

Question Paper

Financial Management – II (142) : April 2003

Section A : Basic Concepts (40 Points)

- This section consists of questions with serial number 1 - 40.
- Answer all questions.
- Each question carries one point.

1. Which of the following is/are **not** true regarding the choice of the mix of cash and near cash assets?
 - I. If the company does not have access to non-bank sources of funds, it will tend to have a higher proportion of intercorporate deposits and marketable securities.
 - II. If the attitude of the management towards risk is aggressive, the portfolio tends to have a higher proportion of intercorporate deposits
 - III. If the degree of certainty surrounding cash flow projections is low, companies will be tilted more towards intercorporate deposits
 - a. Only (II) above
 - b. Only (III) above
 - c. Both (II) and (III) above
 - d. Both (I) and (III) above
 - e. All (I), (II) and (III) above.
2. Which of the following appraisal criteria is **not** based on time value of money?
 - a. Annual Capital Charge
 - b. Internal Rate of Return
 - c. Benefit Cost Ratio
 - d. Net Present Value
 - e. Accounting Rate of Return.
3. Under which of the following factoring arrangements does the factor **not** make any prepayment to the client?
 - a. Recourse factoring
 - b. Invoice discounting
 - c. Maturity factoring
 - d. Non-recourse factoring
 - e. Both (c) and (d) above.
4. The internal rate of return of M/s ABC Ltd. is 12%. Its equity capitalization rate is 13%. According to Walter's model, which of the following is/are **true** in case of the firm?
 - a. The price of the share will decrease with an increase in the dividend payout ratio.
 - b. The price of the share will not be affected by the dividend payout ratio.
 - c. The optimal dividend payout ratio is 100%
 - d. The price of the share will remain constant up to a certain level and will then decrease with an increase in the dividend payout ratio.
 - e. Both (a) and (c) above.

5. Which of the following statements is/are **true**?
- I. 'Collection float' indicates the amount of cheques issued by a company, awaiting payment by the bank.
 - II. If the collection float is more than the payment float, the company is said to have positive net float.
 - III. When the bank balance as per the books of the company is less than that in the bank's books, the company can play the float.
- a. Only (II) above
 - b. Only (III) above
 - c. Both (II) and (III) above
 - d. Both (I) and (III) above
 - e. All (I), (II) and (III) above.
6. Which of the following statements is/are **true** as per the Net Operating Income Approach?
- I. Overall capitalization rate remains constant for all degrees of leverage
 - II. Cost of equity remains constant for all degrees of leverage
 - III. Cost of equity is a constant linear function of the debt-equity ratio
 - IV. Cost of debt remains constant for all degrees of leverage
- a. Only (III) above
 - b. Only (IV) above
 - c. Both (I) and (II) above
 - d. Both (II) and (IV) above
 - e. (I), (III) and (IV) above.
7. Which of the following is/are **not** source(s) of long-term finance?
- a. Secured Premium Notes
 - b. Fully Convertible Debentures
 - c. Cumulative Preference Shares
 - d. Commercial Paper
 - e. Lease Arrangement
8. Which of the following is/are **not** feature(s) of preference shares?
- I. Preference shareholders have preference over equity shareholders to the post-tax earnings in the form of dividends
 - II. Preference-dividend is tax deductible
 - III. Voting rights can be given to the preference shareholders in the case of cumulative preference shares if there are arrears in dividends for two or more years
- a. Only (I) above
 - b. Only (II) above
 - c. Only (III) above
 - d. Both (I) and (III) above
 - e. Both (II) and (III) above.
9. Which of the following will increase the duration of the operating cycle?
- a. Increase in the raw material storage period
 - b. Decrease in the average collection period
 - c. Increase in the average payment period
 - d. Decrease in the conversion period
 - e. Both (a) and (c) above.
10. Which of the following is/are **not** measure(s) undertaken to avoid a situation of undertrading in a company?
- a. Reducing the debt equity ratio
 - b. Delaying the collection process
 - c. Reducing the levels of inventory
 - d. Both (a) and (b) above
 - e. Both (a) and (c) above.

11. Which of the following appraisal criteria is useful for evaluating mutually exclusive projects providing similar service but having differing patterns of cost and unequal life spans?
 - a. Net Present Value
 - b. Internal Rate of Return
 - c. Accounting Rate of Return
 - d. Benefit Cost Ratio
 - e. Annual Capital Charge.
12. M/s. ABC Ltd. has decided to allocate certain proportion of cash to take advantage of opportunities that do not arise in the course of its routine business activities. Which of the following motives explain(s) the decision of the firm?
 - a. Speculative motive
 - b. Precautionary motive
 - c. Transaction motive
 - d. Both (a) and (b) above
 - e. Both (a) and (c) above.
13. Which of the following approaches to compute the cost of equity capital assumes that actual returns will be in line with the expected returns?
 - a. Realized Yield Approach
 - b. Bond Yield Plus Risk Premium Approach
 - c. Earnings-Price Ratio Approach
 - d. Dividend Capitalization Approach
 - e. Capital Asset Pricing Model
14. Which of the following is/are **not true**?
 - I. If credit standards are made more stringent, sales are likely to decrease and less amount of money will be locked up in receivables
 - II. If credit period is lengthened, sales are likely to increase but bad debt losses are likely to decrease
 - III. If cash discount is increased, discount paid is likely to increase and amount of receivable is likely to reduce.
 - a. Only (II) above
 - b. Only (III) above
 - c. Both (I) and (II) above
 - d. Both (II) and (III) above
 - e. Both (I) and (III) above
15. Other things remaining the same, which of the following would increase the Economic Order Quantity (EOQ)?
 - I. Increase in the Annual usage of material
 - II. Increase in the fixed cost per order
 - III. Increase in the carrying cost
 - a. Only (I) above
 - b. Only (II) above
 - c. Only (III) above
 - d. Both (I) and (II) above
 - e. Both (I) and (III) above.
16. Which of the following is **not** an assumption made under the Modigliani and Miller approach for explaining the irrelevance of dividends 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.

17. Which of the following is/are spontaneous source(s) of financing current assets?
- Note lending
 - Trade credit
 - Cash credit
 - Letter of credit
 - Both (a) and (b) above.
18. Which of the following is/are feature(s) of a conservative working capital financing policy?
- A conservative policy has a higher proportion of equity and a lower proportion of bank borrowings
 - The debt servicing cost in case of a conservative policy is very high
 - The cost of financing in case of a conservative working capital policy will be high
 - The risk of technical insolvency is high in case of a conservative policy.
- Only (I) above
 - Both (I) and (III) above
 - Both (II) and (IV) above
 - (I), (II) and (III) above
 - (II), (III) and (IV) above.
19. Which of the following **does not** indicate the use of short-term funds to finance long-term investments?
- Net working capital is negative
 - Total long term financing exceeds total long term investment
 - Current ratio is less than one
 - Current liabilities exceed current assets
 - Total long-term investment exceeds total long term financing.
20. Consider the following projects.
- Project B which has a Net Benefit Cost Ratio less than one but more than zero.
 - Project C whose present value of inflows is less than the present value of outflows.
 - Project D which has a cost of capital less than the internal rate of return.
 - Project E which has the highest annual capital charge compared to all other projects.
- Which of the projects mentioned above can be accepted?
- Only (I) above
 - Both (I) and (III) above
 - Both (III) and (IV) above
 - (II), (III) and (IV) above
 - (I), (III), and (IV) above.
21. Which of the following statements is/are **true** regarding Earnings Price Ratio Approach?
- The ratio assumes that the growth in EPS is constant
 - The results are accurate when the dividend pay-out ratio is 100 percent
 - The results are accurate when the retained earnings are expected to earn a rate of return more than the cost of equity
- Only (I) above
 - Only (II) above
 - Both (I) and (II) above
 - Both (II) and (III) above
 - All (I), (II) and (III) above.

