do the same.
6. Answer: (b) [< TOP](#)
[>](#)
Reason: All the participants in the call money market are split into two categories. The first comprises of the entities who can borrow as well as lend in the market and the second comprises of only lenders i.e. the participants in the second category cannot borrow in the call money market. RBI, DFHI, STCIL and commercial banks belong to the first category and all the financial institutions and mutual funds belong to the second. Hence, (b) cannot borrow in the call money market.
7. Answer: (d) [< TOP](#)
[>](#)
Reason: Some companies distribute profits to the existing shareholders by way of fully paid bonus shares in the ratio of existing shares held. In this method of issue though the amount of share capital is increased there will not be any increase in the net worth because it is just conversion of eligible reserves into share capital. Hence, answer is (d).

Public issue is the method of raising capital from the public. In this method there will be an equal increase in the share capital and net worth of the company. Rights issue is the method of raising capital from the existing members by offering shares to them on pro-rata basis. This method also results in an increase in share capital and net worth of the company. Bought out deals is the method of raising capital by a company by initially placing its shares, which are to be offered to the public at a later date, to a merchant banker, who in turn off loads the shares at the appropriate time. In this method too, share capital and in turn net worth of the company are increased by the issue amount. Private placement, the method raising capital from a limited number of sophisticated investors, also results in increase in share capital and net worth of the company. Hence, (a), (b), (c) and (e) are not the answers.
8. Answer: (c) [< TOP](#)
[>](#)
Reason: Certificate of deposit (CD) is a financial instrument where an investor has to invest a certain sum to get a fixed amount (principal and accrued interest) on maturity at the contracted rate. So it is similar to a time deposit. CDs are transferable simply by endorsement and delivery by the holder without any restriction, whereas its maturity period ranges from 15 days to one year. But as it is a

liability to the issuing banks, CDs are also subjected to the reserve requirements of the bank.

9. Answer: (c)

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[>](#)

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.

10. Answer: (c)

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[>](#)

Reason: The money that is lent for more than one day but less than 15 days is referred to as Notice money. Hence option (c) is correct. The money that is lent for one day in the money market is known as “call money”. The maturity period in case of commercial paper varies from 15 days to 1 year. Certificate of Deposits can be issued by banks for a minimum period of 15 days to a maximum of one year. A financial institution can issue CDs for a minimum period of 1 year and a maximum period of 3 years. At present Treasury Bills with a maturity period of 14 days, 91 days and 364 days are being issued in India.

11. Answer: (b)

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[>](#)

Reason: Medium-Term Notes (MTNs) are defined as sequentially issued fixed-income 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 Depository 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 to tide over short-term liquidity shortfalls.

Certificate of Deposits are issued by banks in the form of usance promissory notes. These bank deposits are negotiable and are in marketable form bearing specific face value and maturity.

Hence, options (a), (c), (d) and (e) are false.

12. Answer: (d)

[< TOP](#)
[>](#)

Reason: In the call money market day-to-day surplus funds of banks are traded. The call loans are of very short term in nature and any amount of money can be lent or borrowed at a convenient interest rate, which is acceptable to both the lender and the borrower and there is no maximum ceiling on the interest rate. Hence, in the given case, though the amount is huge, the interest is decided by the lender and the borrower and RBI has no role in the interest determination. The correct answer is (d).

13. Answer: (c)

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[>](#)

Reason: Inter Corporate deposits are not traded in the market. The instruments as mentioned in the other options are traded in the respective financial markets.

14. Answer: (a)

[< TOP](#)
[>](#)

Reason: Primary market allows the corporate houses to raise long term funds by issuing new securities like, shares – equity and preference as well as debentures. The venture capital funding companies generally dilute their stakes in a company by selling their holdings in any company to the investors through secondary capital market route.

15. Answer: (d)

[< TOP](#)
[>](#)

Reason: The long term financial instruments – equity shares, preference shares and debts - are traded in the secondary market that have been issued earlier. Primary capital market allows the corporate houses to raise the long-term capital by issuing new securities. Money market and forex market deal with the short term debt instruments and the transactions related to the foreign exchange respectively. So, the option (d) is the answer.

16. Answer: (d)

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[>](#)

Reason: Present value factor for a perpetual annuity = $\frac{1}{i}$.

