

Question Paper

Financial Management-II (142): January 2007

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

1. Which of the following financial instruments is useful for companies seeking to bolster network without losing [management control](#)?

- (a) Debt-equity swaps
- (b) Detachable equity warrants
- (c) Participating debentures
- (d) Non-voting shares
- (e) Secured premium notes.

(1 mark)

2. Which of the following statements is **true**?

[Answer](#)

- (a) Equity capital provides capital with unlimited liability for repayment
- (b) Preference shareholders have preference over equity shareholders in the pre-tax earnings of the firm
- (c) Companies issuing debentures with any maturity have an obligation to create a debenture redemption reserve
- (d) In case of convertible debentures with options, the coupon rate is specified at the time of the issue
- (e) Non-convertible debentures can be redeemed at any time before maturity.

(1 mark)

3. Which of the following statements with respect to bought-out deals is/are **not true**?

[Answer](#)

- I. It involves direct selling of securities to a limited number of institutional or high networth investors.
- II. The issue price usually reflects the intrinsic value of a company's share.
- III. It involves selling of additionally issued equity shares to existing shareholders on a prorata basis.

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

(1 mark)

4. Which of the following statements is **true** with respect to the costs of different sources of finance?

[Answer](#)

- (a) The cost of retained earnings is more than the cost of external equity
- (b) The cost of external equity is always less than the cost of debt capital
- (c) The cost of term loans is always equal to the interest rate applicable to the term loan
- (d) The cost of retained earnings is equal to the cost of equity capital
- (e) The cost of capital of a firm is the sum of the costs of the different sources of finance.

(1 mark)

5. Which of the following is **not** a feature of an optimal capital structure?

[< Answer >](#)

- (a) Profitability
- (b) Flexibility
- (c) Liquidity
- (d) Control
- (e) Solvency.

(1 mark)

6. Which of the following statements is **not true** regarding the net operating income approach to capital structure?

[< Answer >](#)

- (a) The overall capitalization rate remains constant for all degrees of leverage
- (b) The market value of the firm depends on its net operating income and business risk
- (c) As the firm increases its degree of leverage, the cost of equity decreases
- (d) The cost of debt remains constant for all degrees of leverage
- (e) There is no optimal capital structure.

(1 mark)

7. Which of the following statements is **true** with respect to the capital structure theory as stated by Miller & Modigliani?

[< Answer >](#)

- (a) The total market value of the firm depends on the degree of leverage
- (b) If the given assumptions hold good, the cost of capital is minimized at the optimal capital structure
- (c) If agency costs are considered, the expected agency costs decrease as the debt equity ratio increases
- (d) In the presence of taxes, the market value of the firm is decreased by the tax shield of debt
- (e) If bankruptcy costs are considered, the expected cost of bankruptcy increases as debt-equity ratio increases.

(1 mark)

8. Which of the following statements is/are **true** regarding Earnings Price Ratio Approach?

[< Answer >](#)

- 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)

9. Hotel Keerti International Ltd., has an internal rate of return of 12% and the investors' required rate of return for the company's share is 10%. Which of the following statements is/are **true** regarding the company as per the Walter's model for dividend policy?

[< Answer >](#)

- I. The firm is a growth firm.
 - II. The firm can retain all the earnings and pay no dividends at all.
 - III. There is a positive relationship between the value of the firm and the payout ratio.
- (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)

10. 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.

(1 mark)

11. Which of the following would increase the value of the share according to the Gordon's dividend discount model? [< Answer >](#)

- I. Increase in earnings per share.
- II. Increase in the retention ratio.
- III. Decrease in the cost of equity capital.
- IV. Decrease in the return on investment.

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

(1 mark)

12. Which of the following is/are **true** with respect to a conservative working capital financing policy? [< Answer >](#)

- I. A conservative policy has a higher proportion of equity and a lower proportion of bank borrowings.
- II. The debt servicing cost in case of a conservative policy is very high.
- III. The cost of financing in case of a conservative working capital policy will be high.
- IV. The risk of technical insolvency is high in case of a conservative policy.

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

(1 mark)

13. Which of the following measures would prevent a situation of overtrading in a company? [< Answer >](#)

- (a) Reducing the debt equity ratio
- (b) Hastening the collection process
- (c) Reducing the levels of inventory
- (d) Increasing the asset base
- (e) Increasing the sales.

(1 mark)

14. Which of the following statements is **true** with respect to undertrading? [< Answer >](#)

- (a) Having low amount of working capital
- (b) High turnover of working capital
- (c) Sales are less compared to the assets employed
- (d) Assets are less compared to the sales generated
- (e) Low growth in sales.

(1 mark)

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

[< Answer >](#)

- (a) Working capital margin is the difference between the gross working capital and current liabilities
- (b) Negative net working capital implies that short-term funds are used to finance long-term assets
- (c) A current ratio of less than one implies that short-term assets are financed by long-term sources of funds
- (d) The larger the working capital turnover, the higher the return on net operating capital employed
- (e) A high turnover of inventory is an indication of over-trading.

(1 mark)

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

[< Answer >](#)

- 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)

17. Which of the following types of factoring **does not** carry the service elements of factoring?

[< Answer >](#)

- (a) Recourse Factoring
- (b) Full Factoring
- (c) Maturity Factoring
- (d) Invoice Discounting
- (e) Non-Recourse Factoring.