22. Which of the following is a feature of secured premium note (SPN)?
- It is a kind of non-convertible debenture with an attached warrant
 - It allows the investors to subscribe to the equity of a third firm at a preferential price via-a-vis the market price.
 - It is a partly convertible debenture with an attached warrant
 - It is also known as zero coupon convertible note
 - It is an example of a perpetual preference share.
23. Which of the following approaches support(s) the existence of a unique optimal capital structure?
- Traditional approach
 - Net operating Income Approach
 - Net Income Approach
 - All of the above
 - Both (a) and (c) above.
24. Which of the following statements about stock-out acceptance factor is/are **true**?
- It depends on the stock-out percentage specified.
 - Other things remaining the same, an increase in the stock-out acceptance factor would increase the reorder point
 - It depends on the probability distribution of usage that is assumed to follow a binomial distribution.
- Only (I) above
 - Only (II) above
 - Only (III) above
 - Both (I) and (II) above
 - Both (I) and (III) above.
25. Under which of the following financing arrangements do the banks assume the risk of default while the credit is provided by the supplier?
- Letter of credit
 - Overdraft arrangement
 - Discounting of bills
 - Recourse factoring
 - Both (a) and (b) above.
26. An ageing schedule gives particulars about
- Profit and present value
 - Accounts receivable and proportion of sales
 - Employees and age of their service
 - Age-wise distribution of accounts receivable
 - Current ratio and the corresponding year.
27. Which of the following statements is **false** regarding Internal Rate of Return (IRR)?
- It takes into account the time value of money
 - It considers the cash flow stream over the entire investment horizon
 - It gives misleading results while choosing between mutually exclusive projects that differ significantly in terms of outlays.
 - It is always uniquely defined even in the case of projects having a cash flow stream that consists of one or more cash outflows interspersed with cash inflows
 - IRR is the rate of return at which NPV is zero.

28. Which of the following statements is/are **true** with respect to the ABC system of inventory management?
- I. The 'A' category items are those which have the lowest rupee investment.
 - II. The category 'C' consists of the largest number of items accounting for small rupee investment.
 - III. Control of the 'C' items should be most intensive.
- a. Only (I) above
 - b. Only (II) above
 - c. Only (III) above
 - d. Both (II) and (III) above
 - e. Both (I) and (III) above.
29. Which of the following statements is/are **true** regarding 'Numerical Credit Scoring'?
- a. It is a method for computing the cash discount to be extended to the customer
 - b. It is a method of computing the credit period
 - c. It is an index that is used to study the creditworthiness of a customer
 - d. It is an index used to study the efficiency of the credit standards of the firm
 - e. It is a technique for evaluating the effort of a company in collecting the receivables.
30. Which of the following is/are **not** features of an optimal capital structure?
- I. The company should make minimum use of leverage to entail minimum cost
 - II. The company should be flexible to be able to meet the changing conditions
 - III. The capital structure should involve maximum dilution of control
- 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.
31. Which of the following statements is **true**?
- a. Participating debentures are secured corporate debt securities
 - b. Preference shares are identical to equity shares except in respect of voting rights
 - c. A portion of partly convertible debenture is converted into equity after a specified period
 - d. A secured premium note (SPN) is similar to a fully convertible debenture
 - e. A debenture is a non-marketable legal contract.
32. Which of the following is/are **true** regarding aggressive approach to investment in current assets?
- I. The investment in current assets for a given level of forecast sales will be higher
 - II. A company following this approach is subjected to a higher degree of risk than a company following conservative approach
 - III. The turnover of current assets will be less
- a. Only (II) above
 - b. Only (III) above
 - c. All (I), (II) and (III) above
 - d. Both (I) and (III) above
 - e. Both (II) and (III) above.
33. 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 fourth day after invoicing
 - d. No cash discount is offered from the eleventh day onwards after the date of purchase
 - e. 4% cash discount is awarded for payment on the 30th day after purchase

34. Which of the following is/are **not true** regarding private placement of securities?
- I. It involves selling out a significant portion of securities to an investor or a group of investors with a view to make a public issue within an agreed time frame.
 - II. It involves fewer procedural difficulties.
 - III. It enables the companies to have faster access to funds.
- a. Only (I) above
 - b. Both (I) and (II) above
 - c. Both (I) and (III) above
 - d. Both (II) and (III) above
 - e. None of the above.
35. Which of the following is **not** an assumption under Gordon's Dividend Capitalization Model?
- a. The cost of equity capital for the firm remains constant.
 - b. The growth rate of the company remains constant.
 - c. The firm has an infinite life.
 - d. The new investment proposals will be financed by issuing external equity.
 - e. Retained earnings is the only source of financing.
36. 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.
37. Which of the following is/are **true**?
- I. When taxes are considered, the higher the leverage, the higher will be the value of the firm
 - II. When bankruptcy costs are considered, the required rate of return is lower for a levered firm than for an unlevered firm.
 - III. When agency costs are considered, the value of the firm decreases as level of debt increases
- a. Only (I) above
 - b. Only (III) above
 - c. Both (I) and (II) above
 - d. Both (I) and (III) above
 - e. Both (II) and (III) above
38. Which of the following **does not** form part of the total carrying costs?
- a. Cost of insurance
 - b. Rent of warehouse
 - c. Salaries of storekeeper
 - d. Cost of obsolescence
 - e. Cost of transportation of materials ordered for.

39. Which of the following statements is/are **not true** regarding the cash flows used in capital budgeting decisions?
- I. Cash flows must be measured in incremental terms
 - II. Cash flows should consider sunk costs and opportunity costs.
 - III. Allocated overhead costs should be ignored
- a. Only (I) above
 - b. Only (II) above
 - c. Only (III) above
 - d. Both (I) and (II) above
 - e. Both (II) and (III) above.
40. The rational expectations model of dividend policy says that
- a. Since the expectations of the investors are always rational, there will be no effect of dividend policy on the valuation of the firm
 - b. If the investors have rational expectations, they will value a dividend paying firm higher than a non-dividend paying firm
 - c. If the investors have rational expectations, they will value a non-dividend paying firm higher than a dividend paying firm
 - d. If the declared dividend is in line with the expectations of the investors, there will be no effect on the valuation of the firm
 - e. If the declared dividend is in accordance with the expectations of the investors, the value of the firm will fall by the extent of dividend paid.

END OF PART A

Section B : Problems (60 Points)

- This section consists of questions with serial number 41 - 69.
- Answer all questions.
- Points are indicated against each question.

41. If the average daily usage of material is 144 units, lead time for procuring materials is 25 days, average number of units per order is 2,500 units and the reorder level is 8,100, the stock-out acceptance factor is

- a. 1.0
- b. 1.2
- c. 1.3
- d. 1.5
- e. 2.3.

(1 point)

42. The following information is given for a project:

(Rs.)

Year	0	1	2	3
Initial Investment	-(2,10,000)			
Profit After Tax		30,000	45,000	75,000

The ARR for the project is

- a. 59.96%
- b. 54.56%
- c. 47.62%
- d. 43.56%
- e. 39.80%.

(2 points)

43. The probability that a customer pays for the first order is 70%. In case the customer pays for the first order, the probability of default in case of a repeat order is likely to be 15%. If the revenue from each order is Rs.80,000 and the associated cost is Rs.50,000, what is the total net weighted benefit from the order?

- a. Rs.12,600
- b. Rs.13,000
- c. Rs.14,546
- d. Rs.18,600
- e. Rs.19,867.