Hence it decreases with an increase in the interest rate. Hence (d) is the correct option.

$$\text{Future Value Interest Factor} = (1+i)^n$$

Hence it increases with increase in the interest rate.

Future Value Interest Factor For Annuity (FVIFA) = $\frac{(1+i)^n - 1}{i}$. FVIFA also increases with increase in the interest rate.

Capital Recovery Factor = $\frac{i(1+i)^n}{(1+i)^n - 1}$. It is the inverse of PVIFA, which decreases with increase in interest rate. Therefore, Capital Recovery Factor increases with increase in the interest rate.

Inverse of PVIFA is capital recovery factor, which increases with increase in the interest rate.

Hence, options (a), (b), (c) and (e) are incorrect.

17. Answer: (a) < TOP
≥
Reason: Compounding more than once during a year increases the effective rate of interest. Thus, the effective rate of interest in case of compounding more than once during a year is more than the nominal rate of interest. As the frequency in the compounding increases the effective rate of interest increases. In the given case, Mr. Anand is interested in borrowing funds. He should choose that option which gives him the lowest interest rate. Hence, he should choose Scheme A as the compounding is done only once. So the answer is (a).
18. Answer: (b) < TOP
≥
Reason: Capital recovery factor is the inverse of the PVIFA factor. It can be applied to find out the amount that can be withdrawn periodically for a certain length of time, if a given amount is invested today. Hence I is not true and III is true and the answer is (b).
19. Answer: (e) < TOP
≥
Reason: Individual preference of present consumption to future consumption, gradually decreasing purchasing power of money, uncertainty of the future and the possibility of the productive deployment of money to generate real returns in future are the factors behind the time value of money. Hence, the alternatives (c) and (d) both are correct and so the option (e) is the answer.
20. Answer: (b) < TOP
≥
Reason: $\text{Beta} = \text{cov}(r_i, r_m) / \sigma_m^2$ When the returns from the security are not at all related to the market returns, $\text{cov}(r_i, r_m)$ is equal to zero. Hence in such a case, the beta of the security will be zero.
21. Answer: (b) < TOP
≥
Reason: According to CAPM, required rate of return = $R_f + \beta (R_m - R_f)$
Where R_f is the risk-free rate of return, β is the Beta of the stock and R_m is the market return. If Beta is equal to zero, required rate of return is equal to risk-free rate of return. Hence, (II) is true.
In the SML equation, slope is measured by $R_m - R_f$ and the Beta of the stock is not relevant to find the slope of SML. Hence, (I) is not true. A stock whether it will lie below or above the SML depends on whether the stock's required rate is more than or less than the expected rate of return. It is immaterial whether the Beta is equal to zero or not. Hence, (III) is not true and the answer is (b).
22. Answer: (c) < TOP
≥
Reason: The following are assumed in the Capital Assets Pricing Model (CAPM):
i. An investor can buy or sell assets in terms of any units desired.
ii. Transaction costs are negligible.
iii. Investors are generally risk averse in nature and
iv. Investment horizon is generally considered as one period only.
There are no taxes.
Hence, the alternative (c) is the answer.
23. 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.

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

Reason: The single period equity valuation model is : $P_0 = (D_1 + P_1) / (1 + k_e)$. All the alternatives except (a) are implied by the single period valuation model.

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

Reason: All the alternatives except (c) represent risks which arise out of economy-wide factors; so these risks affect all the firms operating in the economy. Hence the impact of these risk factors on the investment portfolio cannot be reduced by diversification. Alternative (c) is a firm-specific risk factor affects only the concerned firm and its effect on the investment portfolio can be reduced by diversification.

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

Reason:
$$\text{Current yield} = \frac{\text{Coupon amount}}{\text{Market price}}$$

$$\text{Coupon rate} = \frac{\text{Coupon amount}}{\text{Face value}}$$

∴ Current yield = Coupon rate implies that market price = face value. Further this means that the bond is trading at its face value. If the bond is trading at discount on its face value, the current yield will be more than the coupon rate. The statement (III) may not be correct, if the bond is not trading at its face value.

Hence both (I) and (II) are true.

