

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

- 1

6. Which of the following statements is/are **true** regarding Earnings Price Ratio Approach?
- I. The ratio assumes that the growth in EPS is constant.
 - II. The results are accurate, when the dividend pay-out ratio is 100 percent.
 - III. The results are accurate, when the retained earnings are expected to earn a rate of return more than the cost of equity.
- (a) Only (I) above
 - (b) Only (II) above
 - (c) Both (I) and (II) above
 - (d) Both (II) and (III) above
 - (e) All (I), (II) and (III) above.
- (1 mark)**
7. Which of the following is **not** an internal device for containing agency cost?
- (a) Separation of management and control
 - (b) Linking managerial compensation to share holder returns
 - (c) Development of a market for corporate control
 - (d) Establishment of system for performance monitoring
 - (e) Establishment of system for responsibility accounting.
- (1 mark)**
8. Which of the following factors is **not** most likely to be considered, whenever a capital structure decision is taken?
- (a) Cost of capital
 - (b) Size of the company
 - (c) Floatation cost
 - (d) Liquidity needs of the company
 - (e) Cash flow projection of the company.
- (1 mark)**
9. Which of the following statements is/are **true** with respect to bankruptcy cost, when capital market is perfect?
- I. Assets of the bankrupt firm can be sold at their economic value.
 - II. Legal and administrative expenses are not present.
 - III. No cost is associated with bankruptcy.
 - IV. An impending bankruptcy entails significant costs in the form of sharply impaired operational efficiency.
- (a) Only (I) above
 - (b) Both (I) and (II) above
 - (c) Both (I) and (III) above
 - (d) (I), (II) and (III) above
 - (e) All (I), (II), (III) and (IV) above.
- (1 mark)**
10. Which of the following statements fall(s) under the Proposition III of Modigliani and Miller approach of capital structure?
- I. The investment and financing decisions of a firm are independent of each other.
 - II. The expected yield on common stock (cost of equity) is equal to the sum of the capitalization rate for a pure equity stream of a specific class and the premium based on the financial risk.
 - III. The market value of a firm is independent of it's capital structure and is determined by capitalizing it's expected return at the rate appropriate to its class.
- (a) Only (I) above
 - (b) Only (II) above
 - (c) Only (III) above
 - (d) Both (I) and (III) above
 - (e) All (I), (II) and (III) above.
- (1 mark)**
11. All else equal, a higher corporate tax rate
- (a) Will increase the WACC of a firm with debt and equity in its capital structure
 - (b) Will decrease the WACC of a firm with debt in its capital structure
 - (c) Will not affect the WACC of a firm with debt in its capital structure
 - (d) Will decrease the WACC of a firm with only equity in its capital structure
 - (e) Will change the WACC of a firm with debt in its capital structure, but the direction of the change cannot be determined without more information.
- (1 mark)**

12. Early extinguishment of debt may result in
- (a) An increase in financial risk of the company
 - (b) Dilution of control by the equity shareholders
 - (c) A decrease in tax shield
 - (d) An increase in financial leverage
 - (e) An increase in reinvestment risk for the company.
- (1 mark)**
13. Which of the following is **not** an assumption under the Modigliani and Miller approach for explaining the irrelevance of dividend policy for a firm?
- (a) Existence of perfect capital markets
 - (b) Non-existence of differential tax rates for the dividend income and capital gains
 - (c) Non-influence of single investor on the share value
 - (d) Absence of transaction costs
 - (e) Higher growth rate of dividends compared to cost of equity capital.
- (1 mark)**
14. Which of the following statements is an assumption of the Walter's Model on dividend policy?
- (a) The firm may resort to external financing – debt or equity – for additional investments, if any such opportunity arises
 - (b) The return on investment for the firm will vary depending upon the economy
 - (c) The firm has a limited life
 - (d) For a given value of the firm, the dividend per share and the earnings per share will remain constant
 - (e) The cost of equity for the firm will vary, as the return expectations of the shareholders change.
- (1 mark)**
15. Under the marginal principle of retained earnings,
- (a) The firm must compare what it can earn with what shareholders could earn on funds, if they were distributed
 - (b) All funds above and beyond retained earnings are paid to shareholders
 - (c) Funds are not paid to creditors and preferred shareholders belong to common shareholders
 - (d) All projects are financed internally
 - (e) Equity shareholders are residual earners.
- (1 mark)**
16. The directors of corporations may be reluctant to pay more dividends, because
- (a) The shareholders are never interested in higher dividends
 - (b) They have a fear of diluting the cash position of the firms
 - (c) They have no means to do a complete funds flow analysis
 - (d) They fear a shareholder proxy battle
 - (e) They fear the market value of the share will fall sharply.
- (1 mark)**
17. Value for shareholders, in most companies, is largely derived from which of the following financial decision area?
- (a) Financing decisions such as the debt/equity decision
 - (b) Investment decisions focused on the liabilities side of the financial balance sheet
 - (c) Investment decisions focused on the assets side of the financial balance sheet
 - (d) Financing decisions related to dividends paid to shareholders
 - (e) Liquidity decisions related to composition of current assets.
- (1 mark)**

18. Which of the following is/are **not** measure(s) undertaken to avoid a situation of under trading in a company?

- I. Reducing the debt equity ratio.
 - II. Delaying the collection process.
 - III. Reducing the levels of inventory.
- (a) Only (II) above (b) Only (III) 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 **not** true with respect to working capital policy?

- (a) A company may hold a relatively large amount of cash, if it anticipates uncertain cash outflows
- (b) Credit policy has an impact on working capital, since it has the potential to influence sales levels and the speed with which cash is collected
- (c) The cash budget is useful in determining future financing needs
- (d) Holding minimal levels of inventory can reduce inventory carrying costs without leading to any adverse effects on profitability
- (e) Managing working capital levels is important to the financial staff, since it influences financing decisions and overall profitability of the firm.

(1 mark)

20. The payback method is at best a crude measure of the risk of a project, because it fails to consider the _____ of a project's returns.

- (a) Liquidity (b) Variability (c) Timing (d) Magnitude (e) Profitability.

(1 mark)

21. Other things remaining the same, if the average stock of raw materials is increased to two times its original level, the raw materials storage period

- (a) Reduces to half of the original period
- (b) Increases to two times the original period
- (c) Reduces unpredictably
- (d) Increases to four times the original period
- (e) Reduces to one-fourth of the original period.

(1 mark)

22. Which of the following will result in an increase in the net operating cycle of a firm?

- (a) An increase in the consumption of the raw materials
- (b) Synchronizing the various processes in the production system for a better volume
- (c) Incremental demand for the product owing to a favorable government policy
- (d) Negotiating with the suppliers for a special discount in lieu of a shorter credit period
- (e) Searching for the new customers to sell the product against cash.

(1 mark)

23. Which of the following statements is **true** with respect to public deposits?

- (a) The minimum maturity period allowed is one year
- (b) The maximum maturity period is five years
- (c) A private company can raise deposits up to 25 percent of its share capital and free reserves
- (d) A government company can raise deposits up to 35 percent of its share capital and free reserves
- (e) The advertisement relating to the invitation of public deposits is required to be filed with SEBI.

(1 mark)

24. Other things remaining the same, which of the following will increase the cost of trade credit?

- I. Increase in the rate of discount.
- II. Increase in the credit period.
- III. Increase in the discount period.
- (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)

25. Which of the following statements is **true** about the terms of trade credit 4/10, net 30?

- (a) A 10% cash discount is offered for payment before 30 days
- (b) A 4% cash discount can be taken for payment before the 10th of the following month after invoicing
- (c) A 10% cash discount can be taken, if paid by the 4th day after invoicing
- (d) No cash discount is offered from the 11th day onwards after the date of purchase
- (e) A 4% cash discount is awarded for payment on the 30th day after purchase.

(1 mark)

26. Which of the following statements is **not true** with respect to capital expenditure decisions?

- (a) Capital expenditure benefits accrue over a long term
- (b) Net present value uses cost of capital as the discounting rate
- (c) Internal rate of return considers the time value of money
- (d) If the benefit-cost ratio is equal to one, the equity shareholders can be said to have earned more than expected return
- (e) Pay-back period considers the cash flows up to a certain number of years.

(1 mark)

27. Under the recommendations of the Tandon committee, which of the methods of lending ensures the highest current ratio?