(2 points)

44. The following information is given about the debentures issued by M/s. X Ltd.:

Face Value	=	Rs.100
Rate of interest	=	10% p.a.
Amount realized per debenture	=	Rs.96
Corporate tax rate	=	40%

Debenture is redeemable at a premium of 2% after 6 years. The difference between the redemption price and the net amount realized can be written off over the life of the debenture and the amount so written off is tax-deductible. The cost of debenture capital is

- a. 4.56%
- b. 6.45%
- c. 6.67%
- d. 7.86%
- e. 7.86%.

(2 points)

45. If the tax rate on stock income is 20%, the tax rate on debt income is 25% and the corporate tax rate is 40%, the tax advantage associated with a debt capital of Rs.6,00,000 is

a. Nil
b. Rs.2,16,000
c. Rs.2,62,500
d. Rs.3,84,000
e. Rs.5,62,500.

(2 points)

46. Consider the following data regarding a product:

Total cost of ordering and carrying inventory	Rs.785
Quantity per order	5,000 units
Carrying cost	2% of the purchase price
Fixed cost per order	Rs.95
Purchase price	Rs.10.

The annual usage of the material is

a. 12,000 units
b. 14,000 units
c. 15,000 units
d. 16,000 units
e. 17,000 units.

(2 points)

47. The cum-rights price per share is Rs.48 and the theoretical value of the right is Rs.4. The subscription price at which the rights are issued is Rs.36 per share. The number of existing shares required for a rights share is

a. 5
b. 4
c. 3
d. 2
e. 1.

(1 point)

48. If the average stock of work-in-process is Rs.55.75 lakhs and the average conversion period is 3 days, the annual cost of production (assuming 360 days in a year) is

a. Rs.5,670 lakhs
b. Rs.6,690 lakhs
c. Rs.7,690 lakhs
d. Rs.8,650 lakhs
e. Rs.9,870 lakhs.

(1 point)

49. The sales figures for M/s. Y Ltd. are as follows:

Month	Sales in Rs.
November 2002	60,000
December 2002	70,000
January 2003	75,000

The receivables from the credit sales are expected to be collected in the following manner: 20% of the receivables are collected in the month of sales, 50% of the sales are collected one month after the month of sale and 30% after two months from the date of sale. The total cash receipts from sales in the month of January are

a. Rs.55,000
b. Rs.35,000
c. Rs.60,000
d. Rs.68,000
e. Rs.70,000.

(1 point)

50. The EOQ for a firm is 7,200 units. The minimum order size stipulated by the supplier is 9000 units for utilizing a cash discount on the purchase price. The annual usage of raw materials is 1,80,000 units and the cost per order is Rs.100. If the company decides to utilize cash discount, saving in the total ordering cost will be
- Rs.1000
 - Rs. 800
 - Rs. 600
 - Rs. 500
 - Rs. 400.

(1 point)

51. The following information regarding the equity shares of M/s. Venus Ltd. is given:

Market Price	=	Rs.17.00
DPS	=	Rs. 3.00
Multiplier	=	3.40

According to the traditional approach to the dividend policy, the EPS for M/s. Venus Ltd., is

- Rs.2
- Rs.4
- Rs.5
- Rs.6
- Rs.8.

(1 point)

52. The average daily usage rates of an inventory, lead time and their respective probabilities are as follows:

Daily Usage Rate (in units)	Probability	Lead time (in days)	Probability
150	0.20	20	0.60
360	0.50	35	0.40
450	0.30		

The possible usage levels at which stock-outs can occur and the probability of stock-out respectively are

- 3,000 units, 5,250 units and 7,200 units and 50%
- 5,250 units, 7,200 units and 9,000 units and 56%
- 9,000 units, 12,600 units and 15,750 units and 50%
- 5,250 units, 9,000 units and 12,600 units and 46%
- 7,200 units, 9,000 units and 12,600 units and 68%.

(4 points)

53. M/s. Deepak Autospares Ltd has forecast its sales to be as follows:

Month	July	August	September
Sales (Rs.)	5,00,000	6,00,000	4,00,000

Purchases amount to 70% of the following month's sales and are paid in the following month of purchase. Wages and administrative expenses per month amount to Rs.50,000 and Rs.60,000 respectively and are paid in the month in which they are incurred. Depreciation and amortization of preliminary expenses amount to Rs.70,000 and Rs.30,000 respectively. If the opening cash balance during July is Rs.50,000 and the receipts from sales during the months July and August are Rs.4,50,000 and Rs.5,00,000 respectively, the closing cash balance at the end of the month of August is

- Rs.1,60,000
- Rs.1,20,000
- Rs. 10,000
- Rs. 30,000
- Rs. 80,000.

(3 points)

54. Following details are given about M/s. Klear Ltd.:

Annual credit sales	Rs.37,000
Opening balance of accounts receivable	Rs.16,000
Closing balance of accounts receivable	Rs.22,000

(Assume 1 year = 360 days)

The average collection period is approximately

- a. 156 days
- b. 175 days
- c. 185 days
- d. 200 days
- e. 214 days.

(1 point)

55. Following details are available about the irredeemable preference shares issued by M/s. Peecee Ltd.:

Dividend	14%
Face value per share	Rs.100 per share
Floatation costs involved	3%
Tax rate applicable	26%

The cost of preference capital is

- a. 10.68%
- b. 13.58%
- c. 14.00%
- d. 14.43%
- e. 21.43%.

(1 point)

56. If the net benefit cost ratio is 0.2, the net present value is Rs.2,000, the present value of the cash inflows associated with the project is

- a. Rs. 9,800
- b. Rs.10,000
- c. Rs.12,000
- d. Rs.13,200
- e. Rs.14,000.

(2 points)

57. The following information is given about M/s. SK. Ltd.

	(Rs.)		
	Year 1	Year 2	Year 3
DPS (Dividend Per Share)	2.50	3.00	3.00
Price per share at the beginning of the year	13	15	16.00

If the price per share at the beginning of the fourth year is Rs.14, the realized yield over the period of 3 years is

- a. 12.50%
- b. 21.91%
- c. 22.52%
- d. 27.06%
- e. 34.50%.

(2 points)

58. The current assets of a company are Rs.645 lakhs, current liabilities (other than bank borrowings) are Rs.305 lakhs, bank borrowings are Rs.307 lakhs. The Maximum Permissible Bank Finance (MPBF) under the methods I and II of the Tandon committee are respectively
- Rs.255.00 lakhs and Rs.178.75 lakhs
 - Rs.315.67 lakhs and Rs.123.65 lakhs
 - Rs.255.00 lakhs and Rs.123.65 lakhs
 - Rs.212.34 lakhs and Rs.123.65 lakhs
 - Rs.255.00 lakhs and Rs.111.23 lakhs.

(2 points)

59. 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 plans 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. Assuming Modigliani and Miller approach and the company is planning to issue 5000 new shares, the existing number of outstanding shares of the company is
- 12,286 shares
 - 12,682 shares
 - 13,125 shares
 - 14,500 shares
 - 15,000 shares.

(3 points)

60. M/s. VG India Ltd is considering to invest in a printing machine the details of which are as follows:

Cost of machine	Rs.25,00,000
Annual cost of operations	Rs. 2,00,000
Useful life	9 years

The annual capital charge of the machine at a cost of capital of 12% is

- Rs.4,69,219
- Rs.4,77,778
- Rs.5,49,113
- Rs.6,69,219
- Rs.8,07,057.

(2 points)

61. M/s. Excel Printers Ltd currently uses a machine whose book value is Rs.12 lakhs and has a remaining useful life of 5 years and a salvage value of Rs.2 lakhs at the end of the useful life.