(1 mark)

18. Which of the following statements is **not true** regarding the Tandon Committee recommendations?

[< Answer >](#)

- (a) The credit limit is bifurcated into loan credit and demand cash credit
- (b) The loan component comprises of irreducible minimum level of borrowing, which is expected to be used throughout the year
- (c) The loan component carries interest throughout the year
- (d) The rate of interest on the loan component is higher than the rate of interest on the cash credit component
- (e) The rate of interest chargeable on excess borrowing converted into a term loan is higher than that under cash credit component.

(1 mark)

19. Which of the following is **not** an assumption of the basic economic order quantity model?

[< Answer >](#)

- (a) Purchase price per unit is constant
- (b) Carrying cost per unit is constant
- (c) Ordering cost per order declines as the order size increases
- (d) Delivery is instantaneous
- (e) Demand is uniform over the planning period.

(1 mark)

20. Which of the following is/are advantages of the ABC system of inventory management? [< Answer >](#)

- I. The stock turnover rate can be maintained at a comparatively higher level through scientific control of inventories.
 - II. It ensures closer control on costly items.
 - III. It analyzes the items according to their importance in the production process.
- (a) Only (I) above
 - (b) Only (II) above
 - (c) Both (I) and (II) above
 - (d) Both (I) and (III) above
 - (e) Both (II) and (III) above.

(1 mark)

21. Which of the following statements about stock-out acceptance factor is **true**? [< Answer >](#)

- (a) It keeps track of the goods held by the firm, the issuance of goods and arrival of orders
- (b) It is same as the stock-out cost
- (c) It is directly related to the stock-out percentage specified
- (d) Other things remaining the same, an increase in the stock-out acceptance factor would decrease the reorder point
- (e) It depends on the probability distribution of usage that is assumed to follow a poisson distribution.

(1 mark)

22. Which of the following **does not** form part of the total carrying costs? [< Answer >](#)

- (a) Cost of insurance
- (b) Rent of warehouse
- (c) Salaries of storekeeper
- (d) Cost of transportation of materials ordered for
- (e) Financing cost of money locked up in inventories.

(1 mark)

23. Which of the following statements is **true** regarding 'Numerical Credit Scoring'? [< Answer >](#)

- (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.

(1 mark)

24. Which of the following methods of valuing inventories uses the value that is realizable at the time of issue for pricing of raw material? [< Answer >](#)

- (a) First-In-First-out
- (b) Last-In-First-out
- (c) Weighted Average Cost Method
- (d) Standard Price Method
- (e) Replacement Method.

(1 mark)

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

[< Answer >](#)

- 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.

(1 mark)

26. Which of the following is/are **true** in the context of playing the float?

[< Answer >](#)

- I. The amount of cheques issued by the company, which are awaiting payment by the bank, is called payment float.
 - II. If the payment float is greater than the collection float, the company is said to have a positive net float.
 - III. When the payment float is less than the collection float the cash balance as per the books of the company is less than the cash balance as per the books of the bank.
- (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)

27. Which of the following statements is **not true** with respect to the investment of surplus cash?

[< Answer >](#)

- (a) If the degree of uncertainty surrounding cash flow projections is low, the companies will be tilted more towards marketable securities and intercorporate deposits
- (b) If the attitude of the management towards risk is conservative, the portfolio tends to have a higher proportion of intercorporate deposits
- (c) 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
- (d) Safety level of cash for normal periods is the product of desired days of cash and the average daily cash outflows
- (e) Safety level of cash for peak periods is the product of desired cash at the business period and the average highest daily cash outflows.

(1 mark)

28. The opening balance of Jayashree Enterprises Ltd. with its bank on a particular day is Rs.20,000. The company daily deposits cheques amounting to Rs.40,000, which take two days for realization. Also it issues cheques amounting to Rs.30,000 daily, which take four days for clearance. The net float to the company on 6th day is

[< Answer >](#)

- (a) –Rs.10,000
- (b) –Rs.20,000
- (c) Rs.20,000
- (d) Rs.30,000
- (e) Rs.40,000.

(2 marks)

29. Which of the following elements of internal audit judges the efficiency and effectiveness of the system when put into operation? [< Answer >](#)

- (a) Totality
- (b) Expertize
- (c) Independence
- (d) Objectivity
- (e) Utility.

(1 mark)

30. Which of the following statements is **true** for a project with a positive NPV? [< Answer >](#)

- (a) IRR exceeds the cost of capital
- (b) The discount rate exceeds the IRR
- (c) BCR is less than 1
- (d) NBCR is less than zero
- (e) Accepting the project that has an indeterminate effect on shareholders.

(1 mark)

31. Consider the following projects. [< Answer >](#)

- I. Project A, which has a Net Benefit Cost Ratio less than one but, more than zero.
- II. Project B whose present value of inflows is less than the present value of outflows.
- III. Project C, which has a cost of capital less than the internal rate of return.
- IV. Project D, 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) (II), (III) and (IV) above
- (e) (I), (III) and (IV) above.