- (a) Method I
- (b) Method II
- (c) Method III
- (d) Method IV
- (e) Same ratio under all the methods.

(1 mark)

28. If a firm with credit terms of 1/10 net 30 were to change its terms to 3/10 net 30, the most likely result would be

- (a) An increase in bank loans
- (b) A decrease in the average level of accounts receivable
- (c) A decrease in accounts payable
- (d) A decrease in accounts receivable turnover
- (e) A decrease in sales volume.

(1 mark)

29. Which of the following statements is **true** for a firm that currently has total costs of carrying and ordering inventory that is 50% higher than total carrying costs?

- (a) Current order size is greater than optimal
- (b) Current order size is less than optimal
- (c) Per unit carrying cost is too high
- (d) The optimal order size is currently being used
- (e) Ordering cost is too high.

(1 mark)

30. "Character," which is one of the traditional "five C's" of credit analysis, refers to

- I. The ability of the customer to meet his financial obligations (i.e., liquidity and cash flow).
- II. The general economic climate and its effect on the customer's ability to pay.
- III. The willingness of the customer to honor his obligations.

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

(1 mark)

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

- I. Payment float is the amount of cheques received but not credited to the firm's accounts.
- II. Collection float is the value of cheques written but not deducted from the firm's account.
- III. Net float is the difference between the payment float and the collection float.

- (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.

(1 mark)

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

- I. A good cash management system would minimize payment float and maximize collection float.
- II. If a firm can permit its customers to pay online rather than to write cheques, this will increase its net float and thus reduce its required cash balances.
- III. Decrease in interest rates increases the opportunity cost of idle cash.

- (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)

33. Which of the following criteria is/are generally least important in selecting marketable securities for inclusion in the firm's portfolio for cash management purposes?

- (a) Length of maturity
- (b) Yield
- (c) Marketability
- (d) Default risk
- (e) Liquidity.

(1 mark)

34. Which of the following is/are **true** regarding the choice of the mix of cash and near cash assets?

- I. If the degree of uncertainty surrounding cash flow projections is low, the companies will be tilted more towards marketable securities and intercorporate deposits.
- II. If the attitude of the management towards risk is conservative, the portfolio tends to have a higher proportion of intercorporate deposits.
- III. If the company has access to non-bank sources of funds, it will tend to have a higher proportion of intercorporate deposits and marketable securities.

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

(1 mark)

35. The Midtown Company keeps excess cash on hand in case of an industrial accident in the manufacturing of its fertilizer. This is an example of a

- (a) Compensating need for holding cash
- (b) Precautionary need for holding cash
- (c) Speculative need for holding cash
- (d) Deterministic need for holding cash
- (e) Transactions need for holding cash.

(1 mark)

36. When the net float is negative, it is said that

- I. The company has used the short-term sources of funds for financing long-term assets.
- II. The current ratio is less than unity.
- III. The payment float is larger than the collection float.
- IV. The balance in the books of the bank is less than the balance in the books of the firm.

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

(1 mark)

37. Which of the following is **not** a part of the economic appraisal of projects?

- (a) Impact of the project on income distribution
- (b) Impact of the project on the extent of savings and investment
- (c) Impact of the project on the wealth of the shareholders
- (d) Impact of the project on employment generation
- (e) Impact of the project on the self-sufficiency of economy.

(1 mark)

38. Which of the following is **not true** with regard to the internal rate of return (IRR) criterion?

- (a) It considers the time value of money
- (b) It considers the cash flow stream over the entire investment horizon
- (c) It remains unaffected by the pattern of cash inflows and outflows
- (d) It is the rate of return, which equates the present value of cash inflows to the present value of cash outflows
- (e) If the net cash flows are discounted by the IRR, the net present value will be equal to zero.

(1 mark)

39. Consider the following projects:

- I. Project B, which has a Net Benefit Cost Ratio less than one but more than zero.
- II. Project C, whose present value of inflows is less than the present value of outflows.
- III. Project D, which has a cost of capital less than the internal rate of return.
- IV. Project E, which has the highest annual capital charge compared to all other projects.

Which of the projects mentioned above could be accepted?

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

(1 mark)

40. When the NPV is

- (a) Zero, the internal rate of return is greater than the cost of capital
- (b) Negative, the benefit cost ratio is more than one
- (c) Greater than zero, the net benefit cost ratio is also more than zero
- (d) Less than zero, the internal rate of return is greater than the cost of capital
- (e) Positive, the net benefit cost ratio is always one.

(1 mark)

41. The value of a share after the rights issue was found to be Rs.60. The theoretical value of the right is Rs.4. The number of existing shares required for a rights share is 2. The subscription price at which rights were issued is

- (a) Rs.18
- (b) Rs.52
- (c) Rs.66
- (d) Rs.81
- (e) Rs.84.

(1 mark)

42. The cost of capital of MN Corporation is 18% and its cost of debt is 12%. If the equity capitalization rate of the firm according to the net operating income approach is 21%, the debt-asset ratio of the firm is

(a) 0.33 (b) 0.50 (c) 0.67 (d) 1.50 (e) 2.00.

(1 mark)

43. The following information relates to the sources of long term finance used by Pioneer Industries Ltd.:

Source	Book value (Rs. in lakh)	Market value (Rs. in lakh)
Paid-up equity share capital	200	400
Reserves and surplus	400	
Preference shares	150	160
Debentures	250	240

Cost of equity share capital = 19.25%

Cost of preference share capital = 12.19%

Cost of debenture capital = 8%

The difference between the weighted average costs of capital using book value weights and market value weights would be

(a) 0.5295% (b) 0.7765% (c) 0.9155% (d) 1.2345% (e) 1.5126%.

(2 marks)

44. An Indian Corporation has a capital structure that consists of 65% equity and 35% debt. The company expects to report Rs.100 million in net income this year and 67.5% of the net income will be paid out as dividends. How large can the firm's capital budget be this year without (it having to) including the cost of new common stock in its cost of capital analysis?

(a) Rs.103.85 million (b) Rs.100 million (c) Rs.67.5 million
(d) Rs.50 million (e) Rs.32.5 million.

(1 mark)

45. Hardillia Enterprises Ltd. operates in the electrical spares industry. The income statement of the company is given below:

	(Rs.in lakh)
Sales	100
Cost of sales	60
Net operating income	40
Interest	12
Earnings to equity shareholders	28

The capitalization rate for debt is 10% and the overall capitalization rate for the entire firm is 12.5%. If other things remain the same, what is the maximum amount of funds that the firm can borrow in terms of market value, so that its equity capitalization rate does not exceed 16%?

(Assume that the net operating income approach to capital structure is applicable.)

(a) Rs.56.67 lakh (b) Rs.66.67 lakh (c) Rs.76.67 lakh
(d) Rs.86.67 lakh (e) Rs.96.67 lakh.

(3 marks)

46. A stock analyst has obtained the following information about J-Mart, a large retail chain. The company has noncallable bonds with 20 years maturity remaining and a maturity value of Rs.1,000. The bonds have a 12 percent annual coupon and are currently selling at a price of Rs.1,273.8564. The current risk-free rate is 6.35 percent, and the expected return on the market is 11.35 percent. The company's tax rate is 35 percent.

The company anticipates that its proposed investment projects will be financed with 70 percent debt and 30 percent equity. What is the company's estimated weighted average cost of capital (WACC), if its' beta is 1.3585?

- (a) 8.04% (b) 9.00% (c) 10.25% (d) 12.33% (e) 13.14%.

(3 marks)

47. M/s. Apex-Chemicals Ltd. belongs to a risk-class for which the appropriate capitalization rate is 12%. The current market price of the firm is Rs.50. The company is expecting a net profit of Rs.40,000 and planning to declare a dividend of Rs.8 per share towards the end of the year. The company also plans to invest Rs.1,75,000 in a project and to issue 5000 shares. Assuming that Modigliani and Miller approach holds good, the existing number of outstanding shares of the company is

- (a) 12,286 shares (b) 12,682 shares (c) 13,125 shares (d) 14,500 shares (e) 15,000 shares.

(3 marks)

48. The following figures are collected from the annual report of Prafati Pharmaceuticals Ltd.:

Net profit	Rs.30 lakh
Outstanding Preference shares	Rs.100 lakh @ 12 % per annum
Number of equity shares	3,00,000
Cost of equity shares	16 %
Return on Investment	20 %

What should be the approximate dividend pay out ratio, so as to keep the share price at Rs.42 by using Walter model?