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

Reason: Other things being equal, if there is a decrease in maturity period, the redemption price is received earlier and hence the discounted price will be more compared to the discounted price in case of a higher maturity period. Hence, the yield on the bond will be more in case of lower maturity period. Hence (d) is true. Decrease in coupon rate will decrease the cash inflows and hence decrease the yield to maturity. Hence, (a) is not true. Increase in the issue price will increase the cash outflow (issue price) for the same inflows (amount repayable at maturity and coupon payments) and hence decrease the yield to maturity. Hence (b) is also not true. Decrease in the amount repayable at maturity will decrease the cash inflows and hence the yield. Hence, (c) is also not true.

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

Reason: Analyzing return ratios is referred to as DuPont Analysis. This system highlights the inter-relationships in the contents of financial statements. Hence, the answer is (a). The other alternatives compare the financial statements by taking the individual items of different financial statements and reviewing the changes that have occurred from year to year and over the years.

29. Answer: (d) [< TOP](#)
[>](#)

Reason: Current ratio is defined as the ratio between the current assets and current liabilities. While Quick Ratio is calculated by dividing current assets minus inventories by current liabilities. Now, among the components of the current assets, inventories are the least liquid instruments. So, a decreasing quick ratio and same value of the current ratio implies the increasing volume of inventory, thereby indicating the decreasing level of liquidity.

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

Reason: Current ratio is a liquidity ratio that measures the ability of the firm to meet its current obligations. Hence (c) is the answer.

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

Reason: According to Du-Pont equation:

Return On Equity (ROE) = Net Profit Margin x Average Asset Turnover x Equity Multiplier

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

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.

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.

32. 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).

33. Answer: (e) < TOP
≥

Reason: All the alternatives except (e) represent uses of cash.

34. Answer: (b) < TOP
≥

Reason: All other alternatives 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.

35. Answer: (c) < TOP
≥

Reason: DOL of 3 implies that 1% change in sales will result in 3% change in EBIT and DFL of 2 implies that 1% change in EBIT will result in 2% change in EPS. DTL is the product of DOL and DFL and DTL in the given case is 6, which implies that 1% change in sales will result in 6% change in EPS. Hence, (c) is the answer.

36. Answer: (c) < TOP
≥

$$\text{Reason: Degree of Total Leverage (DTL)} = \frac{Q(S - V)}{Q(S - V) - F - I - \frac{D_p}{1 - T}}$$

Hence, the sales revenue of the firm is Q.S while the total variable expenses is =Q.V

Now, if QS = QV, DTL will be zero

37. Answer: (d) < TOP
≥

$$\text{Reason: Degree of Financial Leverage (DFL) is computed as } \frac{\text{EBIT}}{\text{EBIT} - I - \frac{D_p}{(1 - T)}}$$

If DFL = 0, then it implies that EBIT=0.

38. Answer: (b) < TOP
≥

$$\text{Reason: Growth with internal equity (g)} = \frac{m(1 - d) A / E}{A / S_0 - m(1 - d) A / E}$$

It can be observed from the formula that –

As debt-equity ratio increases the assets to equity ratio (A/E) increases and ‘g’ increases.

As dividend payout ratio (d) increases, ‘g’ decreases.

As profit margin (m) increases ‘g’ increases.

As assets to sales ratio (A/S) decreases ‘g’ increases.

39. Answer: (d) < TOP
≥

Reason: Forecasting sales volume is the first step in the exercise of financial forecasting. Based on the amount of sales target to be achieved by the company, forecasting for the other requirements are made.

40. Answer: (c) < TOP
≥

$$\text{Reason: External funds requirement is equal to } \frac{A}{S} (\Delta S) - \frac{L}{S} (\Delta S) - m S_1 (1 - d)$$

Where EFR = External financing requirement
 A/S = Current assets and fixed assets as a proportion of sales
 ΔS = Expected increase in sales
 L/S = Spontaneous liabilities as a proportion of sales
 m = net profit margin
 S_1 = Projected sales for next year
 d = Dividend pay-out ratio.

The above equation assumes that the dividend pay-out ratio remain constant.

Hence, the answer is (c).

In the above equation the assets of the firm are assumed to increase proportionately to sales and not cost of goods sold. Hence, (a) is not true. Similarly, net profit margin is assumed to be constant. Hence, (b) is also not true. Fixed assets, current assets and spontaneous liabilities are assumed to increase proportionately to sales. Hence, (d) and (e) are also not true.