EPL is proposing to replace the machine by a new machine costing Rs.20 lakhs and has a useful life of 5 years and salvage value of Rs.4 lakhs at the end of 5 years. The new machine is expected to reduce the annual operating costs by Rs.50,000 and increase the annual income by Rs.1,00,000. The old machine if sold now can realise Rs.9 lakhs. EPL follows straight line 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

- Rs.20 lakhs, Rs.3.38 lakhs
- Rs.11 lakhs, Rs.3.38 lakhs
- Rs.11 lakhs, Rs.4.10 lakhs
- Rs.20 lakhs, Rs.2.10 lakhs
- Rs.11 lakhs, Rs.2.10 lakhs.

(3 points)

62. The following details are available regarding the long term sources of finance of M/s. VK Ltd.:

Source of finance	Range of new financing from the source (Rs. crores)	Cost %
Equity	0 – 10	14
	10 – 20	15
	20 & above	16
Preference	0 – 2	13
	2 & above	14
Debt	0 – 12	8
	12 – 18	9
	18 & above	10

The company is considering to expand its operations and requires Rs.50 crores for the same. It is planning to raise in the following proportions:

Equity shares	0.4
Debt	0.4
Preference shares	0.2

The weighted marginal cost of capital of new financing in the range of Rs.25 crores – 30 crores is

- 11.4%
- 12.0%
- 12.8%
- 13.0%
- 13.2%.

(3 points)

63. Consider the following data of M/s. MNC Ltd for the year 2002-03:

Market value of debt	Rs.1,00,000
Interest	Rs.10,000
Net operating income	Rs.34,000
Cost of equity	16%

If debt-equity ratio increases to 3:4, the new cost of equity according to net operating income approach is

- 11.14%
- 13.60%
- 16.30%
- 16.00%
- 18.70%.

(3 points)

64. Consider the following data:

Gross operating cycle	80 days
Net operating cycle	55 days
Raw-material storage period	40 days
Conversion period	2 days
Finished goods storage period	20 days

The average collection period is

- 7 days
- 18 days
- 22 days
- 25 days
- 37 days.

(1 point)

65. Consider the following data:

Raw-material storage period	50 days
Average stock of raw materials	Rs.6,51,000
Average balance of trade creditors	Rs.2,65,000

Assume 360 days in a year and all purchases are made on credit.

If the closing stock of raw-materials is 10% higher than the opening stock of raw-materials, the average payment period is

- a. 15 days
- b. 18 days
- c. 20 days
- d. 25 days
- e. 30 days.

(3 points)

66. M/s. National Instruments Ltd. (NIL) purchases components from M/s. Pioneer Electronics Ltd. (PEL) on the terms 1/10, net 45. NIL has requested for an increase in the cash discount to 2%, the period of cash discount remaining unchanged. PEL has accordingly increased the cash discount and also changed the credit period. On careful verification, NIL realizes that on account of change in the credit period, the cost of not paying within the discount period is now three times the cost before the change in terms.

The new credit period approximately is

- a. 28 days
- b. 30 days
- c. 34 days
- d. 40 days
- e. 45 days.

(3 points)

67. Currently, M/s. Fine Components Ltd sells 30,000 units at an average price of Rs.28,000 per unit. The variable cost is 90% of the selling price. The credit terms of the company are 1/20, net 30. 10% of the customers avail the discount and the average collection period is 26 days. The bad-debts to sales ratio is 0.015.

To increase the sales level, the finance manager has suggested to change the credit terms to 2/10, net 30. With the new policy sales are expected to increase by 4000 units and 40% of the old customers and 60% of the new customers are expected to avail the discount. The average collection period and bad debt to sales ratio are expected to remain the same.

The net benefit (ignoring taxes) of the new policy is

- a. Rs. 23.00 lakhs
- b. Rs. 31.36 lakhs
- c. Rs. 39.76 lakhs
- d. Rs. 53.20 lakhs
- e. Rs.107.00 lakhs.

(3 points)

68. The finance manager of M/s. Easy Credits Ltd. is considering to change its credit terms of 1/10, net 20 to 1/10, net 30. With the change in the credit period it expects the sales to increase from Rs.30 lakhs to Rs.50 lakhs and average collection period from 36 days to 45 days. The contribution margin is 30% of the selling price.

Assuming a cost of capital of 12%, the increase in the cost of funds locked in receivables is

- a. Rs.12,000
- b. Rs.18,000
- c. Rs.30,000
- d. Rs.39,600
- e. Rs.52,500.

(2 points)

69. M/s. Y2K03 Industries Ltd. is considering a project which will entail the following revenues and expenses:

(Rs. in lakhs)

Year	1	2	3	4	5
Profit before tax	12	15	18	18	16
Depreciation	4	4	4	4	4
Interest on short-term loan	3	3	3	3	3
Interest on term loan	1.2	0.96	0.72	0.48	0.24
Repayment of term loan	2	2	2	2	2

The following additional information is provided for year 2:

Total expenses include allocated costs of Rs.1,00,000.

A machine if not used for this project could earn an income of Rs.50,000.

If the tax rate is 40%, the net cash flow during year 2 is

- a. Rs.11.876 lakhs
- b. Rs.14.860 lakhs
- c. Rs.15.876 lakhs
- d. Rs.16.476 lakhs
- e. Rs.17.676 lakhs.

(3 points)

END OF SECTION B

Suggested Answers

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Section A : Basic Concepts

1. Answer : (d)

Reason : The choice of liquidity mix is governed by a variety of factors such as uncertainty surrounding cash flow projections, attitude of the management towards risk and ability to raise non-bank funds and/or control its cash flows.

When a company does not have access to non-bank funds it should have a high proportion of cash and less of inter corporate deposits and marketable securities.

Hence, statement (I) is not true.

When the degree of uncertainty is high, the company should have more proportions of cash balances and less of inter corporate deposits. Hence, statement III is not true.

When the attitude of the management towards risk is quite conservative the liquidity mix chosen tends to have a higher proportion of cash balance and marketable securities and a lower proportion of inter corporate deposits. Hence, statement II is true and the answer is (d).

2. Answer : (e)

Reason : Accounting rate of return or the book rate of return does not take the time value of money into consideration. Hence, answer is (e) defined as Average Profit after tax divided by Average Book Value of the instrument.

Net present value is the present value of cash inflows minus present value of cash outflows. BCR is defined as present value of future cash flows divided by initial investment. IRR is the rate of interest at which NPV is equal to zero. Annual capital charge is the equivalent annual cost associated with a project. Hence, annual capital charge, internal rate of return, benefit cost ratio, and net present value are appraisal criteria that consider the time value of money.

3. Answer : (c)

Reason : Under the maturity factoring arrangement, the factor does not make any pre-payment. The factor pays the client either on a guaranteed payment date or on the date of collection from the customer. Hence option (c) is correct.

Recourse factoring and non-recourse factoring refer to the loss arising out of irrecoverable receivables. If the loss is borne by the client it is referred to as recourse factoring and if it is borne by the factor it is referred to as non-recourse. In both these arrangements the factor may or may not make an advance payment to the client. In invoice discounting the factor provides to a prepayment to the client against the purchase of accounts receivables and does not provide any service.

Hence, recourse factoring, non-recourse factoring, invoice discounting are factoring arrangements in which the factor may or may not make an advance payment to the client.

4. Answer : (c)

Reason : According to Walter's approach, when the internal rate of return is less than the cost of capital, the firm should distribute the earnings as dividends, because in such a case the investors will have a better investment opportunity than the firm. In such a situation, the price of the share will increase with increase in the dividend payout ratio. Consequently, the optimal dividend payout ratio that will maximize the price of the share in this case will be 100%. Hence options (a), (b), (d) and (e) are incorrect and option (c) is the answer.