- (a) 0% (b) 20% (c) 36% (d) 52% (e) 68%.

(2 marks)

49. Which of the following is **true** for a firm with an EPS of Rs.2 and a pay out ratio of 25 percent?

- (a) Book value of the shares will remain unchanged
 (b) Book value per share of equity will increase by Rs.0.5
 (c) Book value per share of equity will increase by Rs.1.5
 (d) Book value per share of equity will decrease by Rs.0.5
 (e) Book value per share of equity will decrease by Rs.1.5.

(1 mark)

50. Moon Pie Company is considering automated baking equipment that costs Rs.5,00,000 which would replace the present hand-made production method. The book as well as salvage value of the present equipment is zero. The new equipment will not increase revenues but will reduce operating costs from the current level of Rs.6,00,000 to Rs.3,00,000 per year. The depreciation of the new equipment will be Rs.73,000 per year. Assuming a marginal tax rate of 40%, the annual incremental net cash flows could be

- (a) Rs.1,36,200 (b) Rs.1,92,200 (c) Rs.2,09,200
 (d) Rs.2,96,800 (e) Rs.3,00,000.

(1 mark)

51. The following are the inventory costs of Sigma Ltd.,

Annual usage is 5,00,000 units

Carrying cost is 10% of the purchase price

The purchase price is Rs.500 per unit and the ordering cost is Rs.1,000 per order.

If the annual usage doubles, assuming that other things remain the same, what would be the elasticity of EOQ with respect to annual usage?

- (a) 41.43% (b) 45.42% (c) -41.43% (d) -45.42% (e) 55.00%.

(2 marks)

52. The following figures are collected from annual report of Hyderabad Textiles:

	2003 (in Rs. 000s)	2004 (in Rs.000s)
Raw materials inventory – Closing Balance	180	212
Work in process inventory – Closing Balance	25	45
Purchases of raw materials during the year	1085	1192
Manufacturing expenses during the year	1165	1280
Depreciation	75	100

What should be the average conversion period of Hyderabad Textiles for the year 2004? (Assume 360 days in a year)

- (a) 3 days (b) 5 days (c) 7 days (d) 9 days (e) 11 days.

(2 marks)

53. Janatha Enterprises is considering whether to pursue a restricted or relaxed current asset investment policy. The firm's annual sales are Rs.4,00,000; its fixed assets are Rs.1,00,000; debt and equity are each 50 percent of total assets. EBIT is Rs.36,000, the interest rate on the firm's debt is 10 percent and the firm's tax rate is 40 percent. With a restricted policy, current assets will be 15 percent of sales. Under a relaxed policy, current assets will be 25 percent of sales. What is the difference in the projected ROEs between the restricted and relaxed policies?

- (a) 0.0% (b) 1.6% (c) 3.8% (d) 5.4% (e) 6.2%.

(2 marks)

54. Port Stadium Inc. has annual sales of Rs.8,00,00,000 and keeps average inventory of Rs.2,00,00,000. On an average, the firm has accounts receivable of Rs.1,60,00,000. The firm buys all raw materials on net 35 days credit term and pays on time. The firm's managers are searching for ways to rationalize the net operating cycle. If sales can be maintained at existing levels but inventory and accounts receivable can be lowered by Rs.40,00,000 and Rs.20,00,000 respectively, what will be the net change in the net operating cycle? (Assume 365-day year and round off your answer to the closest whole day).

- (a) +105 days (b) -105 days (c) +27 days (d) -27 days (e) -3 days.

(2 marks)

55. Giant Supermarket purchases Rs.45,62,500 in goods over a one year period from its sole supplier. The supplier offers trade credit on the terms: 2/15, net 50 days. If Giant chooses to pay on 50th day and not to take the discount, what is the average level of the company's accounts payable? (Assume a 365-day year)

- (a) Rs.2,08,333 (b) Rs.4,16,667 (c) Rs.4,66,667 (d) Rs.5,33,333 (e) Rs.6,25,000.

(1 mark)

56. Varini Chemicals Ltd. is planning to set up a plant for the production of organic chemicals. It is planning to maintain profit margin at 15%. The set up cost for each production run is Rs.6,000. Cost of carrying inventory is 9% p.a. on cost of sales of average inventory. The plant has capacity of 2 million kg of chemical. If the sales price of the chemical is Rs.800 per kg, the optimum production quantity of this plant would be approximately.

(a) 730 kg (b) 24 hundred kg (c) 198 hundred kg
(d) 222 hundred kg (e) 276 hundred kg.

(2 marks)

57. Sundar Electricals needs 60,000 pieces of aluminum bars to produce switchgears. The price of each bar is Rs.100, cost of placing an order is Rs.1,200 and the carrying cost is 1 percent. The purchase manager has set the economic order quantity based on the EOQ model as 12,000 units. Recently, a supplier has offered discount of 3 percent against an order size of 20,000 units or more. What will be the incremental benefit to the company, if such discount is availed of?

(a) Rs.1,86,100 (b) Rs.1,83,700 (c) Rs.1,81,200
(d) Rs.1,78,700 (e) -Rs.1,300.

(2 marks)

58. A firm estimates its carrying cost at 20% and its ordering cost at Rs. 10 per order. The estimated annual requirement is 50,000 units at a price of Rs. 5 per unit. What is the most economical number of units to be ordered and how often will an order need to be placed? (Assume 360 days in a year)

(a) 895 units, 6 days (b) 1,000 units, 7 days
(c) 1,000 units, 10days (d) 1,050 units, 10 days
(e) 1,068 units, 7 days.

(2 marks)

59. Star Ltd. is considering the liberalization of existing credit terms to two of its' big customers X and Y. The credit period and the likely quantity that will be purchased by the above customers are as follows:

Credit period (in days)	Quantity Purchased (in units)	
	X	Y
0	1000	-
30	1500	-
60	2500	1500
90	2500	2500

The selling price per unit is Rs.9,000. The expected contribution is 20% of the selling price and the cost of carrying debtors is 20% per annum. If the credit period extended to Y is 90 days, the profit earned on sale to Y is (Assume 360 days in a year)

(a) Rs.15.6 lakh (b) Rs.18.0 lakh (c) Rs.21.6 lakh (d) Rs.25.2 lakh (e) Rs.36.0 lakh.

(2 marks)

60. XYZ Ltd. is examining the question of relaxing its credit policy. At present, it sells 20,000 units at Rs.100 per unit. The variable cost per unit is Rs.88 and average cost per unit at the current sales volume is Rs.92. All the sales are on credit and the average collection period is 36 days. A relaxed credit policy is expected to increase the sales by 10% and the average collection period to 60 days. If the required rate of return is 15%, the net benefit/loss as a result of relaxing the credit policy is (Assume 360 days in a year)

(a) -Rs.400 (b) -Rs.600 (c) Rs.800 (d) Rs.1,200 (e) Rs.2,400.

(2 marks)

61. Race Auto Parts Company sells to retail auto supply stores on credit terms of "net 60". Annual credit sales are Rs.300 million (spread evenly throughout the year) and the firm's variable cost ratio is 0.75. On an average, its' accounts receivable are overdue for 28 days. Assuming 365 days per year, the average investment in receivables of Race is

(a) Rs. 0.822 million (b) Rs.34.091 million
(c) Rs.52.942 million (d) Rs.72.329 million (e) Rs.82.392 million.

(1 mark)

62. The beta and risk premium of equity shares of Bhartiya Chemicals Limited are 2.0 and 8% respectively. The company is planning to issue external equity to finance an expansion program. The cost of issuing external equity as a percentage of the current market price is 2 percent. If the risk free rate of return is 6 percent, the cost of external equity capital to the company is approximately

(a) 12.0 percent (b) 14.0 percent (c) 14.3 percent (d) 18.0 percent (e) 22.4 percent.

(1 mark)

63. Sabra Machineries Ltd. (SML) purchases components from Monark Engineers Ltd. (MEL) on terms of 1/10, net 45. SML requested MEL to increase the cash discounts to 2 percent without changing the discount period. MEL wants to modify the terms in such a way that after obtaining the requested discount rate of 2 percent, SML faces at least three times the cost of not paying within the discount period as before. Which of the following alternatives represents the correct course of action for MEL?

(a) Decrease the credit period by 12 days (b) Decrease the credit period by 10 days
(c) Increase the discount period by 11 days (d) Decrease the discount period by 5 days
(e) Increase the credit period by 13 days.