41. Answer: (a)

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

$$x = \frac{3.473 - 1.260}{3.506} = \text{Rs. } 0.630 \text{ lakh}$$

42. Answer: (a)

Reason: Interest rate per month is ' k_m ' in the following:

$$2000 \text{ FVIFA}(k_m, 60) \times (1 + k_m) = 1,64,973$$

$$\text{FVIFA}(k_m, 60) \times (1 + k_m) = 82.487$$

Looking at interest tables.

$$k_m = 1\%$$

$$\therefore \text{Nominal interest rate per annum} = 1 \times 12 = 12\%.$$

43. Answer: (c)

Reason: Amount that Ashish should invest = Rs 2,000 x PVIFA (9%,6 years) x PVIF(9%,2 years)
 $= 2,000 \times 4.486 \times 0.842 = \text{Rs. } 7,554.42$

44. Answer: (b)

Reason: According to the given information subscribers will deposit Rs.15000 for 20 years and after 20 years scheme will pay Rs.75,000 at the end of every year for 25 years plus Rs.x at the end of 20 years from now.

The discount rate is 11%.

Therefore the data can be fit into a equation as: $15,000 \times \text{FVIFA}(11\%,20)$

$$= X + 75,000 \text{ PVIFA}(11\%,25)$$

$$15,000 \times 64.203 = X + 75,000(8.422)$$

$$963045 = X + 631650$$

$$X = \text{The amount which will be returned} = \text{Rs. } 331395.$$

45. Answer: (b)

Reason: Let the equal annual installment be A.

$$41,000 = A \times \text{PVIFA}_{(7\%,5)}$$

Therefore $A = \frac{41,000}{4.100} = \text{Rs. } 10,000$. Every installment comprises an interest component and a principal component. The interest component in the first installment of Rs. 10,000 = $0.07 \times 41,000 = \text{Rs. } 2,870$.

Hence the amount of principal amortized by the first installment = $10,000 - 2,870 = \text{Rs. } 7,130$.

Hence, option (b) is the correct choice.

46. Answer: (a)

Reason: The expected return from the shares of ESL is $k_j = 12 \times 0.20 + 16 \times 0.50 + 22 \times 0.30 = 2.40 + 8.00 + 6.60 = 17$ percent

The expected return from the market portfolio is $k_m = 10 \times 0.20 + 12 \times 0.50 + 20 \times 0.30 = 2.00 + 6.00 + 6.00 = 14$ percent.

Now, the variance of returns from the market portfolio is :

$$\sigma_m^2 = \{0.20(10 - 14)^2 + 0.50(12 - 14)^2 + 0.30(20 - 14)^2\} = 0.20 \times 16 + 0.50 \times 4 + 0.30 \times 36 = 3.2 + 2.0 + 10.8 = 16$$

The covariance of returns between the shares of ESL and the market portfolio is:

$$\begin{aligned} \text{COV}(k_j, k_m) &= \{0.20(10 - 14)(12 - 17) + 0.50(12 - 14)(16 - 17) + 0.30(20 - 14)(22 - 17)\} \\ &= \{0.20 \times (-4) \times (-5) + 0.5 \times (-2) \times (-1) + 0.30(20 - 14)(22 - 17)\} \\ &= (0.20 \times 20 + 0.50 \times 2 + 0.30 \times 30) = 4 + 1 + 9 = 14 \end{aligned}$$

$$\text{Now, beta is defined as the ratio between } \frac{\text{Cov}(k_j, k_m)}{\sigma_m^2} = \frac{14}{16} = 0.875$$

Hence, the required value of beta = 0.875.

47. Answer: (e)

Reason: The expected rate of return from any security as per the Capital Asset Pricing Model can be computed as:

$$k_x = R_f + \beta_x (k_m - R_f)$$

Now, the beta of a security may be computed as:

$$\beta_x = \frac{\text{Cov}(k_j, k_m)}{\text{Var}(k_m)} = \frac{\rho_{jm} \sigma_j \sigma_m}{\text{Var}(k_m)} = \frac{0.9 \times 7 \times 6}{36} = 1.05$$

$$\text{Therefore, } k_x = R_f + \beta_x (k_m - R_f) = 0.055 + 1.05 \times (0.12 - 0.055) = 12.325$$

Hence, the required rate of return as per CAPM = 12.33 percent.