5. Answer : (b)

Reason : When the payment float is greater than the collection float, it implies that the balance in the books of the company is less than that in the bank's books because of certain cheques issued by the company that are still not paid by the bank. In such a case, the firm can play the float. Hence, statement III is true. Collection float can be defined as the amount of cheques deposited by a company in the bank awaiting clearance. Payment float indicates the amount of cheques issued by a company, awaiting payment by the bank.

Hence, statement I is not true. When collections float is more than the payment float, the company is said to have negative net float. Hence statement II is also not true and the answer is (b).

6. Answer : (e)

Reason : According to net operating income approach, the overall capitalization rate and cost of debt remain constant for all degrees of leverage. As long as k_d remains constant, the cost of equity is a constant linear function of the debt-equity ratio. Hence, statements I, III and IV are correct. So (e) is the correct answer.

7. Answer : (d)

Reason : Commercial paper is a short-term, unsecured promissory note issued by companies having a high credit rating. Hence option (d) is the answer.

Secured premium notes, partially convertible debentures, cumulative preference shares and lease arrangement are long-term sources of finance.

8. Answer : (b)

Reason : Preference shares have the following features:

- i. Preference shareholders earn a fixed rate of dividend.
- ii. The dividends received by preference shareholders are not tax-deductible.
- iii. Preference shareholders have preference over equity shareholders to the post-tax earnings in the form of dividends, and assets in the event of liquidation.
- iv. With the commencement of Companies Act, 1956, the issue of preference shares with voting rights has been restricted to the following cases:
 - when there are arrears in dividends for two or more years in case of cumulative preference shares.
 - when preference dividend is due for a period of two or more consecutive preceding years.
 - when in the preceding six years including the immediately preceding financial year, the company has not paid the preference dividend for a period of three or more years.

Hence statement I and III are the features and II is not feature of preference shares and the answer is (b).

9. Answer : (a)

Reason : The operating cycle = Raw material storage period + Conversion period + Finished goods storage period + Average collection period – Average payment period

Hence increase in the raw material storage period will increase the duration of the operating cycle and decrease in average collection period, decrease in the conversion period and increase in the average payment period will decrease the operating cycle. Hence (a) is the correct choice.

10. Answer : (b)

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 (b) is incorrect.

11. Answer : (e)

Reason : Annual capital charge is an appraisal criterion that is useful in evaluating mutually exclusive projects providing similar service but having differing patterns of cost and often unequal life spans. The other appraisal criteria do not give consistent results in cases where differing patterns of costs and life spans exist.

12. Answer : (a)

Reason : Under speculative motive, firms maintain cash balances in order to take advantage of opportunities that do not arise in the ordinary course of business. Hence, option (a) is correct.

Precautionary motive indicates the amount of cash maintained to meet some unexpected contingencies and transaction motive indicates the amount of cash that is maintained to meet the day-to-day transactions of the firm.

13. Answer : (a)

Reason : Realized yield approach assumes that

- (i) The actual returns are in line with the expected return.
- (ii) The investors will continue to have the same expectations from the security.

Hence (a) is the correct answer.

Bond yield plus Risk Premium Approach is based on the logic that the risk borne by the equity holders is more than that of the bondholders and hence return required by equity holders should be more than the bondholders. According to earnings price ratio, cost of equity is E/P based on the assumption that the EPS will remain constant. Dividend capitalization approach defines cost of equity as the rate at which the intrinsic value is equal to the market price of the share. According to CAPM cost of equity is defined as Risk free rate + Beta of the stock (Market Return – Risk-free rate).

Hence, (a) is the answer.

14. Answer : (a)

Reason : If credit period is lengthened, more customers are induced to take the credit and the sales tend to increase and there are more chances of bad debts occurring. Hence, statement II is not true. If credit standards are made more straight, sales are likely to reduce as the customers are expected to fulfill the rigid credit standards specified by the company. With the decrease in the sales, the money blocked in receivables will also reduce and hence, statement I is true. If cash discount is increased, the amounts of discount paid tend to increase even when same proportion of customers avail the discount. As many customers tend to avail the discount and pay within the discount period the amount blocked in receivables will be less. Hence, statement III is true and the answer is (a).

15. Answer : (d)

Reason : EOQ is computed as:

$$EOQ = \sqrt{\frac{2UF}{PC}},$$

Where U is the annual usage, F is the fixed cost per order, P is the purchase price and C is the carrying cost expressed as a percentage of purchase price. Hence increase in the annual usage of raw material and the fixed cost per order would increase the EOQ but increase in the carrying costs (other things remaining the same) decrease the EOQ.

Hence, only I and II increase EOQ, therefore (d) is the answer.

16. 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 flotation 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.

17. Answer : (b)

Reason : Spontaneous sources of financing current assets refer to those liabilities which average in the normal course of business. For example, earned expenses, provisions and trade credit are spontaneous liabilities, Hence, (b) is the answer.

Note lending i.e. taking loan against a promissory note, cash credit in which the customer is permitted to borrow upto a pre-fixed limit and letter of credit in which bank takes the responsibilities to pay to the supplier or its bank in case its customer fail to make the payment, all are examples of short-term finance given by the banks.

18. Answer : (b)

Reason : A conservative working capital financing policy will have a higher proportion of equity (and to certain extent debentures) and a lower proportion of bank borrowings. It will have a low-debt servicing cost compared to an aggressive policy and consequently a lower degree of the risk of technical insolvency. However, the cost of financing will be high as the cost of equity is the highest and it does not provide tax benefit which the interest on borrowed capital provides to the company.

Hence option (b) is the correct choice as the statements I and III are the features of a conservative working capital policy.

19. Answer : (b)

Reason : When total long term financing exceeds total long term investment the excess of long term financing over total long term investments is used to finance the other uses which are not of a long term nature. All other alternatives than (b) represent the use of short term funds for long term investments.

20. Answer : (b)

Reason : A project will be accepted under the following situations:

- i. When the Benefit Cost Ratio of the project is greater than one and the Net Benefit Ratio of the project is greater than zero.
- ii. 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).
- iii. When the project's internal rate of return is greater than the firm's cost of capital
- iv. 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.

21. Answer : (b)

Reason : Earnings price ratio approach assumes that the EPS is constant. This approach gives accurate results when either all earnings are paid out as dividends or retained earnings are expected to earn a rate of return equal to the cost of equity. Hence, statement II is true, I and III are incorrect and the answer is (b).

22. Answer : (a)

Reason : Secured premium note is a kind of non-convertible debenture with an attached warrant. The warrant attached to the SPN gives the holder the right to apply for and get allotment of equity shares.

Hence, option (a) is the correct choice.

23. Answer : (e)

Reason : According to the Net income approach and traditional approach, the optimal capital structure would occur at a point where the value of the firm is maximum and the overall cost of capital is minimum. Hence, option (e) is the correct choice.

According to Net operating income approach, the overall cost of capital remains constant throughout all degrees of leverage. Hence, as per the approach there is no unique optimal capital structure.

24. Answer : (d)

Reason : Reorder point = $S \times L + F\sqrt{S \times R \times L}$

- S = Usage in units
L = Lead time in days
R = Average number of units per order
F = Stock out acceptance factor

Hence an increase in the stock-out acceptance factor would increase the reorder point. Hence statement II is correct.

The stock-out acceptance factor, 'F', depends on the stock-out percentage rate specified and the probability distribution of usage which is assumed to follow a Poisson distribution. Hence statement I is correct but statement III is incorrect.

Therefore option (b) is the answer as both statements I and II are correct.