(3 marks)

64. A financial services company is considering to offer credit to Vaibhav. The probability that he pays, is 0.85 and cost of sales is 80% of sales. If it offers credit, the net profit or loss to the firm is

(a) A loss of 5% on sales (b) A profit of 5% on sales
(c) No profit and no loss (d) A loss of 20% on sales
(e) A profit of 17% on sales.

(1 mark)

65. All Advantage Ltd writes cheques averaging Rs.15,000 a day and it takes 5 days for these cheques to clear. The firm also receives cheques averaging Rs.17,000 per day, and it takes 3 days to receive the payment. The firm's net float is

(a) Rs.1,26,000 (b) Rs.75,000 (c) Rs.32,000 (d) Rs.24,000 (e) Rs.16,000.

(1 mark)

66. The XL Ltd found that on an average it takes 10 days to collect and credit the proceeds of a cheque in their account. XL's annual sales are Rs.240 million. Suppose XL is able to reduce the average collection period by 4 days through more efficient processing method, what is the annual pre tax savings in interest expense if they pay interest @ 10 percent on their bank borrowing? (Assume 365 days in a year)

(a) Rs.0.263 million (b) Rs.2.630 million
(c) Rs.6.667 million (d) Rs.7.863 million (e) Rs.9.600 million.

(1 mark)

67. M/s. Excel Printers Ltd. currently uses a machine, whose book value is Rs.12 lakh with the remaining useful life of 5 years and a salvage value of Rs.2 lakh at the end of the useful life. EPL is proposing to replace the machine by a new machine costing Rs.20 lakh and has a useful life of 5 years and salvage value of Rs.4 lakh at the end of 5 years. The new machine is expected to reduce the annual operating costs by Rs.0.5 lakh and increase the annual income by Rs.1 lakh. The old machine, if sold now can realise Rs.9 lakh. EPL follows straight-line method of depreciation and is in the tax bracket of 40%. The net incremental cash flows of the new machine during year 0 and year 5 respectively are

(a) -Rs.20 lakh, Rs.3.38 lakh (b) -Rs.11 lakh, Rs.3.38 lakh
(c) -Rs.11 lakh, Rs.4.10 lakh (d) -Rs.20 lakh, Rs.2.10 lakh
(e) -Rs.11 lakh, Rs.2.10 lakh.

(3 marks)

68. A project has an initial outlay of Rs.2,000. It has a single payoff of Rs.3,996.46 at the end of year 4. What is the internal rate of return for the project?

(a) 13.00% (b) 15.89% (c) 16.00% (d) 18.89% (e) 20.89%.

(1 mark)

69. Consider the following information regarding two projects:

	Project A	Project B
Initial Cash Outflow	-Rs.2,40,000	-Rs.2,50,000
Year 1 Cash flow	Rs. 25,000	Rs.1,50,000
Year 2 Cash flow	Rs.1,25,000	Rs.1,00,000
Year 3 Cash flow	Rs.1,75,000	Rs. 75,000

Cost of capital is 10%. If these projects are mutually exclusive, which of the two projects would you accept according to the net benefit cost ratio criterion?

- (a) Project A, since it's net benefit cost ratio is positive
- (b) Project B, since it's net benefit cost ratio is positive
- (c) Project B, since it's net benefit cost ratio is positive and more than that of A
- (d) Project A, since it's initial investment is low
- (e) Both A and B, since net benefit cost ratio of both are positive.

(2 marks)

70. Bambino Ltd. has 1.25 million shares outstanding. The current stock price is Rs.13.50 per share. If the company issues a 10% stock dividend, what would you expect the stock price to be after the dividend is paid?

- (a) Rs.12.27 per share (b) Rs.12.82 per share
- (c) Rs.13.30 per share (d) Rs.13.49 per share
- (e) Rs.13.71 per share.

(1 mark)

71. Vision Corporation is determining whether to support Rs.1,00,000 of its permanent working capital with a bank note or a short-term bond. The firm's bank offers a two-year note for which the firm will receive Rs.1,00,000 and repay Rs.1,18,810 at the end of two years. The firm has the option to renew the loan at market rates. Alternatively, Vision can sell 8.5 % annual coupon bonds with a 2-year maturity of Rs.1,000 par value at a price of Rs.973.97. How much percentage lower is the interest rate on the less expensive debt instrument?

- (a) 0.0% (b) 0.6% (c) 1.0% (d) 1.2% (e) 1.8%.

(2 marks)

72. Nuttfield Ltd., is considering pushing up its sales by extending credit to two more categories of customers – Category A with 10% risk of default and Category B with 30% risk of default. The incremental sales expected from category A customers is Rs.40,000, while from category B is Rs.50,000. The costs of production is 60% of sales, while collection costs amount to 5% of sales in case of A category and 10% of sales in case of B category. The net benefits to the firm from extending credit to these two categories of customers are respectively

- (a) Rs.0 and Rs.10,000 (b) Rs.10,000 and Rs.0
- (c) Rs.14,000 and Rs.15,000 (d) Rs.15,000 and Rs.14,000
- (e) Rs.24,000 and Rs.30,000.

(2 marks)

73. A firm has an unused machine that originally costs Rs.75,000, has a book value of Rs.20,000 and is currently worth Rs.25,000. Ignoring taxes, the correct opportunity cost for this machine in capital budgeting decisions is

- (a) Rs.5,000 (b) Rs.20,000 (c) Rs.25,000 (d) Rs.30,000 (e) Rs.75,000.

(1 mark)

74. For a profitable firm in 35% marginal tax bracket with Rs.1,00,000 as annual depreciation expense, the depreciation tax shield would be

- (a) Rs.10,500 (b) Rs.30,000 (c) Rs.35,000 (d) Rs.45,000 (e) Rs.65,000.

(1 mark)

75. You are considering an investment in a project with a life of eight years, an initial outlay of Rs.1,20,000 and annual after-tax cash flows of Rs.52,000. The project also requires an increase in inventories of Rs.22,000. This Rs.22,000 investment in inventory is required at the outset of the project and will be released when the project is completed. If the appropriate discount rate for this project is 10 percent, the discounted payback period for this project would be

(a) 3 years (b) 3.357 years (c) 3.575 years (d) 3.875 years (e) 4 years.

(2 marks)

Suggested Answers

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1. Answer: (c)
Reason: The private placement method of financing involves direct selling of securities to a limited number of institutional or high net worth investors. This avoids the delay involved in going public and also reduces the expenses involved in a public issue. Under this route there is no strict regulation by SEBI.
The major advantages of privately placing the securities are easy access to any company, fewer procedural formalities, lower issue cost and access to funds is faster.
Hence, statement (III) is true, but statements (I) and (II) are incorrect and hence, the answer is (c).
2. Answer: (a)
Reason: According to net income approach, the costs of equity and debt remain constant irrespective of the degree of leverage. As per the traditional approach, the overall cost of capital for a firm increases as the degree of leverage increases. A firm should choose the debt-equity ratio in such a way that it will minimize the cost of capital, not to avoid tax liability. The higher the degree of leverage, the more the risk of insolvency and hence correspondingly the higher will be risk to the equity shareholders. According to the net operating income approach, the overall cost of capital remains the same at any degree of leverage.
3. Answer: (e)
Reason: The number of rights is always equal to the number of shares, even though, 8 rights give the investor the right to receive 1 new rights share. Hence, total number of rights is 400 and total number of shares to be received is 50.
4. Answer: (a)
Reason: If a firm has return on investment is higher than its cost of capital, in other words, if it has substantial investment opportunities, it should not pay dividends but to retain the amount. Hence, the correct answer is (a).
5. Answer: (e)
Reason: Net income approach and net operating income approach assume that cost of debt remains constant for all degrees of leverage.
6. Answer: (b)
Reason: Earnings price ratio approach assumes that the EPS is constant. This approach gives accurate results in the following two scenarios.
 - a. When all earnings are paid out as dividends. Or
 - b. The dividend pay-out ratio is less than 100 percent and retained earnings are expected to earn a rate of return equal to the cost of equity.In all other cases there is scope for this approach not giving an accurate estimate. Hence, statement (II) is true, (I) and (III) are incorrect and the answer is (b).
7. Answer: (c)
Reason: Agency cost arises from the divergence between the goal of share holders and between debt and equity holders. A market for corporate control can not resolve the problem. All other alternatives mentioned in the question can resolve the problem.
8. Answer: (d)
Reason: Except liquidity needs of the company, all other factors are considered, whenever a capital structure decision is taken. Liquidity needs of a company are a part of working capital policy rather than long-term capital structure decision.
9. Answer: (d)
Reason: When capital market is perfect, no cost is associated with bankruptcy. Assets of a bankrupt firm can be sold at their economic value and legal and administrative expenses are not present. So, the answer would be (d).