(1 mark)

32. The current market price of Aditya Industries Ltd. is Rs.75. The earnings of the firm are Rs.5,00,000 and there are 50,000 shares outstanding. The company's cost of capital and the return on investment are 15% and 16% respectively. The dividend yield on the company's shares using Gordon's dividend policy is [< Answer >](#)

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

(2 marks)

33. Which of the following is **true** with respect to a secured premium note (SPN)? [< Answer >](#)

- (a) It is a partly convertible debenture with an attached warrant
- (b) It is also known as zero coupon convertible note
- (c) It is an example of a perpetual preference share
- (d) It is a kind of non-convertible debenture with an attached warrant
- (e) It allows the investors to subscribe to the equity of a third firm at a preferential price vis-à-vis the market price.

(1 mark)

34. The current price of a share of Komala Industries Ltd. is Rs.60. The company is planning to go for rights issue. The subscription price for one rights share is proposed to be Rs.52. If the company targets that the ex-rights value of a share shall not fall below Rs.58, they should issue 1 rights share for every _____ equity shares. [< Answer >](#)

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

(1 mark)

35. Mahati Software Ltd. has 20,00,000 debentures of Rs.100 each which are redeemable at a premium of 6% after five [< Answer >](#) years. The coupon rate on these debentures is 10.8% and the current yield on these debentures is 11.25%. If the tax rate applicable to the firm is 40%, the cost of debentures for the firm is

- (a) 7.94%
- (b) 8.40%
- (c) 8.97%
- (d) 9.44%
- (e) 9.98%.

(1 mark)

36. Preeti industries Ltd. issued 12% preference shares (face value Rs.1,000) whose dividend would be paid annually. [< Answer >](#) The current market price of the shares is Rs.975 and would be redeemed at a premium of 4% after 12 years. If the cost of preference capital for the company is 14.8% as per the approximation method, what is the dividend yield to the preference shareholders?

- (a) 12.37%
- (b) 13.76%
- (c) 14.74%
- (d) 15.37%
- (e) 15.87%.

(2 marks)

37. Two firms Veta Ltd. and Xeta Ltd. are similar in all respects except that Xeta Ltd. uses Rs.12,00,000 debt in its [< Answer >](#) capital structure. If the corporate tax rate for these firms is 40%, the value of Xeta Ltd. exceeds that of Veta Ltd. by

- (a) Rs.4,00,000
- (b) Rs.4,80,000
- (c) Rs.5,20,000
- (d) Rs.6,40,000
- (e) Rs.7,20,000.

(1 mark)

38. Swathi Electronics Ltd.'s capital structure consists of debentures, preference shares and equity shares in the proportions of 3:2:5 respectively. The costs of various sources of finance are as follows: [< Answer >](#)

Post-tax cost of debentures	11.45%
Cost of preference shares	10.5%
Cost of equity capital	13%

The company is contemplating introduction of further capital to meet the expansion needs by seeking 14% term loan from a financial institution. As a result of this proposition, the proportions of debentures, preference shares and equity would get reduced by 1/10, 1/15 and 1/6 respectively. The company falls in the tax bracket of 40%. In the light of the above, what is the change in the weighted average cost of capital?

- (a) -0.245%
- (b) -1.212%
- (c) -1.115%
- (d) 1.215%
- (e) 1.245%.

(2 marks)

39. Mohit Industries follows a strict residual dividend policy. The company has a capital budget of Rs.80 lakh. It has a target capital structure, which consists of 40 percent debt and 60 percent equity. The company has 2 lakh shares outstanding. The company forecasts that its net income will be Rs.60 lakh. If the multiplier were 6, the market price of the company's share as per Graham-Dodd model would be [< Answer >](#)

- (a) Rs. 80
- (b) Rs. 96
- (c) Rs.106
- (d) Rs.112
- (e) Rs.136.

(2 marks)

40. The market value of debt and equity of a firm are Rs.160 lakh and Rs.240 lakh and the costs of equity and debt are 16% and 14% respectively. Assuming the firm follows 100% dividend payout ratio and there is no income tax, corporate or personal, the net operating income for the firm is [< Answer >](#)

- (a) Rs.54.4 lakh
- (b) Rs.56.8 lakh
- (c) Rs.60.8 lakh
- (d) Rs.63.2 lakh
- (e) Rs.64.8 lakh.

(2 marks)

41. Lalit Techno Enterprises Ltd is a leading hardware supplier for the computer industry. The following table shows the [income statement](#) of the company for the year-ended 2005-06.

(Rs. in lakh)	
Sales	1,050
Cost of sales	600
Net operating income	450
Interest	150
Earnings to equity holders	300

The cost of debt and the overall cost of capital for the company are 15% and 18% respectively. What is the cost of equity for the company assuming that the net operating income to capital structure is applicable?

- (a) 14%
- (b) 15%
- (c) 18%
- (d) 20%
- (e) 21%

(2 marks)

42. Consider the following information about Sharda Enterprises Ltd.

[income statement](#)

Overall capitalization rate	14.5%
Capitalization rate for debt	12%
Market value of debt	Rs.1,200 lakh
Market value of firm	Rs.4,000 lakh

If the company wants to ensure that the equity capitalization rate does not exceed 16%, by what amount should the firm increase/decrease its borrowings in terms of market value? (Assume that the net operating income approach holds good).