25. Answer : (a)

Reason : Letter of credit is opened by a bank in favour of its customer, undertaking the responsibility to pay to the supplier (or the supplier's bank) in case the customer fails to make payment for the goods purchased from the supplier within the stipulated time. Under the letter of credit arrangement the bank assumes the risk while the supplier provides the credit.

Hence, option (a) is the correct choice.

Under the Overdraft arrangement, the bank permits customer to overdraw upto a specified limit. It operates against security offered by the customer in the form of pledge of shares and securities, assignment of life insurance policies and sometimes even mortgage of fixed assets.

Under the discounting of bills arrangement, the bank provides finance to the customer either by outright purchasing or discounting the bills arising out of sale of finished goods.

Under recourse factoring, the factor provides finance by purchasing the receivables but on the condition that any loss arising out of irrecoverable receivables will be borne by the client.

26. Answer : (d)

Reason : The age-wise distribution of accounts receivables at a given time is depicted in the ageing schedule. Hence, (d) is the answer.

27. Answer : (d)

Reason : Internal rate of return is the rate at which the present value of inflows is equal to the present value of cash outflows. Statement (d) is incorrect because when a project has a cash flow stream that consists of one or more cash outflows interspersed with cash inflows, it will not have a unique IRR but will have multiple IRRs. Hence option (d) is the answer. IRR is the return at which $NPV = 0$. Therefore option (e) is correct. IRR is a discounted cash flow technique, therefore it takes into account time value of money. Hence option (a) is correct. Option (b) is also correct as IRR takes into account all the cash flows arising over the period of investment.

Under the IRR criterion, a project is accepted only if the $IRR >$ the cost of capital otherwise it is rejected. Hence statement (c) is also correct.

28. Answer : (b)

Reason : The ABC system segregates the inventory of a firm into three groups: A, B and C.

The C group consists of a large number of items accounting for a small rupee investment. Hence, (II) is true. The items under the group A have the largest rupee investment. Hence, statement (I) is incorrect. Control of A items should be most intensive. Hence, (III) is incorrect and answer is (b).

29. Answer : (c)

Reason : Numerical credit scoring is an index based on several factors that is used to study the creditworthiness of a customer. It is the weighted sum of the facts that ostensibly have a bearing on the credit worthiness of the customer. Hence (c) is the correct choice.

30. Answer : (d)

Reason : An optimal capital structure should make maximum use of leverage at a minimum cost and involve minimum dilution of control. Hence, statement I and III are not the features and (d) is the answer.

An optimal capital structure should be flexible to be able to meet the changing conditions. Hence, statement II is a feature of optimal capital structure.

31. Answer : (c)

Reason : Convertible debentures are convertible into equity of the issuer at a pre-specified time. Of the debenture is a partly convertible debenture, a portion of the debenture is converted and the balance will be redeemed. Hence, (c) is correct.

Participating debentures are unsecured corporate debt securities. Hence, (a) is incorrect. Preference shares have some features identical to equity and some identical to debentures. They differ from equity in the payment of dividends and have preference over equity in the event of liquidation. Hence (b) is incorrect. A secured premium note is a kind of NCD with an attached warrant. Hence, (d) is incorrect.

A debenture is a marketable legal contract. Hence (e) is also incorrect and the answer is (c).

32. Answer : (a)

Reason : The investment in current assets for a given level of forecasted sales will be lower if the management follows an aggressive attitude than when it follows a conservative attitude. Accordingly, the company following aggressive attitude is subjected to a higher degree of risk, imparts lower liquidity and has a higher turnover of assets than followed by a conservative attitude. Hence, (a) is the answer.

33. 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 the answer.

34. Answer : (a)

Reason : The private placement method of financing involves direct selling of securities to a limited number of institutional or high networth investors. This avoids the delay involved in going public and also reduces the expenses involved in a public issue.

The major advantage of privately placing the securities are:

- Easy access to any company
- Fewer procedural formalities
- Lower issue cost
- Access to funds is faster.

Hence statements (II) and (III) are true but statement (I) is incorrect and the answer is (a).

35. Answer : (d)

Reason : Gordon's dividend capitalization approach makes the following assumptions:

- i. The firm will be an all-equity firm with the new investment proposals being financed solely by the retained earnings.
- ii. Return on investment (r) and the cost of equity capital (k_e) remain constant.
- iii. Firm has an infinite life
- iv. The retention ratio remains constant and hence the growth rate also is constant ($g = br$).
- v. $k > br$ i.e. cost of equity capital is greater than the growth rate.

Hence all statements except statement (d) are correct. Therefore (d) is the answer.

36. Answer : (e)

Reason : 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:

- (1) 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".
- (2) 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".
- (3) 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.

37. Answer : (d)

Reason : M&M hypothesis explains the irrelevance of leverage on value of a firm. It is based on assumptions like no taxes, no flotation and traditional costs, etc. If taxes are considered, the value of the levered firm is equal to the value of the unlevered firm increased by the tax shield associated with debt. That means greater the leverage, greater the value of the firm.

Hence, statement I is true.

The probability of bankruptcy for a levered firms is higher than for unlevered firm.

The expected cost of bankruptcy increases when the debt-equity ratio increases. Investors expect a higher rate of return from a firm which is faced with the prospect of bankruptcy, as bankruptcy costs represent a loss that cannot be diversified away. Whenever creditors are approached by a firm to obtain debt capital, they impose certain restriction on the firm in the form of some protective covenants incorporated in the loan contract.

The above said restrictions generally entail legal and enforcement costs which also impairs the operating efficiency of the firm. All these costs referred to as monitoring costs or agency costs, detract from the value of the firm.

Monitoring costs are a function of the level of debt in the capital structure. When the amount of debt is considerably less, then the creditors may limit their monitoring activity. But if the level of debt is high, then they may insist on continuous monitoring which entails substantial costs.

38. Answer : (e)

Reason : Carrying costs are the expenses incurred for storing goods. These costs include insurance, rent/depreciation of warehouse, salaries of storekeeper and security personnel, financing cost of money locked up in inventories, obsolescence, spoilage and taxes.

Hence options (a), (b), (c) and (d) are included in carrying costs.

Transportation costs of materials will be a part of the ordering costs and not carrying costs. Hence, option (e) is the answer.

39. Answer : (b)

Reason : While computing cash flows for capital budgeting decisions the following have to be considered:

The cash flows must be measured in incremental terms. In other words, the increments in the present levels of costs and benefits that occur on account of the adoption of the project are alone relevant for the purpose of determining the net cashflows. Hence statement I is correct.

While computing cash flows, sunk costs i.e. the costs which have already been incurred should be ignored and opportunity costs should be included. Hence, statement II is incorrect.

Allocated overhead costs should be ignored while computing the same. Hence statement III is also correct and the answer is (b).

40. Answer : (d)

Reason : According to the rational expectations model of dividend policy if the declared dividend is in line with the expectations of the investors, there will be no effect on the valuation of the firm.

Section B : Problems

41. Answer : (d)

Reason : Reorder level = $S \times L + F \sqrt{S \times L \times R}$

Where S is usage in units, L is lead time in days,

F is the stock-out acceptance factor and R is the average number of units per order

Therefore, $8,100 = 144 \times 25 + F \sqrt{144 \times 25 \times 2500}$

Hence $F=1.5$.

42. Answer : (c)

Reason : Average annual income = $(30,000 + 45,000 + 75,000)/3 = \text{Rs. } 50,000$

Average net book value of investment = $(2,10,000+0)/2 = \text{Rs. } 1,05,000$.