10. Answer: (a)
Reason: Under proposition III, it is mentioned that the investment and financing decision of a firm are independent of each other. A firm should exploit an investment opportunity, if and only if, the rate of return on the investment is greater than the cost of capital. Thus the cut off point for investment by the firm should in all cases be the capitalization rate for that class. So, (a) would be the correct answer.
11. Answer: (b)
Reason: Other things remaining the same, a higher corporate tax rate will decrease the WACC of a firm with debt in its capital structure. Because a higher corporate tax rate will decrease the cost of debt capital and hence the weighted average cost of capital also decreases.
12. Answer: (c)
Reason: Early extinguishment of debt may result in decrease in financial risk and tax shield of the firm. Financial risk decreases when proportion of debt in capital structure decreases. Similarly, tax shield on interest also decreases, as the interest payment decreases due to the decrease in debt.
13. Answer: (e)
Reason: Modigliani and Miller approach makes the following assumptions:
i. Existence of a perfect market in which all investors are rational. There will be no transaction and floatation costs.
ii. It is assumed that there are no differential tax rates for dividend income and capital gains.
iii. The company has a constant investment policy.
iv. Securities are infinitely divisible and hence no single investor is large enough to influence the share value. Hence, option (e) is incorrect.
14. Answer: (d)
Reason: The assumptions of the Walter's Model on dividend policy are as follows:
The retained earnings are the only source of finance for the firm. The firm does not resort to external financing – debt or equity – for additional investments
The return on investment and the cost of equity for the firm will be constant
The firm has an infinite life
For a given value of the firm, the dividend per share and the earnings per share will be constant.
So, the option (d) is correct.
15. Answer: (a)
Reason: While distributing dividends, the firm should compare the return earned by it by reinvesting the retained earnings with the return earned by the share holders.
16. Answer: (b)
Reason: Managers are reluctant at times to issue dividends due to the dilution effect which may force owners to look elsewhere for additional financing. Hence, the answer is (b).
17. Answer: (c)
Reason: Value for shareholders, in most companies, is largely derived from investment decisions focused on the asset side of the financial balance sheet. Hence, alternative (c) is answer.
18. Answer: (a)
Reason: Under-trading indicates that the funds of the company are locked up in current assets resulting in a lower turnover of working capital. Hence, in such a situation, hastening of the collection process, reducing the debt-equity ratio and reducing the level of inventory will be some precautionary measures. Hence, option (a) is correct.
19. Answer: (d)
Reason: Holding minimal levels of inventory may result in lost sales, which in turn affects profitability. Statement (d) is false and thus the appropriate choice. Statements (a), (b), (c) and (e) are all true statements.

20. Answer: (b)
Reason: The payback method is at best a crude measure of the risk of a project, because, it fails to consider the variability of a project's returns.
21. Answer: (b)
Reason: If the average stock of raw materials is increased to two times its original level, the raw materials storage period increases to two times the original level.
22. Answer: (d)
Reason: The gross operating cycle of a business entity is defined as the sum of raw material storage period, work-in-process period, finished goods storage period and average collection period. An increase in the consumption of the raw materials will reduce the raw materials storage period while synchronization of the various processes of productions for a better volume will reduce the work in process period. Incremental demand for the product of the company will reduce the finished goods storage period and the proposition for selling the products against cash payment will shorten the debtors' payment period. The average payment period is to be deducted from the gross operating cycle to get the net operating cycle. Hence, a decrease in the average payment period will increase the net operating cycle.
23. Answer: (d)
Reason: The salient features of public deposits scheme offered by any company are as follows:
The minimum maturity period allowed is six months
The maximum maturity period is three years
A private company can raise at most 10 percent of its share capital and free reserves
A government company can raise deposits up to 35 percent of its share capital and free reserves
The advertisement relating to the invitation of public deposits is required to be filed with the Registrar of Companies, not SEBI
Therefore, the option (d) is correct.
24. Answer: (e)
Reason:
$$\text{Cost of trade credit} = \frac{\text{Rate of discount}}{1 - \text{Rate of discount}} \times \frac{360}{\text{Credit Period} - \text{discount period}}$$

Other things remaining the same, following factors will increase the cost of trade credit:
Increase in the rate of discount. For example: "1/10 Net 30" will have a lesser cost of trade credit compared to "2/10 Net 30".
Increase in the discount period. For Example: "1/10 Net 30" will have a lesser cost of trade credit compared to "1/15 Net 30".
Decrease in the credit period. For example "1/10 Net 30" will have a greater cost of trade credit compared to "1/10 Net 45".
Hence (e) is the required answer.
25. Answer: (d)
Reason: The credit term 4/10, net 30 implies that 4% discount is given, if paid within or on 10th day of invoicing and credit is given for 30 days. Hence, (d) is answer.
26. Answer: (d)
Reason: If the benefit cost ratio is equal to one, the present value of the cash flows at the cost of capital is equal to the initial investment. This implies all the stakeholders of the project have enjoyed the return expected. Hence the option (d) is false. However, the other statements are correct with respect to the capital expenditure.

27. Answer: (c)
Reason: Under Method I, the bank will finance at the most 75 percent of the working capital gap i.e., maximum permissible bank finance = $0.75 (\text{Current Assets} - \text{Current Liabilities})$
This method will ensure a minimum current ratio.
Under Method II, the borrower will finance 25 percent of total current assets through long-term sources. The bank will finance at the most working capital gap i.e., maximum permissible bank finance = $(0.75 \times \text{Current Assets}) - \text{Current Liabilities}$.
Under Method III, there will be further reduction in bank borrowings, which will ensure a still higher current ratio. The amount of excess borrowing calculated as the difference between the amount of bank borrowing and the maximum permissible bank borrowing to which the borrower is eligible will be converted into a term loan, that is to be repaid over a suitable period, depending upon the cash generating capacity and ability to raise additional equity etc., maximum permissible bank finance = $0.75 (\text{Current Assets} - \text{Core Current Assets}) - \text{Current Liabilities}$.
There is no IV method suggested by Tandon Committee.
28. Answer: (b)
Reason: In this scenario the average level of accounts receivable would decrease, because credit customers would have a larger incentive to pay their accounts within the 10 day discount period.
29. Answer: (a)
Reason: $TC = PC + UF/Q$
As per the given information,
 $1.5 PC = PC + UF/Q$
 $0.5PC = UF/Q$
 $0.5PCQ = UF$
 $Q = UF/0.5PC = 2UF/PC$ which is more than optimal or economic order quantity size i.e., $(2UF/PC)^{1/2}$
Hence, current order size is greater than optimal and (a) is answer.
30. Answer: (c)
Reason: Option (c) is the correct answer. Character refers to the willingness of the customer to honor his obligations.
31. Answer: (c)
Reason: Net float is the difference between the payment float and collection float. Payment float is the amount of cheques that have been issued by firm, but not debited to the firm's account. Collection float is the values of cheques received but not have been credited to the firms account. Hence, statement (III) is correct.
32. Answer: (a)
Reason: A good cash management system maximizes payment float and minimizes collection float. Increases in interest rates raise the opportunity cost of idle cash. A firm can increase its net float by accepting payments from its customers through online, which is expected to reduce the time required in encashment. Since statement is (II) correct, alternatives (a) is answer.
33. Answer: (b)
Reason: The reason for holding marketable securities is to keep idle cash in the form of cash equivalents so as to earn some return as well as to have the facility of conversion into cash as and when desired. Given this, length of maturity, default risk, marketability and liquidity are more important than the return earned on these securities.