- (a) Rs.300 lakh
- (b) Rs.350 lakh
- (c) Rs.380 lakh
- (d) Rs.420 lakh
- (e) Rs.480 lakh.

(2 marks)

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

[income statement](#)

Opening balance of accounts receivable	Rs.16,000
Closing balance of accounts receivable	Rs.22,000
Average collection period	185 days

(Assume 1 year = 360 days)

The annual credit sales for the company are approximately

- (a) Rs.35,000
- (b) Rs.36,972
- (c) Rs.40,000
- (d) Rs.42,186
- (e) Rs.45,000.

(2 marks)

44. Consider the following data:

[< Answer >](#)

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

- (a) 7 days
- (b) 18 days
- (c) 22 days
- (d) 25 days
- (e) 37 days.

(1 mark)

45. Consider the following data:

[< Answer >](#)

Raw-material storage period	50 days
Average stock of raw materials	Rs.6,51,000
Average balance of trade creditors	Rs.2,65,000
Work-in-process period	35 days
Finished goods storage period	28 days
Average collection period	18 days

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 operating cycle period is

- (a) 85 days
- (b) 98 days
- (c) 111 days
- (d) 125 days
- (e) 130 days.

(2 marks)

46. Consider the following information:

[< Answer >](#)

	(Rs.)
Annual consumption of raw material	20,000
Annual cost of production	25,000
Annual cost of sales	1,00,000
Average stock of finished goods	7,500
Average work-in-process	2,000

Assuming 360 days in a year, the average conversion period and finished goods storage period respectively are

- (a) 7.2 days; 14.6 days
- (b) 16.0 days; 20.4 days
- (c) 28.8 days; 27.0 days
- (d) 30.0 days; 32.2 days
- (e) 34.2 days; 37.8 days.

(2 marks)

47. Amrit Foods Ltd. has furnished the following selected assets and liabilities for the year ended 2005-06:

[< Answer >](#)

	(Rs.)		(Rs.)
Cash	45,000	Provision for taxation	57,000
Retained earnings	1,60,000	Expenses outstanding	21,000
Equity share capital	1,50,000	Land and building	3,00,000
Debtors	60,000	Goodwill	50,000
Inventory	1,11,000	Furniture	25,000
Debentures	1,00,000	Creditors	39,000

Net working capital for the company for the year 2005-06 was

- (a) Rs. 89,000
- (b) Rs. 99,000
- (c) Rs.1,09,000
- (d) Rs.1,59,000
- (e) Rs.2,16,000.

(1 mark)

48. Megatech Computers Ltd. plans to sell 30,000 units in the next year. The expected cost of goods is as follows:

[< Answer >](#)

Particulars	Rs. per unit
Raw material	100
Manufacturing expenses	30
Selling & Administrative expenses	20
Selling price	200

The duration of various stages of operating cycle is expected to be as follows:

Raw material stage	2 months
Work-in-process stage	1 month
Finished goods stage	½ month
Debtors stage	1 month

Raw material is 100% complete with respect to manufacturing expenses.

Work-in-process is 25% complete with respect to manufacturing expenses.

The investment in current assets is

- (a) Rs.13,92,500
- (b) Rs.14,12,500
- (c) Rs.14,31,250
- (d) Rs.14,87,250
- (e) Rs.15,12,250.

(2 marks)

49. Jyothi Fertilizers Ltd. purchased raw materials from its suppliers on credit for 45 days. However, the supplier has offered a discount of 2% on early payment. If the cost associated with such credit terms is 21.6%, the discount period is approximately (assume 360 days in a year)

[< Answer >](#)

- (a) 8 days
- (b) 11 days
- (c) 13 days
- (d) 15 days
- (e) 26 days.

(1 mark)

50. The balance of Guru Electricals Ltd., as on March 31, 2006 is as follows:

[< Answer >](#)

Particulars	Rs. lakh	Particulars	Rs. lakh
<u>Current Liabilities:</u>		<u>Current Assets:</u>	
Creditors for purchases 400		Raw materials	800
Other current liabilities <u>200</u>	600	Work-in-process	80
		Finished goods	360
Bank borrowings including bills discounted with bankers	800	Receivables including bills discounted with bankers	200
		Other current assets	40
Total	1,400	Total	1,480

Assume core current assets are Rs.380 lakh.

The Maximum Permissible Bank Financing (MPBF) as per the Methods I, II and III as suggested by Tandon Committee respectively are

- (a) Rs.225 lakh; Rs.510 lakh; Rs.660 lakh
- (b) Rs.325 lakh; Rs.510 lakh; Rs.620 lakh
- (c) Rs.525 lakh; Rs.610 lakh; Rs.760 lakh
- (d) Rs.660 lakh; Rs.510 lakh; Rs.225 lakh
- (e) Rs.700 lakh; Rs.620 lakh; Rs.300 lakh.

(3 marks)

51. The finance department of Rhino Industries Ltd. has furnished the following details:

[< Answer >](#)

Carrying costs per unit of inventory	20%
Fixed costs per order	Rs.20
Number of units required per year	30,000
Variable costs per unit ordered	Rs.2
Purchase price per unit	Rs.30

Assuming 365 days in a year, the number of orders in a year and the time gap between two orders would be

- (a) 54 orders; 4 days
- (b) 67 orders; 5 days
- (c) 70 orders; 6 days
- (d) 77 orders; 7 days
- (e) 85 orders; 8 days.