48. Answer: (c)

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

Sensex	6127.50	6412.50	6697.50
Return	$\frac{6127.50 - 5700}{5700} \times 2 \times 100$ = 15 percent	$\left(\frac{6412.50 - 5700}{5700} \right) \times 2 \times 100$ = 25 percent	$\frac{(6697.50 - 5700) \times 2 \times 100}{5700}$ = 35 percent
Probability	0.3	0.4	0.3

Hence, the required expected return

$$= 15 \times 0.3 + 25 \times 0.4 + 35 \times 0.3 = 25 \text{ percent.}$$

49. Answer : (b)

Reason: According to the single-index model,

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

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

$$= 14.8\%$$

As the shares are said to be in equilibrium,

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

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

< TOP
≥

< TOP
≥

< TOP
≥

$$0.045 + g = 0.148$$

$$= 0.103$$

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

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

$$= \text{Rs.65.30 @ Rs.65 (approx.)}$$

50. Answer : (d)

Reason : The required rate of return from that stock is $k_e = R_f + \beta(R_m - R_f) = 6 + 1.50 \times (12 - 6) = 15$ percent

The growth rate of dividend is 5%

$$\text{So, the price of the share can be calculated as: } P = \frac{D_0(1+g)}{k_e - g} = \frac{2 \times 1.05}{0.15 - 0.05} = \text{Rs.21}$$

51. Answer : (a)

Reason : Discount rate before conversion = 5 + 3 = 8 percent and the same after conversion will be = 8 + 4 = 12 percent.

The expected cash flows from that instrument will be as follows:

Year	1	2	3	4	5	6
Cash flows	9	9	9	10	10	10

Here, the cash flows for the first three years will occur half-yearly where each installment is of Rs.4.50 and it has been assumed that the holder of the instrument will hold all the shares and will get the dividends. The intrinsic value of the debentures is = Present value of all the above cash flows = $\text{Rs.4.50} \times \text{PVIFA}(4\%, 6) + 10 \times \{\text{PVIF}(12\%, 4) + \text{PVIF}(12\%, 5) + \text{PVIF}(12\%, 6) + \dots\}$

$$= \text{Rs.4.50} \times 5.242 + \frac{10}{(1.12)^4} \times \left\{ \frac{1}{1 - \frac{1}{1.12}} \right\} = \text{Rs.4.5} \times 5.24 + \frac{10}{(1.12)^3} \times \frac{1}{0.12}$$

Hence, the required intrinsic value = Rs.82.90 = Rs.83 (approximately).

52. Answer : (c)

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.

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53. Answer : (b)

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Reason : Let the face value of the debentures be Rs.100

So, the annual interest from each of these debentures is = Rs.12

Present selling price of these debentures is = Rs.100 × (1.08) = Rs.108.

Therefore, the current yield from each of these debentures = $\frac{12}{108} \times 100 = \frac{100}{9} = 11.11$

54. Answer : (e)

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Reason : Return on debenture = $\frac{\text{Coupon payment} + \text{Appreciation in the price}}{\text{Purchase Price at the beginning of the year}}$

$$\text{i.e. } 0.20 = \frac{\text{Coupon payment} + (2000 - 1800)}{1800}$$

Hence coupon payment = 1800 × 0.2 – 200 = Rs. 160.

Hence, (e) is the answer.

55. Answer : (d)

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Reason : Approximate YTM is calculated as $\frac{I + (F - P) / n}{(F + P) / 2}$

Where

I is the interest paid during the year

F is the redemption price

P is the Issue Price, and

n is the maturity period.