34. Answer: (d)
Reason: Statement (I) is true because low degrees of uncertainty surrounding the cash flow projections implies that there will be less uncertainty surrounding the availability of cash from operations. Hence the firm may reduce the amount of cash (because it earns no return) and invest funds in liquid assets like marketable securities and intercorporate deposits, which earn returns.
Statement (II) is not true because a conservative attitude, on the part of management, towards risk means that the firm will avoid investing its funds in intercorporate deposits, which are unsecured instruments.
Statement (III) is true because a company, which has access to non-bank sources of funds, will not tend to keep idle cash and will invest its funds in intercorporate deposits and marketable securities, which earn returns. Hence, there will be a higher proportion of investment in intercorporate deposits and marketable securities.
35. Answer: (b)
Reason: Option (b) is the correct answer.
Keeping excess cash in hand in case of an industrial accident is a precautionary motive - the need to hold cash as a safety margin to act as a financial reserve.
36. Answer: (b)
Reason: When the net float is negative, the balance in the books of bank is less than the balance in the books of the firm. Any relationship between the current asset and current liability does not play any role in the determination of the net float, as it is related to the cash balance.
37. Answer: (c)
Reason: The economic appraisal of projects does not consider the impact of the project on the wealth of the shareholders. Alternatives (a), (b), (d) and (e) are parts of the economic appraisal of projects.
38. Answer: (c)
Reason: Alternatives (a), (b), (d) and (e) are true with regard to the internal rate return. Alternative (c) is not true, because the pattern of cash inflows and outflows affect the internal rate of return.
39. Answer: (b)
Reason: A project will be accepted under the following situations:
When the Benefit Cost Ratio of the project is greater than one and the Net Benefit Ratio of the project is greater than zero.
When the Net Present Value is greater than zero (i.e. when the present value of inflows is greater than the present value of outflows).
When the project's internal rate of return is greater than the firm's cost of capital
When a project has the minimum annual capital charge.
Based on the above criteria, we can conclude that only projects B and D can be selected and (b) is the correct choice.
40. Answer: (c)
Reason: Observe the following relationships among various project appraisal methods.
- i. When the net present value is zero, the internal rate of return is equal to cost of capital, the benefit cost ratio is one and the net benefit cost ratio is zero.
 - ii. When the net present value is positive, the internal rate of return is more than cost of capital, the benefit cost ratio is more than one and the net benefit cost ratio is more than zero.
 - iii. When the net present value is negative, the internal rate of return is less than cost of capital, the benefit cost ratio is less than one and the net benefit cost ratio is less than zero.
- Hence, alternative (c) is correct and is answer.

41. Answer: (b)

Reason: Value of a share after the rights issue (V_o) = $\frac{NP_o + S}{N+1}$

where symbols are in standard use

Theoretical value of a right (V_r) = $\frac{P_o - S}{N+1}$

In the question, $V_r = \text{Rs.}4$, $V_o = \text{Rs.}60$ $N=2$

$$60 = \frac{2P_o + S}{3} \Rightarrow 180 = 2P_o + S$$

$$4 = \frac{P_o - S}{3}$$

$$\Rightarrow 12 = P_o - S \Rightarrow 12 + S = P_o$$

$$\therefore 180 = 2(12 + S) + S = 24 + 3S \Rightarrow S = 52$$

42. Answer: (a)

Reason: According to net operating income approach,

$$K_e = k_o + (k_o - k_d) B/S$$

$$0.21 = 0.18 + (0.18 - 0.12) B/S$$

$$0.03 = (0.06) B/S$$

$$B/S = 0.5 = \frac{\text{Market Value of Debt}}{\text{Market Value of Equity}}$$

$$\frac{S}{B} = 2$$

$$1 + \frac{S}{B} = 3$$

$$(\text{or}) \frac{S+B}{B} = 3$$

$$\frac{B}{S+B} = 0.33$$

43. Answer: (c)

Reason: Weighted Average Cost of Capital (WACC) using book value weights

Sum of book values of all sources of capital used is $200 + 400 + 150 + 250 = \text{Rs.}1,000$ lakh

$$\therefore \text{Weight for equity capital } (w_e) = 200/1,000 = 0.2$$

$$\text{Weight for reserves and surplus } (w_r) = 400/1,000 = 0.4$$

$$\text{Weight for preference capital } (w_p) = 150/1,000 = 0.15$$

$$\text{Weight for debenture capital } (w_d) = 250/1,000 = 0.25$$

$$\therefore \text{WAC} = w_e k_e + w_r k_r + w_p k_p + w_d k_d \\ = 0.2 \times 19.25 + 0.4 \times 19.25 + 0.15 \times 12.19 + 0.25 \times 8.00 = 15.3785\% (\text{approx.})$$

Weighted average cost of capital (WAC) using market value weights

Sum of market values of all sources of capital used = $400 + 160 + 240 = 800$

$$\text{Weight of equity capital} = 400/800 = 0.5$$

$$\text{Weight of preference capital} = 160/800 = 0.2$$

$$\text{Weight of debenture capital} = 240/800 = 0.3$$

$$\therefore \text{WAC} = 0.5 \times 19.25 + 0.2 \times 12.19 + 0.3 \times 8.00 = 14.463\% = 14.46\% (\text{approx.})$$

The difference between the WACC using book value weights and market value weights = $(15.3785 - 14.463)\% = 0.9155\%$.

44. Answer: (d)

Reason: Retained earnings = Net income – Dividends = 100 - 67.5 = Rs.32.5 million
 Since D/E ratio is 35:65, and it does not go for new equity financing, retained earnings represent equity portion of 65% and the rest 35% will be debt.
 Total budget = 32.5/0.65 = Rs.50 million.

45. Answer: (b)

Reason: Market value of debt = $\frac{\text{Interest expense}}{\text{Debt capitalization rate}} = \frac{12}{0.10} = \text{Rs.120 lakh}$

Total market value of the firm = $\frac{\text{Net operating income}}{\text{Overall capitalization rate for the firm}}$
 $= \frac{40}{0.125} = \text{Rs.320 lakh}$

Market value of equity = Total market value of the firm – Market value of debt
 = 320 – 120 = Rs.200 lakh.

Equity capitalization rate = $\frac{\text{Equity earnings}}{\text{Market value of equity}} = \frac{28}{200} = 0.14$ i.e., 14%

According to the net operating income approach: $k_e = k_0 + (k_0 - k_d) B/S$

Let the market value of debt after increase be B.

Market value of equity = Total market value of the firm – Market value of debt = 320 – B.

$k_e \leq 16\%$

$\therefore 0.16 \geq 0.125 + (0.125 - 0.10) \frac{B}{(320 - B)}$

or $0.035 \geq \frac{0.025B}{320 - B}$

or $11.20 - 0.035B \geq 0.025B$ or $11.20 \geq 0.06B$

or $B \leq 186.67$ lakh

$\therefore$ Increase in market value of debt due to borrowing = 186.67 – 120 = Rs.66.67 lakh

Hence, the firm can borrow a maximum amount of Rs.66.67 lakh in terms of market value.

46. Answer: (a)

Reason: Weighted average cost of capital = $[(0.7)(K_d)(1 - T)] + [(0.3)(K_e)]$.

a. By using bond information to solve for K_d ,

Years remaining to maturity (n) = 20

Current market price = Rs.1,273.8564

Interest = Rs.120

Maturity value = Rs. 1,000.

$\text{Rs.1,273.8564} = 120 \text{ PVIFA}(K_d, 20) + 1,000 \text{ PVIF}(K_d, 20)$

b. By trial and error method $K_d = 9\%$

By using CAPM equation,

So, $K_e = 0.0635 + (0.1135 - 0.0635)(1.3585) = 0.131425 = 13.1425\%$.

c. By substituting these values into the WACC equation and solving

$K_o = [(0.7)(0.09)(1 - 0.35)] + [(0.3)(0.131425)] = 0.0803775 = 8.04\%$.

47. Answer: (c)

Reason: Value of the firm according to MM hypothesis can be computed as:

$$nP_0 = \frac{(n + \Delta n)P_1 - I + E}{(1 + k_e)}$$

where n is the number of shares outstanding at the beginning of the period

P_0 is the prevailing market price of the share (Hence nP_0 is the total capitalized value of the firm).

Δn is the change in the number of outstanding shares during the period

P_1 is the price next year

I is the total investment required

E is the earnings of the firm during the period

k_e is the capitalization rate

The price per share next year can be computed as:

$$P_0 = \frac{1}{(1 + k_e)}(D_1 + P_1)$$

$$50 = \frac{1}{(1 + 0.12)}(8 + P_1)$$

Solving we get $P_1 = \text{Rs.}48$.