Accounting rate of return = $(50,000/1,05,000) \times 100 = 47.62\%$

43. Answer : (d)

Reason : Net benefit from the first order = $0.7 \times 30,000 - 0.3 \times 50,000 = \text{Rs. } 6,000$

Net weighted benefit from the repeat order = $0.7 (0.85(30,000) - 0.15(50,000)) = \text{Rs. } 12,600$

Total benefit = $\text{Rs. } 6,000 + \text{Rs. } 12,600 = \text{Rs. } 18,600$

44. Answer : (c)

Reason : Cost of debt capital when the difference between the redemption price and the net amount realized can be written off over the life of the debenture and the amount so written off is tax-deductible, is given by

$$k_d = \frac{I(1-t) + \frac{(F-P)}{n}(1-t)}{\frac{(F+P)}{2}} = \frac{10(1-0.40) + \frac{(102-96)}{6}(1-0.40)}{\frac{(102+96)}{2}} = 0.06666 \text{ or } 6.67\%$$

45. Answer : (d)

Reason : Tax advantage associated with debt capital = $\left[1 - \frac{(1-t_c)(1-t_{ps})}{(1-t_{pd})} \right] \times B$

$$= \left[1 - \frac{(1-0.4)(1-0.20)}{(1-0.25)} \right] \times 6,00,000 = \text{Rs. } 2,16,000.$$

46. Answer : (c)

Reason : Total costs associated with inventory = Ordering cost + carrying cost

$$= \frac{U}{Q} \times F + \frac{QPC}{2}$$

where U is the annual usage

Q is the quantity ordered

F is fixed cost per unit

P is the purchase price per unit

C is the carrying cost expressed as a percentage of the purchase price.

$$\text{Hence, } 785 = \frac{U}{5,000} \times 95 + \frac{5000 \times 10 \times 0.02}{2}$$

Hence, U = 15,000 units.

47. Answer : (d)

Reason : The theoretical value of a right = $\frac{P_0 - S}{N + 1}$ where P₀ is the cum-rights price, S is the

subscription and N is the number of shares required for a rights share. Hence, $4 = \frac{48 - 36}{N + 1}$

Therefore, N=2.

48. Answer : (b)

Reason : Average conversion period = $\frac{\text{Average stock of work-in-process}}{\text{Average daily cost of production}}$

Average daily cost of production = 55.75 lakhs/3

Hence, annual cost of production = 360 x 55.75 lakhs/3 = Rs. 6690 lakhs.

49. Answer : (d)

Reason : Amount collected in the same month = 20% x 75,000 = Rs 15,000

Amount collected from previous month's sale = 50% x 70,000 = Rs. 35,000

Amount collected from the sales that occurred in the month of November = 30% x 60,000 = Rs. 18,000.

Hence, the total cash receipts in the month of January = 15,000 + 35,000 + 18,000 = Rs.68,000.

Hence, the correct option is (d).

50. Answer : (d)

Reason : If the U is the annual usage, Q* is the EOQ ; Q' is the order stipulated by the supplier for availing the discount and F is the cost per order, then the savings in the total ordering costs can

be computed as: $\left[\frac{U}{Q^*} - \frac{U}{Q'} \right] \times F = \left[\frac{1,80,000}{7,200} - \frac{1,80,000}{9,000} \right] \times 100 = \text{Rs. } 500$

Hence option (d) is correct.

51. Answer : (d)

Reason : The traditional approach to dividend policy establishes a relationship between the market price and the dividends in the following manner:

$$P = m(D + E/3)$$

where, m is a multiplier, D is the Dividend Per Share (DPS) and E is the Earnings Per Share (EPS).

$$\text{Hence, } 17 = 3.4 (3 + E/3)$$

So E = Rs. 6.

Hence, option (d) is the correct choice.

52. Answer : (c)

Reason : The possible levels of usage and their corresponding probabilities are computed in the following table:

Daily Usage Rate		Lead Time		Possible levels of usage	
Units	Probability	Number of days	Probability	Possible Usage Levels = (Column 1 x Column 3)	Probability = (Column 2 x Column 4)
150	0.2	20	0.6	3,000	0.12
		35	0.4	5,250	0.08
360	0.5	20	0.6	7,200	0.30
		35	0.4	12,600	0.20
450	0.3	20	0.6	9,000	0.18
		35	0.4	15,750	0.12

Normal Usage during lead time = Average Daily Usage rate x Average Lead Time

Average Daily Usage rate = $150 \times 0.20 + 360 \times 0.50 + 450 \times 0.30 = 345$ units.

Average Lead Time = $20 \times 0.6 + 35 \times 0.4 = 26$ days

Normal Usage during lead time = $345 \times 26 = 8,970$ units.

Stock outs will occur if the usage is above 8,970 units. From the table computed above, we can infer that stock-outs will occur when the usage levels are 12,600 (with probability 0.20); 9,000 (with probability 0.18) and 15,750 (with probability 0.12). The total probability of stockout is $0.2 + 0.18 + 0.12 = 50\%$. Hence, (c) is the answer.

53. Answer : (c)

Reason : (Rs.)

	July	August
Opening balance	50,000	40,000
+ Receipts from sales	4,50,000	5,00,000
	5,00,000	5,40,000
– Wages and administration	1,10,000	1,10,000
– Purchases paid	3,50,000	4,20,000
Closing cash balance	40,000	10,000

Closing cash balance at the end of August = Rs.10,000 and answer is (c).

54. Answer : (c)

Reason : Average Collection Period: It is computed as:

$$\begin{aligned}
 & \frac{\text{Average balance of sundry debtors}}{\text{Average daily credit sales}} \\
 & \text{Average balance of sundry debtors} = \\
 & \frac{\text{Opening balance of accounts receivable} + \text{Closing balance of accounts receivable}}{2} \\
 & = \frac{16,000 + 22,000}{2} = \text{Rs. } 19,000.
 \end{aligned}$$

$$\text{Average daily credit sales of the company} = \frac{\text{Annual credit sales}}{360} = \frac{37,000}{360} \\ = \text{Rs. } 102.78$$

$$\text{Hence, average collection period} = \frac{19,900}{102.78} \approx 185 \text{ days.}$$

55. Answer : (d)

Reason : Cost of irredeemable Preference Shares,

$$k_p = \frac{\text{Preference dividend}}{\text{Price realised per share}}$$

$$\text{Price realised per share} = 100 (1 - 0.03) = \text{Rs. } 97 = \frac{14}{97} = 14.433\%$$

56. Answer : (c)

$$\text{Reason : Net Benefit Cost Ratio (NBCR)} = \frac{\text{NPV}}{\text{Initial Investment}}$$

$$\text{Hence initial investment} = \frac{\text{NPV}}{\text{NBCR}} = \frac{2,000}{0.2} = \text{Rs. } 10,000.$$

We know that NPV = Present value of inflows – Initial investment

Hence, Present value of inflows = NPV + initial investment = 2,000 + 10,000 = Rs 12,000.

Hence the correct option is (c).

57. Answer : (b)

Reason : The realized yield over a period of three years can be computed as: $(W_1 \times W_2 \times W_3)^{1/3} - 1$
Where, W_1 , W_2 and W_3 are the wealth ratios in the years 1, 2 and 3 respectively.

Wealth ratio in the year t can be computed as: $\frac{D_t + P_t}{P_{t-1}}$ where D_t is the dividend paid in the year t, P_t is the price at the end of year t and P_{t-1} is the price at the beginning of the year t.

$$\text{Hence wealth ratio for year 1} = \frac{2.5 + 15}{13} = 1.346$$

$$\text{Wealth ratio for year 2} = \frac{3.0 + 16}{15} = 1.267$$

$$\text{Wealth ratio for year 3} = \frac{3.0 + 14}{16} = 1.0625$$

Hence realized yield over a period of three years

$$= (1.346 \times 1.267 \times 1.0625)^{1/3} - 1 = 0.2191 \text{ or } 21.91\%$$

Hence option (b) is correct.