In the given case, approximate YTM

$$= \frac{1,00,000 \times 0.12 + (1,10,000 - 1,00,000 \times 0.9) / 20}{(1,10,000 + 1,00,000 \times 0.9) / 2}$$

$$= \frac{12,000 + (1,10,000 - 90,000) / 20}{(1,10,000 + 90,000) / 2}$$

$$= \frac{13,000}{1,00,000} = 0.13 = 13\%.$$

56. Answer : (b)

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Reason : Formula solution:

Let $\Delta S = S_0(g)$ and $S_1 = S_0(1 + g)$.

$$\text{AFN} = \frac{A^*}{S^*} (S_0)(g) - \frac{L^*}{S^*} (S_0)(g) - mS_0(1 + g)(1 - d) = 0.$$

$$0 = 1.2(\text{Rs}100,000g) - \frac{10000}{100000} (\text{Rs}100,000g)$$

$$(0.10)(\text{Rs}100,000)(1 + g)(0.5)$$

$$0 = \text{Rs}120,000g - \text{Rs}10,000g - \text{Rs}5,000g - \text{Rs}5,000$$

$$\text{Rs}5,000 = \text{Rs}105,000g; g = 4.76\% \approx 4.8\%.$$

57. Answer : (a)

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Reason : _

					(Rs.)	
Cash	20	28	Acc	360	534	
			pay			

Reason : The degree of total leverage(DTL) is the product between the degree of operating leverage (DOL) and the degree of financial leverage. So, the $DTL = 3 \times 1.67 = 5.00$. Therefore, as per the concept of DTL, in order to increase the EPS by 10 percent, the sales volume should be increased by $10/5 = 2.00$ percent.

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62. Answer : (b)

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Reason : The point at which DTL is undefined is called the overall break-even point. At this point the quantity produced can be computed as:

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

Where, F is the fixed expenses

I is the interest expense

D_p is the preference dividend

T is the corporate tax rate

S is the selling price per unit and V is the variable cost per unit

$$\text{Hence } Q = \frac{6,00,000 + 65,000 + \frac{30,000}{(1-0.40)}}{(900-400)} = 1,430 \text{ units.}$$

63. Answer : (c)

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Reason : Change in EBIT with respect to change in sales is known by Degree of operating leverage.

$$\text{Degree of operating leverage} = \frac{\text{Degree of Total leverage}}{\text{Degree of Financial leverage}}$$

$$DFL = \frac{\text{EBIT}}{\text{EBIT} - I - \frac{D_p}{1-T}}$$

PAT = Rs.50,000

$$\text{Given tax rate} = 20\%, \text{ PBT} = \frac{50,000}{0.8} = \text{Rs.}62,500$$

Given EBIT = Rs.1,00,000, Interest = $1,00,000 - 62,500 = \text{Rs.}37,500$

$$DFL = \frac{\frac{1,00,000}{1,00,000 - 37,500 - \frac{0.1 \times 1,00,000}{1-0.2}}}{\frac{1,00,000}{50,000}} = 2$$

$$DOL = \frac{4}{2} = 2$$

Hence, if EBIT has to increase by 10%, sales have to be increased by 5%. Hence, the answer is (c).

64. Answer : (a)

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Reason : Change in WC = (current assets + increase in current assets) – (current liabilities + increase in current liabilities)

Increased provision for contingencies (CL) = $30,000 + 20,000 = \text{Rs.}50,000$

Loans and advances (given)(CA) = $20,00,000$

Stipulation for provident fund(CL) = $10,00,000 + 10,00,000 = \text{Rs.}20,00,000$

Short-term investments(CA) = $30,00,000 - 20,00,000 = \text{Rs.}10,00,000$

New loans and advances taken (CL) = $\text{Rs.}10,00,000$

New net WC = $20,00,000 + 10,00,000 - 50,000 - 20,00,000 - 10,00,000$
= $-\text{Rs.}50,000$.

65. Answer : (c)

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Reason : When receivable worth Rs. 10,000 are realized then cash will increase by 10,000 and receivables worth Rs. 10,000 would decrease so there will not be any affect. Similarly when inventory worth Rs.30,000 is bought on credit, both current assets and current liabilities will increase by Rs.30,000 such that there will not be any impact on the net working capital.

66. Answer : (c)

	2003 (in Rs.)	2004 (in Rs.)	Increase in Working capital (in Rs.)	Decrease in working capital (in Rs.)
Current Assets:				
Stock	2,20,000	2,90,000	70,000	--
Sundry Debtors	2,45,000	2,65,000	20,000	--
Cash in hand	60,000	85,000	25,000	--
Prepaid expenses	45,000	42,000	--	3,000
Current Liabilities:				
Sundry creditors	1,90,000	2,82,000	--	92,000
Bills Payable	1,20,000	1,30,000	--	10,000
			1,15,000	1,05,000
Net Increase in Working Capital				10,000
			1,15,000	1,15,000

Hence (c) is the answer.