(2 marks)

52. If the annual usage of material is 7,20,000 units, lead-time for procuring material is 8 days, the average number of units per order is 400 units and the reorder level is 19,542 units, the stock out acceptance factor is (Assume 360 days in a year)

[< Answer >](#)

- (a) 1.0
- (b) 1.1
- (c) 1.2
- (d) 1.3
- (e) 1.4.

(1 mark)

53. Consider the following data regarding Excel Computers Ltd.

[< Answer >](#)

Carrying cost per unit	Rs.6
Cost per order	Rs.20
Number of orders per year	8

The total cost of maintaining an inventory of 400 units is

- (a) Rs.1,360
- (b) Rs.1,440
- (c) Rs.1,560
- (d) Rs.1,680
- (e) Rs.1,740.

(1 mark)

54. The EOQ for Aruna Industries Ltd. is 14,400 units. The minimum order size stipulated by one of its suppliers is 18,000 units for utilizing a cash discount of 5% on the purchase price of Rs.400. The annual usage of raw materials is 3,60,000 units, and the cost per order is Rs.200. What is the total incremental benefit to the company, if it decides to utilize cash discount?

[< Answer >](#)

- (a) Rs.62,05,000
- (b) Rs.67,01,000
- (c) Rs.72,01,000
- (d) Rs.81,01,000
- (e) Rs.87,07,000.

(2 marks)

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

[< Answer >](#)

Daily usage rate (in units)	Probability	Lead time (in days)	Probability
150	0.3	20	0.60
360	0.7	35	0.40

What is the total probability of stock-out?

- (a) 0.05
- (b) 0.12
- (c) 0.18
- (d) 0.28
- (e) 0.42.

(2 marks)

56. The probability that a customer pays for the first order is 75%. In case the customer pays for the first order, the probability of default in case of a repeat order is likely to be 20%. If the revenue from each order is Rs.1,20,000 and the associated cost is Rs.80,000, the total net weighted benefit from the order is

[< Answer >](#)

- (a) Rs.12,600
- (b) Rs.13,000
- (c) Rs.14,546
- (d) Rs.18,600
- (e) Rs.22,000.

(2 marks)

57. Newland Confectioneries Ltd., is considering enhancing its sales by extending credit to two more categories of customers – Category A with 10% risk of default and Category B with 20% risk of default. The incremental sales expected from category A customers is Rs.80,000, while from category B, it is Rs.1,00,000. The cost 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 [< Answer >](#)

- (a) Re.0 and Rs.10,000
- (b) Rs.14,000 and Rs.15,000
- (c) Rs.15,000 and Rs.14,000
- (d) Rs.20,000 and Rs.10,000
- (e) Rs.20,000 and Rs.30,000.

(2 marks)

58. The finance manager of Digital Electronics Ltd. is considering changing 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.50 lakh to Rs.80 lakh and the average collection period from 45 days to 54 days. The contribution margin is 25% of the selling price. Assuming a cost of capital of 14%, the increase in the cost of funds locked in receivables is [< Answer >](#)

- (a) Rs.24,567
- (b) Rs.38,550
- (c) Rs.46,450
- (d) Rs.59,600
- (e) Rs.64,750.

(2 marks)

59. Mercury Computers Ltd. dealing in computer hardware products has annual sales of [< Answer >](#) Rs.50 lakh and is currently extending 30 days credit to the dealers. The company, with an intention of increasing profits is considering increasing the average collection period from 30 days to 45 days. The variable costs amount to 80% of sales. With such a change, the sales are expected to increase to Rs.56 lakh. If the required rate of return is 20%, the incremental gain or loss to the company owing to a change in the credit policy is (Assume 360 days in a year)

- (a) Rs.47,440
- (b) Rs.58,550
- (c) Rs.66,340
- (d) Rs.77,660
- (e) Rs.86,660.

(2 marks)

60. Janco India Pvt. Ltd. is considering investing in a printing machine the details of which are as follows: [< Answer >](#)

Cost of machine	Rs.50,00,000
Annual cost of operations	Rs. 4,00,000
Useful life	9 years

The annual capital charge of the machine at a cost of capital of 13% is

- (a) Rs. 9,38,438
- (b) Rs. 9,55,556
- (c) Rs.10,98,226
- (d) Rs.13,74,279
- (e) Rs.16,14,114.

(1 mark)

61. If the net benefit cost ratio is 0.25, the net present value is Rs.4,000, the present value of the cash inflows associated with the project is [< Answer >](#)
- (a) Rs.18,600
 - (b) Rs.20,000
 - (c) Rs.24,000
 - (d) Rs.26,400
 - (e) Rs.28,000.

(1 mark)

62. Mr.Kiran, finance manager of Celine Technologies Ltd. is evaluating a project whose NPV is estimated to be 2.5 [< Answer >](#) times its initial investment. Which of the following statements is/are **true**?
- I. The profitability index of the project is 3.5.
 - II. The NBCR of the project is 4.5.
 - III. The project contributes to the maximization of shareholders' wealth.
 - IV. The present value of the cash outflows would be 3.5 times the present value of the cash inflows.
- (a) Both (I) and (II) above
 - (b) Both (I) and (III) above
 - (c) Both (II) and (III) above
 - (d) Both (II) and (IV) above
 - (e) All (I), (II), (III) and (IV) above.