According to MM hypothesis

$$nP_0 = \frac{(n + \Delta n)P_1 - I + E}{(1 + k_e)}$$

$$\text{i.e. } n \times 50 = \frac{(n + 5000) \times 48 - 1,75,000 + 40,000}{(1 + 0.12)}$$

Solving for n, we get $n = 13,125$ shares. Hence (c) is the answer.

48. Answer: (d)

Reason: Net profit = Rs.30 lakh

Less: Preference Dividends = Rs.12 lakh

Earnings for the equity shareholders = Rs.18 lakh

Therefore, earnings per share = $18/3 = \text{Rs.}6.00$

Let, the dividend pay out ratio be x and so the share price will be:

$$P = \frac{D}{k_e} + \frac{r(E - D)/k_e}{k_e}$$

Here, $D = 6x$, $E = \text{Rs.}6$, $r = 0.20$ and $k_e = 0.16$ and $P = \text{Rs.}42$

$$\text{Hence, } \text{Rs.}42 = \frac{6x}{0.16} + \frac{0.2(6 - 6x)}{0.16 \times 0.16}$$

Or, $\text{Rs.}42 = 37.50x + 46.875(1 - x)$ or, $9.375x = 4.875$ or, $x = 0.52$.

So, the required dividend pay-out ratio will be = 52 percent.

49. Answer: (c)

Reason: Rs.1.50 is added to retained earnings and thus the book value will increase by the same amount. So, the correct answer would be (c).

50. Answer: (c)

Reason: Net Cash Flow = $(\text{Rs.}3,00,000 - \text{Rs.}73,000)(1 - 0.4) + \text{Rs.}73,000 = \text{Rs.}2,09,200$.

51. Answer: (a)

Reason: $EOQ = (2UF/PC)^{1/2} = ((2 \times 1,000 \times 5,00,000)/500 \times 0.1)^{1/2} = 4,472$ units.

EOQ, when annual usage doubles

$EOQ^* = (2 \times 1,000 \times 10,00,000 / 500 \times 0.1)^{1/2} = 6,325$ units.

Elasticity of EOQ in response to doubling of annual usage

= % change in EOQ / % change in carrying costs

$$= \frac{6,325 - 4,472}{4,472} \times \frac{5,00,000}{10,00,000 - 5,00,000} \times 100 = 41.43\%.$$

52. Answer: (b)

Reason: The amount of raw materials consumed = Opening balance + Purchases during the year – Closing balance

$$= (1,80,000 + 11,92,000 - 2,12,000) = \text{Rs. } 11,60,000$$

The average stock of work in process = $(25,000 + 45,000)/2 = \text{Rs. } 35,000$

Annual cost of production = Opening work in process + Consumption of raw materials + Manufacturing expenses + Depreciation – Closing work in process

$$= 25,000 + 11,60,000 + 12,80,000 + 1,00,000 - 45,000 = \text{Rs. } 25,20,000$$

So, the average daily cost of production = Rs. 7,000

Hence, the average conversion period = $35,000/7,000 = 5$ days.

53. Answer: (d)

Reason: Construct simplified comparative balance sheets and income statements for the restricted and relaxed policies (In thousands of rupees):

	15% of Sales	25% of Sales
Balance sheet:	<u>Restricted</u>	<u>Relaxed</u>
Current assets	Rs. 60.0	Rs. 100.0
Fixed assets	<u>Rs. 100.0</u>	Rs. <u>100.0</u>
Total assets	<u>Rs. 160.0</u>	Rs. <u>200.0</u>
Debt	Rs. 80.0	Rs. 100.0
Equity	<u>Rs. 80.0</u>	Rs. <u>100.0</u>
Total liabilities and equity	<u>Rs. 160.0</u>	<u>Rs. 200.0</u>
Income statement:		
EBIT	Rs. 36.0	Rs. 36.0
Interest (10%)	<u>(8.0)</u>	<u>(10.0)</u>
EBT	Rs. 28.0	Rs. 26.0
Taxes (40%)	<u>(11.2)</u>	<u>(10.4)</u>
Net income	<u>Rs. 16.8</u>	<u>Rs. 15.6</u>

$$ROE = NI/Equity \quad \text{Rs. } 16.8/\text{Rs. } 80 = 0.21 \quad \text{Rs. } 15.6/\text{Rs. } 100 = 0.156.$$

$$\text{Difference in ROEs} = 0.21 - 0.156 = 0.054 = 5.4\%.$$

54. Answer: (d)

Reason:

Old	With Change
$\text{ICP} = \frac{\frac{365}{\text{Rs. } 80}}{\text{Rs. } 20} = \frac{365}{4} = 91.25$	$\frac{\frac{365}{\text{Rs. } 80}}{\text{Rs. } 16} = \frac{365}{5} = 73.000$
+	+
$\text{ACP} = \frac{\text{Rs. } 16}{\text{Rs. } 80} = 73.00$	$\frac{\text{Rs. } 14}{\text{Rs. } 80} = 63.875$
365	365
APP = 35 days -35.00	-35.000
Net operating cycle = <u>129.25</u> days	New NOC = <u>101.875</u> days
Change in net operating cycle = 101.875 – 129.25 = -27.375 days ≈ -27 days.	
Net change is -27 days (net operating cycle is 27 days shorter).	

55. Answer: (e)

Reason: The company pays every 50 days or $365/50 = 7.3$ times per year.
Thus, the average accounts payable are $\text{Rs. } 45,62,500/7.3 = \text{Rs. } 6,25,000$.

56. Answer: (c)

Reason: The annual output is 2 million kg or 2×10^6 kg.
The set-up cost of each production run is Rs.6,000.
Price of the chemical = Rs.800/kg.
Margin = 15%
Cost of sales = $800(1 - 0.15) = \text{Rs. } 680/\text{kg}$.
Cost of carrying inventory = $680 \times 0.09 = \text{Rs. } 61.2$

$$\begin{aligned} \text{Optimum quantity of production} &= \sqrt{\frac{2UP}{S}} \\ &= \sqrt{\frac{2 \times 2 \times 10^6 \times 6000}{61.2}} = 19802.95 \text{ kg} \\ &\simeq 198 \text{ hundred kg.} \end{aligned}$$

57. Answer: (d)

Reason: The economic order quantity (EOQ) may be calculated as 12,000 units by using $U = 60,000$ units,

$F = \text{Rs. } 1,200$ and $PC = \text{Rs. } 100 \times 1 \text{ percent} = \text{Re. } 1$ only.

Benefits due to the discounts = $\text{Rs. } 3 \times 60,000 = \text{Rs. } 1,80,000$

Benefits due to the savings in ordering costs = $\text{Rs. } 1,200 \times (5 - 3) = \text{Rs. } 2,400$.

$$\text{Incremental carrying costs} = \frac{Q^1(P - D) \times C}{2} - \frac{Q^* \times P \times C}{2}$$

$$\frac{20,000 \times 97 \times 0.01}{2} - \frac{12,000 \times 100 \times 0.01}{2}$$

$$= 9,700 - 6,000 = \text{Rs. } 3,700.$$

Hence, the net amount of benefits will be = $\text{Rs. } 1,80,000 + 2,400 - 3,700 = \text{Rs. } 1,78,700$.

58. Answer: (b)

Reason: $EOQ = \sqrt{2 \times U \times F / C} = \sqrt{2 \times 50,000 \times 10 / 1} = 1,000$ units

time after which an order is to be placed is = EOQ/ Per day consumption

per day consumption = Annual Usage / 360 days = 138.88

$50,000/360 = 138.88$ units

$1,000/138.88 = 7$ days.

Working notes:

Total carrying cost = 50,000 units $\times 5 \times 20/100 = 50,000$

Carrying cost per unit = 50,000/50,000 = Re.1.

59. Answer: (e)

Reason: Contribution = $(2,500 \times 9,000) \times 0.20 = \text{Rs. } 2,25,00,000 \times 0.2 = \text{Rs. } 45,00,000$

Cost of Investment in debtors = $2,25,00,000 \times 0.8 \times \frac{90}{360} \times 0.2 = \text{Rs. } 9,00,000$

Profit = Contribution – Investment cost of receivables = $45,00,000 - 9,00,000 = \text{Rs. } 36,00,000$.