Alternative solution:

Net working capital (2003) = 2,20,000 + 2,45,000 – 1,90,000 – 1,20,000 + 60,000 + 45,000 = Rs.2,60,000

Net working capital (2004) = 2,90,000 + 2,65,000 – 2,82,000 – 1,30,000 + 85,000 + 42,000 = Rs.2,70,000

Therefore, change in working capital is increase of Rs.10,000

67. Answer : (b)

Reason : Let total amount of asset be = Rs.300 lakh where the amount of debt is Rs.100 lakh.

The amount of PBIT = Rs.300 × 14 percent = Rs.42 lakh

Interest expenses = Rs.100 lakh × 0.08 = Rs.8 lakh

Hence, PBT = Rs.34 lakh and PAT = Rs.34 × 0.6 = Rs.20.40 lakh

So, the return on equity = $\frac{20.40}{200} = 10.20$ percent.

68. Answer : (b)

Reason : Average collection period = $\frac{\text{Average accounts receivable}}{\text{Average daily sales}}$

Let the annual sales of the company is = S and so the amount of average daily sales = $\frac{S}{360}$

So, the average daily sales = $\frac{\text{Average accounts receivable}}{\text{Average collection period}}$

The average amount of account receivables for the company is : {20 + 30}/ 2 = Rs.25 lakh.

Hence, $\frac{S}{360} = \frac{\text{Rs.25 lakh}}{30}$

Or, S = Rs.300 lakh.

69. Answer : (c)

Reason : Total asset of a company is financed by equity capital and total debt.

So, the total asset of Subsonic Industries = Rs.150 lakh + Rs.250 lakh = Rs.400 lakh.

The return on investment (ROI) of a company is defined as:

$$\text{ROI} = \frac{\text{Earnings before Interest and Taxes}}{\text{Total Assets}} = \frac{50}{400} = 0.125 = 12.50 \text{ percent.}$$

Here, post-tax income = Rs.24 lakh and so the pre-tax earnings = Rs.30 lakh as the tax rate = 20 percent. Interest expenses = Rs.250 lakh $\times$ 8 percent = Rs.20 lakh.

Hence, the amount of earnings before interest and taxes = Rs.30 lakh + Rs.20 lakh = Rs.50 lakh.

So, the return on investment for Subsonic Industries Ltd. = 12.50 percent.

70. Answer : (c)

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$$\text{Reason : Inventory} = \frac{\text{Sales}}{\text{Inventory turnover ratio}} = \frac{\text{Rs.350 lakh}}{7} = \text{Rs.50 lakh}$$

Current assets = Current liabilities $\times$ current ratio = Rs.70 $\times$ 1.4 = Rs.98 lakh.

Quick assets = Current assets – Inventories = Rs.98 lakh – Rs.50 lakh = Rs.48 lakh

Receivables = Rs.48 lakh $\times$ 0.75 = Rs.36 lakh

So, the amount of cash and bank balance will be = Rs.98 lakh – Rs.50 lakh – Rs.36 lakh = Rs.12 lakh

71. Answer : (a)

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Reason : Fixed charges coverage ratio

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

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

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

Preference dividends = 20 $\times$ 0.15 = Rs.3.00 lakh.

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

and so the net profit of the company is = 9 + 3 = Rs.12 lakh.

So, profit before tax = 12/(1 - 0.4) = Rs.20 lakh

Hence, the profit before interest, depreciation and taxes was = 20 + 5.44 + 4.56 = Rs.30 lakh

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

72. Answer : (b)

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Reason : Retention ratio = 40% so, the dividend payout ratio is 60 percent.

$$\begin{aligned} \text{Now, dividend yield} &= \frac{\frac{D}{P_0}}{\frac{E \times 0.6}{P_0}} = \frac{0.6}{P_0 / E} = \frac{0.6}{10} \\ &= 0.06 = 6 \text{ percent.} \end{aligned}$$

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