(1 mark)

63. Mohan Enterprises Ltd. is considering an investment proposed to install new milling controls. The project will cost [< Answer >](#) Rs.50,000. The facility has a life expectancy of 5 years and no salvage value. The company's tax rate is 35% and no investment allowance is allowed. The firm uses straight-line method of depreciation. The estimated cash flows before depreciation and tax (CFBDT) from the proposed investment proposal are as follows:

Year	CFBDT (Rs.)
1	10,000
2	10,692
3	12,769
4	13,462
5	20,385

If the firm's discount rate is 12%, the NPV of the proposed investment is

- (a) -Rs.7,051
- (b) -Rs.8,769
- (c) Zero
- (d) Rs.7,656
- (e) Rs.8,805.

(2 marks)

64. A project costing Rs.5,60,000 is expected to produce annual net cash benefits of Rs.80,000 over a period of 15 years. [< Answer >](#) The IRR of the project is
- (a) 10.23%
 - (b) 11.51%
 - (c) 12.30%
 - (d) 13.76%
 - (e) 14.65%.

(1 mark)

65. Mohini Constructions Ltd. is contemplating to replace one of its bottling machines with a new machine. The old [Answer >](#) machine has a book value of Rs.10 lakh and a remaining useful life of five years. The company does not realize any return from scrapping the old machine at the maturity, but if it were sold now, it would receive Rs.6 lakh for it. The new machine has a purchase price of Rs.20 lakh. It has an estimated salvage value of Rs.2 lakh and a useful life of five years. The new machine will have a greater capacity and cash flows are expected to increase from Rs.10 lakh to Rs.12 lakh. Operating efficiencies with the new machine will also produce savings of Rs.2 lakh a year. Depreciation is on a straight-line basis. The company's cost of capital is 12% and the company falls in a tax bracket of 40%. The initial investments and the company's incremental annual cash flow after tax respectively are
- (a) Rs. 6,00,000; Rs.2,60,000
 - (b) Rs.14,00,000; Rs.2,60,000
 - (c) Rs.14,00,000; Rs.3,44,000
 - (d) Rs.20,00,000; Rs.3,44,000
 - (e) Rs.26,00,000; Rs.3,50,000.

(3 marks)

66. Cost of an investment is Rs.3,00,000 and it pays Rs.42,500 p.a. in perpetuity. If the implicit rate of interest is 12.5%, [Answer >](#) the net present value and the benefit cost ratio of the investment respectively are
- (a) -Rs.40,000; 0.57
 - (b) Rs.25,000; 0.83
 - (c) Rs.40,000; 1.13
 - (d) Rs.54,000; 1.20
 - (e) Rs.60,000; 1.23.

(2 marks)

67. Neha Associates Ltd. is likely to begin its operations from January 1, 2007 with Rs.20,000 lakh in the bank. During 2007, [Answer >](#) the firm expects monthly credit sales of Rs.24,000 lakh and cash sales of Rs.2,000 lakh. 90% of the credit sales would be collected in the first month following the month of sale and the remaining would be collected in the second month following the month of sale. The company incurs monthly expenses of Rs.10,000. The minimum balance of cash to be maintained is Rs.16,000. Any amount borrowed in a month is to be repaid in the month when there is excess money over minimum balance. The closing balance of cash at the month of February 2007 will be
- (a) Rs. 8,000 lakh
 - (b) Rs. 9,600 lakh
 - (c) Rs.19,600 lakh
 - (d) Rs.25,600 lakh
 - (e) Rs.41,000 lakh.

(2 marks)

68. The sales figures for M/s. Jamuna Industries Ltd., are as follows:

[< Answer >](#)

Month	Sales in Rs.
August 2006	1,20,000
September 2006	1,40,000
October 2006	1,50,000

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 October 2006 were

- (a) Rs. 70,000
- (b) Rs.1,10,000
- (c) Rs.1,30,000
- (d) Rs.1,36,000
- (e) Rs.1,40,000.

(2 marks)

69. The price per share of Amrit Dairy Products Ltd. as on March 31, 2005 and March 31, 2006 was Rs.125 and Rs.176 respectively. The company has declared a dividend of 25% during the year 2005-06. The face value of the company's share is Rs.10. The wealth ratio for the year 2005-06 was

[< Answer >](#)

- (a) 1.00
- (b) 1.04
- (c) 1.18
- (d) 1.32
- (e) 1.43.

(1 mark)

70. United Industries Ltd. has recently paid a dividend of Rs.3.60 per share. The earnings per share of the company for the current year is Rs.14.40 and the cost of equity capital of the company is 18%. It is assumed that Walter's model on dividend policy is applicable to the company. The existing market price per share of the company is Rs.65. What would be the percentage change in the market price of the company's share if the earnings per share increased to Rs.18 and the payout ratio is 40 percent?

[< Answer >](#)

- (a) -3.76%
- (b) -5.69%
- (c) 4.67%
- (d) 7.69%
- (e) 9.56%.