60. Answer: (a)

Reason: Incremental contribution = $2,00,000 \times \left(\frac{100 - 88}{100} \right) = \text{Rs. } 24,000$

Increase in investment in accounts receivable on existing sales

$= 20,00,000 \times \left(\frac{60 - 36}{360} \right) = \text{Rs. } 1,33,333$

Investment in accounts receivable on increased sales

$= [2,00,000 \times \left(\frac{60}{360} \right) \times 0.88] = \text{Rs. } 29,333$

Cost of investment = $(1,33,333 + 29,333) \times 0.15 = \text{Rs. } 24,400$.

Incremental loss = $\text{Rs. } 24,000 - \text{Rs. } 24,400 = -\text{Rs. } 400$.

61. Answer: (d)

Reason: Average collection period = $60 + 28 = 88$ days

Average Investment in Receivables = $\text{Rs. } 30,00,00,000 \times 88 / 365$

$= \text{Rs. } 7,23,28,767$

62. Answer: (c)

Reason: The required rate of return for the shareholders

= Risk-free rate of return + Risk premium = $6 + 8 = 14$ percent,

while the cost of issuing external equity is 2 percent as a percentage of the current market price.

Therefore, the cost of external equity capital to the company is approximately

$14/0.98 = 14.3$ percent.

63. Answer: (a)

Reason: Existing cost faced by SML of not paying within the discount period

$$= \frac{\text{Rate of discount}}{1 - \text{Rate of discount}} \times \frac{360}{\text{Credit period} - \text{Discount period}}$$

$$= \frac{0.01}{(1 - 0.01)} \times \frac{360}{(45 - 10)} = 0.1039 \text{ i.e., } 10.39\%$$

Given: Proposed discount = 2%

Discount period = 10 days

Minimum cost to SML of not paying within the discount period = $3 \times 0.1039 = 0.3117$

i.e., 31.17%.

Since the values of cash discount percentage and discount period are known, the only variable that can be modified is the credit period.

Let the modified credit period be 'C'.

$$\frac{0.02}{(1 - 0.02)} \times \frac{360}{(C - 10)} \geq 0.3117$$

$$\text{or } \frac{0.02}{0.98} \times \frac{360}{0.3117} \geq C - 10$$

$$\text{or } 10 + \frac{0.02 \times 360}{0.98 \times 0.3117} \geq C$$

or $C \leq 33.6$ days.

Hence MEL should allow a maximum credit period of 33 days to SML i.e. MEL should reduce the credit period by 12 days. (Here, 33.6 have not been rounded off to the higher integral value 34 because doing that will reduce the cost faced by SML below three times the cost as before. Hence 33.6 have been rounded off to 33 days).

64. Answer: (b)

Reason: $P_p \times (1 - \text{Percentage of Cost on Sales}) - (1 - P_p) \times \text{Percentage of Cost on Sales}$

$$0.85 \times 0.2 - 0.15 \times 0.8 = 0.05 = 5\% \text{ on sales.}$$

65. Answer: (d)

Reason: Positive disbursement float = Rs.15,000 (5) = Rs.75,000.

Negative collections float = Rs.17,000 (3) = Rs.51,000.

Net float = Rs.75,000 – Rs.51,000 = Rs.24,000.

66. Answer: (a)

Reason: Savings = $[(\text{Rs.}240,000,000/365) \times 4] \times 0.10 = \text{Rs.}263,014$.

67. Answer: (b)

Reason: Net incremental cash flow during year 0 is

$$= -(\text{Investment for new machine} - \text{Present realizable value of old machine})$$

$$= -(20 - 9) = -\text{Rs.}11 \text{ lakh}$$

Net incremental cash flow during year 5 is

$$= \text{Incremental PAT} + \text{Incremental Depreciation} + \text{Incremental realizable value}$$

$$\text{Depreciation of old machine} = \frac{12 - 2}{5} = \text{Rs.}2,00,000$$

$$\text{Depreciation of new machine} = \frac{20 - 4}{5} = \text{Rs.}3,20,000$$

$$\text{Incremental depreciation} = \text{Rs.}3,20,000 - 2,00,000 = \text{Rs.}1,20,000$$

Net incremental cash flow during year 5

$$= (50,000 + 1,00,000 - 1,20,000) 0.6 + 1,20,000 + 2,00,000 = \text{Rs.}3,38,000$$

Hence, answer is (b).

68. Answer: (d)
Reason: $\text{Rs. } 2,000 (1+\text{IRR})^4 = \text{Rs. } 3,996.4$
 $(1+\text{IRR})^4 = (3,996.4/2,000) = 1.99823$
 $(1+\text{IRR}) = (1.99823)^{1/4}$
 $\text{IRR} = 1.1889 - 1 = 18.89\%$
69. Answer: (c)
Reason: Present values of cash inflows from project A =
 $25,000/1.10 + 1,25,000/1.10^2 + 1,75,000/1.10^3$
 $= 2,57,513$
Net benefit cost ratio of A = $(2,57,513/2,40,000) - 1 = 1.073 - 1 = 0.073$
Present value of cash inflows from project B =
 $1,50,000/1.10 + 1,00,000/1.10^2 + 75,000/1.10^3$
 $= 2,75,357$
Net benefit cost ratio of B = $(2,75,357/2,50,000) - 1 = 1.10 - 1 = 0.1$
We would accept only project B, because it has the higher net benefit cost ratio, even though net benefit cost ratios of both the projects are positive, they are mutually exclusive.
70. Answer: (a)
Reason: Before stock dividend the market capitalization of Bambino Ltd is $\text{Rs. } 13.50 \times 1.25$
 $= \text{Rs. } 16.875$ million
After stock dividend declared the total number of outstanding shares would be 1.25 million $(1.10) = 1.375$ million
The expected stock price after the dividend paid is $= \text{Rs. } 16.875 \text{ million} / 1.375 \text{ million}$
 $= \text{Rs. } 12.27$ per share.
71. Answer: (c)
Reason: Two year note: $= 1,00,000 (1+r)^2 = 1,18,810$
By simplification, $r = 9\%$
Coupon bond $= 973.97 = 85/(1+r) + 1,085/(1+r)^2$
By simplification, $r = 10\%$
Less expensive debt instrument is two-year note, since its cost is 1% lower than that of coupon bond.
72. Answer: (b)
Reason: Category A customers
Incremental Sales = $\text{Rs. } 40,000$
Variable cost @60% = $\text{Rs. } 24,000$
Collection costs @5% = $\text{Rs. } 2,000$
Bad debts @10% = $\text{Rs. } 4,000$
Net benefit = Incremental Sales – (Variable costs + Collection costs + Bad debts)
 $= 40,000 - (24,000 + 2,000 + 4,000) = \text{Rs. } 10,000$
Category B customers
Incremental Sales = $\text{Rs. } 50,000$
Variable cost @60% = $\text{Rs. } 30,000$
Collection costs @10% = $\text{Rs. } 5,000$
Bad debts @30% = $\text{Rs. } 15,000$
Net benefit = Incremental Sales – (Variable costs + Collection costs + Bad debts)
 $= 50,000 - (30,000 + 5,000 + 15,000) = \text{Rs. } 0$
73. Answer: (c)
Reason: The opportunity cost for the machine in capital budgeting decisions is its current worth, which is $\text{Rs. } 25,000$.

74. Answer: (c)

Reason: Depreciation tax shield = $1,00,000 \times 0.35 = \text{Rs.}35,000$.

75. Answer: (b)

Reason: The discounted payback is determined by the amount of time required for the project to return the initial investment with discounted cash flows.

$$-\text{Rs.}142,000 + \text{Rs.}52,000 / 1.10 = -\text{Rs.}94,727.27$$

$$-\text{Rs.}142,000 + \text{Rs.}52,000 / 1.10 + \text{Rs.}52,000 / 1.10^2 = -\text{Rs.}51,752.07$$

$$-\text{Rs.}142,000 + \text{Rs.}52,000 / 1.10 + \text{Rs.}52,000 / 1.10^2 + \text{Rs.}52,000 / 1.10^3 = -\text{Rs.}12,683.70$$

$$-\text{Rs.}142,000 + \text{Rs.}52,000 / 1.10 + \text{Rs.}52,000 / 1.10^2 + \text{Rs.}52,000 / 1.10^3 + \text{Rs.}52,000 / 1.10^4 = \text{Rs.}22,833.00$$

Because $\text{Rs.}12,683.70 / (\text{Rs.}22,833.00 - (-\text{Rs.}12,683.70)) = \text{Rs.}12,683.70 / \text{Rs.}35,516.70 = 0.357$, the discounted payback period is 3.357 years.