58. Answer : (a)

Reason : The MPBF as per the Method I of the Tandon committee = 0.75 (Current assets – Current liabilities other than bank borrowings) = 0.75 (645 – 305) = Rs. 255 lakhs.

MPBF under the Method-II of the Tandon committee = (0.75 x Current assets) – Current liabilities = 0.75 x 645 – 305 = Rs. 178.75 lakhs.

Hence option (a) is the correct answer.

59. Answer : (c)

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

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

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.

60. Answer : (d)

$$\text{Reason : Annual capital charge} = \frac{\text{PV of costs}}{\text{PVIFA}_{k,n}}$$

$$\text{ACC of the machine} = \frac{25,00,000 + 2,00,000 \text{ PVIFA}_{12,9}}{\text{PVIFA}_{12,9}}$$

$$= \frac{25,00,000}{\text{PVIFA}_{12,9}} + 2,00,000 = \text{Rs.}6,69,219$$

Hence, (d) is the answer.

61. Answer : (b)

Reason : Net incremental cash flow during year 0 is

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

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

Net incremental cash flow during year 5 is

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

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

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

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

Net incremental cash flow during year 5

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

Hence, answer is (b).

62. Answer : (b)

Reason : Calculation of breaking point:

Source of finance	Cost (%)	Range of new financing	Breaking point	Range of total new financing
		(Rs. in crores)	(Rs. in crores)	(Rs. in crores)
Equity	14	0 – 10	10/0.4 = 25	0 – 25
	15	10 – 20	20/0.4 = 50	25 – 50
	16	20 and above	–	50 and above
Preference	13	0 – 2	2/0.2 = 10	0 – 10
	14	2 and above	–	10 and above
Debt	8	0 – 12	12/0.4 = 30	0 – 30
	9	12 – 18	18/0.4 = 45	30 – 45
	10	18 and above	–	45 and above

If the new financing is in the range of Rs.25 – 30 crores

Cost of equity = 15%

Cost of preference = 14%

Cost of debt = 8%

Weighted marginal cost of capital in the above range

$$= 0.15 \times 0.4 + 0.14 \times 0.2 + 0.08 \times 0.4 = 12\%$$

Hence, answer is (b).

63. Answer : (c)

Reason : Cost of capital, $k_0 = k_d (B/B + S) + k_e (S/B+S)$

Where k_d is the cost of debt

B is the market value of debt

S is the market value of equity

k_e is the cost of equity

$$k_d = \frac{\text{Interest}}{B} = \frac{10,000}{1,00,000} = 0.1$$

Equity earning = NOI – Interest

$$= 34,000 - 10,000 = \text{Rs.}24,000$$

$$k_e = \frac{\text{Equity earnings}}{S}$$

$$0.16 = \frac{24,000}{S}$$

$$\text{Therefore, } S = \frac{24,000}{0.16} = \text{Rs.}1,50,000$$

$$\text{Cost of capital } k_0 = 0.1 \times \frac{1,00,000}{2,50,000} + 0.16 \times \frac{1,00,000}{2,50,000} = 13.6\%$$

According to NOI approach, k_0 and k_d are constant

$$\text{and } k_e = k_0 + (k_0 - k_d) B/S$$

$$= 13.6 + (13.6 - 10) \frac{3}{4} = 16.3\%$$

Hence, (c) is the answer.

64. Answer : (b)

$$\begin{aligned}\text{Reason : Average collection period} &= \text{Gross operating cycle} - (\text{RM storage period} + \text{Conversion period} \\ &\quad + \text{FG storage period}) \\ &= 80 - (40 + 2 + 20) = 18 \text{ days.}\end{aligned}$$

65. Answer : (c)

Reason : Raw material storage period

$$= \frac{\text{Average stock of raw materials}}{\text{Daily consumption of RMs}}$$

$$\text{Daily consumption of RMs} = \frac{6,51,000}{50} = \text{Rs.}13,020$$

$$\text{Annual consumption} = 13,020 \times 360 = \text{Rs.}46,87,200$$

$$\text{Annual consumption} = \text{Opening stock} + \text{purchases} - \text{closing stock}$$

$$\text{Average stock of RMs} = \frac{\text{Opening} + \text{Closing}}{2}$$

$$\text{Where opening stock} = S \text{ and Closing stock} = 1.1 S$$

$$6,51,000 = \frac{S + 1.1S}{2}$$

$$S = \text{Rs.}6,20,000 = \text{Opening stock}$$

$$\text{Closing stock} = \text{Rs.}6,82,000$$

$$\text{Annual consumption} = 6,20,000 + P - 6,82,000$$

$$46,87,200 = 6,20,000 + P - 6,82,000$$

$$P = 47,49,200$$

$$\text{Average payment period} = \frac{\text{Average balance of creditors}}{\text{Purchases} / 360} = \frac{2,65,000}{47,49,200 / 360} = 20 \text{ days}$$

66. Answer : (c)

$$\begin{aligned}\text{Reason : Cost of trade credit} &= \frac{\text{discount}}{1 - \text{discount}} \times \frac{360}{\text{Credit period} - \text{discount period}} \\ &= \frac{0.01}{0.99} \times \frac{360}{45 - 10} = 10.39\%\end{aligned}$$

$$\text{New cost of trade credit} = 3 \times 10.39 = 31.17\%$$

$$\frac{0.02}{0.98} \times \frac{360}{x - 10} = 31.17\%$$

$$\text{Solving } x = \frac{512.733}{15.2733} = 33.5 = 34 \text{ days}$$

67. Answer : (c)

Reason : Net benefit = $\Delta P - \Delta \text{Dis}$

$$\text{Increase in profit} = 4,000 \times 0.1 \times 28,000 = \text{Rs.}112 \text{ lakhs}$$

Cost of discount (old credit terms) :

$$0.1 \times 28,000 \times 30,000 \times 0.01 = \text{Rs.}8.4 \text{ lakhs}$$

Cost of discount (new credit terms)

$$\begin{aligned}0.4 \times 28,000 \times 30,000 \times 0.02 + 0.6 \times 28,000 \times 4,000 \times 0.02 \\ = 67.2 + 13.44 = \text{Rs.}80.64 \text{ lakhs}\end{aligned}$$

$$\text{Net benefit} = 112 - 80.64 + 8.4 = \text{Rs.}39.76 \text{ lakhs.}$$

68. Answer : (c)

Reason : Increase in the receivables

$$\begin{aligned} &= \Delta S \times \frac{ACP_N}{360} \times VC + S_0 \times \frac{ACP_N - ACP_0}{360} \\ &= 20 \times \frac{45}{360} \times 0.7 + 30 \times \frac{45 - 36}{360} \\ &= 1.75 + 0.75 = \text{rs.2,50,000 lakhs} \end{aligned}$$

Cost of funds blocked = $k\Delta I$

$$= 0.12 \times 2.5 = \text{Rs.30,000}$$

69. Answer : (a)

Reason : According to principle of costs and benefits of a project, allocated costs should be ignored and opportunity costs should be included. In the given case, allocated costs of Rs.1,00,000 should be added to PBT and Rs.50,000 should be deducted.

$\therefore$ NCF during year 2

$$= (\text{PBT} + 1 - 0.5) 0.6 + \text{Depreciation} + \text{Interest on TL} (1 - t) - \text{TL repayment}$$

$$= (15 + 1 - 0.5) 0.6 + 4 + 0.96 \times 0.6 - 2 = \text{Rs.11.876 lakhs.}$$