(2 marks)

71. Hari Fabricators Ltd. has 5 lakh equity shares outstanding which are selling at Rs.250 each. Its capitalization rate is 14%. The company is expecting Rs.80 lakh income for the current year and is planning to pay dividends amounting to Rs.20 lakh. The company wants to invest in a new project, which will cost Rs.120 lakh. It is assumed that the Miller and Modigliani model on dividend policy is applicable to the company. The price per share at the end of the current year and the number of shares to be issued for financing the investment respectively are

[< Answer >](#)

- (a) Rs.245; 21,053 shares
- (b) Rs.268; 21,154 shares
- (c) Rs.281; 21,352 shares
- (d) Rs.285; 21,352 shares
- (e) Rs.297; 21,563 shares.

(2 marks)

Suggested Answers

Financial Management-II (142): January 2007

1. Answer : (d) [<TOP>](#)
- Reason : Debt-equity swaps offer allows an issuer of debt to swap it for common stock. Alternative (a) is not true.
- Detachable equity warrants are issued with non-convertible debentures (NCDs) or other debt or equity instruments. Alternative (b) is not true.
- Participating debentures are unsecured corporate debt securities, which participate in the profits of a company. Alternative (c) is not true.
- Non-voting shares are useful for companies seeking to bolster network without losing management control. Alternative (d) is true.
- Secured premium notes are a kind of NCD with a warrant attached to it, which gives the holder the right to apply for and get allotment of the company's shares. Alternative (e) is not true.
- Hence (d) is the answer.
2. Answer : (d) [<TOP>](#)
- Reason : Equity capital provides capital with a limited liability for repayment. Statement (a) is not true.
- Preference shareholders have preference over equity shareholders in the post-tax earnings of the firm. Statement (b) is not true.
- Companies issuing debentures with maturity above 18 months have an obligation to create Debenture redemption Reserve (DRR). Statement (c) is not true.
- In case of convertible debentures with options, the coupon rate is specified at the time of the issue. Statement (d) is true.
- Non-convertible debentures can be redeemed only at the time of maturity. Statement (e) is not true.
- Hence (d) is the answer.
3. Answer : (c) [<TOP>](#)
- Reason : Private Placement of securities involves direct selling of securities to a limited number of institutional or high net worth investors. Statement (I) is not true.
- In a bought-out deal, the issue price usually reflects the intrinsic value of a company's share. Statement (II) is true.
- Right issue involves selling of additionally issued equity shares to existing shareholders on a prorata basis. Statement (III) is not true.
- Hence (c) is the answer.
4. Answer : (d) [<TOP>](#)
- Reason : The cost of retained earnings is considered to be equal to the cost of the equity share capital employed by the company. The cost of external equity is higher than the cost of the existing equity share capital of the company because of the factors of under-pricing and issue expenses.
- Moreover, the cost of debt capital is less than the cost of internal as well as external equity.
- The cost of term loans is less than the interest rate (I) applicable to the term loan because the cost of term loans is equal to the $I(1-t)$, where t is the appropriate tax rate.
- The cost of capital of a firm is the weighted average of the costs of the different sources of finance.
- Statement (d) is true and statements (a), (b), (c) and (e) are not true.
- Hence (d) is the answer.

5. Answer : (c) [<TOP>](#)
Reason : An optimal capital structure should have the following features:
–Profitability
–Flexibility
–Control
–Solvency.
Liquidity is a feature of the investments made out of the funds raised. It is not a feature of the capital structure of the company.
Hence (c) is the answer.
6. Answer : (c) [<TOP>](#)
Reason : According to the net operating income approach, the overall capitalization rate and the cost of debt remain constant for all degrees of leverage. As long as the cost of debt remains constant, the cost of equity capital is a linear function of the debt-equity ratio. The approach emphasizes that the market value of a firm depends on its net operating income and its business risk. The cost of capital cannot be altered through a change in the leverage and so there is no optimal capital structure.
Hence statements (a), (b), (d) and (e) are true and statement (c) is not true. Thus (c) is the answer.
7. Answer : (e) [<TOP>](#)
Reason : According to the M-M approach, the total market value of the firm is independent of the degree of leverage and the cost of capital to the firm remains constant for all degrees of leverage and is not affected by the financing decisions of the firm. So according to this approach, an optimal capital structure does not exist. Hence statements (a) and (b) are not true.
Agency costs will decrease when the debt-equity ratio decreases as in such a situation the creditors will perceive the firm to be less risky. Hence statement (c) is not true.
In the presence of taxes, the market value of the firm increases when the firm resorts to debt financing, as interest on debt is a tax-deductible expense. Hence statement (d) is not true.
If bankruptcy costs are considered, the expected cost of bankruptcy increases as debt-equity ratio increases. Statement (e) is true.
Hence (e) is the answer.
8. Answer : (b) [<TOP>](#)
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 not true and the answer is (b).
9. Answer : (c) [<TOP>](#)
Reason : When the internal rate of return (r) > the investors' required rate of return (k_c), the firm is a growth firm, the firm can retain all the earnings. A zero-pay-out ratio is optimal and would maximize the shareholders' wealth. There is an inverse relationship between the value of the firm and the pay-out ratio.
Hence statements (I) and (II) are true and statement (III) is not true. Thus (c) is the answer.

10. Answer : (e)

[<TOP>](#)

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 not true.

11. Answer : (b)

[<TOP>](#)

Reason : According to the Gordon's dividend discount model, the value of the share is given by

$$P = \frac{E(1-b)}{k_e - br}$$

Where,

E = earning per share (EPS)

b = retention ratio

k_e = cost of equity capital

r = rate of return on investment

An increase in EPS would increase the value of the share. An increase in the retention ratio would decrease the value of the share. A decrease in the cost of equity capital would increase the value of the share. A decrease in the return on investment would decrease the value of the share. Hence statements (I) and (III) are true and statements (II) and (IV) are not true. Hence (b) is the answer.

12. Answer : (b)

[<TOP>](#)

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.

13. Answer : (d)

[<TOP>](#)

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.

On the other hand, an over-trading situation can be noticed from the disproportionately high turnover of assets compared to the volume of sales. Precautionary measures can be taken by initially reducing the sales to a level commensurate with the amount of assets and a final solution lies in increasing the asset base through additional finances raised through the issuance of shares and/ or obtaining loan funds.

Hence (d) is the answer.

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

Reason : Under-trading is a situation when sales are less compared to the level of investment in the firm i.e., the assets employed by the firm.

Hence (c) is the answer.

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

Reason : Working capital margin = Current assets – Current liabilities. Statement (a) is true.

Negative net working capital indicates that current liabilities are more than current assets; this indicates the siphoning off of short-term funds for the financing of long term assets. Statement (b) is true.

A current ratio (current assets ÷ current liabilities) less than 1 indicate that current liabilities are more than current assets; hence it implies that long-term assets are financed by short term funds. Statement (c) is not true.

The larger the working capital turnover, the higher the return on net operating capital employed. Statement (d) is true.

A high turnover of inventory is an indication of over-trading. Statement (e) is true.

Hence (c) is the answer.

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

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.

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

Reason : Invoice discounting does not carry the service elements of factoring. Under this arrangement, the factor provides a pre-payment to the client against the purchase of accounts receivables and collects interest (service charges) for the period extending from the date of prepayment to the date of collection. The sales ledger administration and collection are carried out by the client

Recourse factoring, Non-recourse or full factoring and maturity factoring include the service elements of factoring.

Hence option (d) is the answer.

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

Reason : The Tandon Committee suggested the following:

The credit limit is bifurcated into loan credit and demand cash credit. Statement (a) is true.

The loan component comprises of irreducible minimum level of borrowing, which is expected to be used throughout the year. Statement (b) is true.

The loan component carries interest throughout the year. Statement (c) is true.

The rate of interest on the loan component is lower than the rate of interest on the cash credit component. Statement (d) is not true.

The rate of interest chargeable on excess borrowing converted into a term loan is higher than that under cash credit component. Statement (e) is true.

Hence (d) is the answer.

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

Reason : The basic EOQ model assumes constant ordering cost irrespective of the order size. Alternatives (a), (b), (d) and (e) represent assumptions behind the EOQ model.

Hence (c) is the answer.

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

Reason : Advantages of ABC Analysis:

- It ensures closer control on costly items in which a large amount of capital is invested
- It helps in developing a scientific method of controlling inventories
- It helps to reduce clerical costs while maintaining stock at optimum level
- It helps in achieving the main objective of inventory control at minimum control

Statements I and II are the direct benefits of the ABC system. Statement III is not an advantage of the ABC system.

Hence (c) is the answer.

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

Reason : $\text{Reorder Point} = S \times L + F\sqrt{(S \times R \times L)}$

Where,

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 (d) is not true.

The stock-out acceptance factor, 'F', depends on the stock-out percentage rate specified. It is inversely related to the acceptable stock-out percentage, and the probability distribution of usage, which is assumed to follow a poisson distribution. Hence statement (c) is not true and (e) is true.

Statement (a) pertains to stock-level subsystem.

Statement (b) is wrong as Stock out acceptance factor is not the same as stock-out cost.

Hence (e) is the answer.

22. Answer : (d) [<TOP>](#)
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 (e) are included in carrying costs.
Transportation costs of materials will be a part of the ordering costs and not carrying costs.
Hence, option (d) is the answer.
23. Answer : (c) [<TOP>](#)
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 answer.
24. Answer : (e) [<TOP>](#)
Reason : Replacement or current price method uses the value that is realizable at the time of issue for pricing of raw material. Hence (e) is the answer.
25. Answer : (e) [<TOP>](#)
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 (e).
26. Answer : (c) [<TOP>](#)
Reason : Statement I is true by the definition of playing the float. Statement II is true because $\text{Net float} = \text{Payment float} - \text{Collection float}$.
Statement III is not true because when the payment float is less than the collection float the cash balance in the books of the company is more than the cash balance in the books of the bank.
Hence (c) is the answer.
27. Answer : (b) [<TOP>](#)
Reason : A company for which there is a low degree of uncertainty surrounding the cash flows will be tilted more towards marketable securities and inter-corporate deposits, i.e. it will maintain lower cash balance and more investments since its cash flows are relatively stable. Statement (a) is true.
If the management's attitude towards risk is conservative, the firm's liquidity mix will consist of a higher proportion of cash balance and marketable securities and a lower proportion of inter-corporate deposits. Statement (b) is not true.
A company having ready access to non-bank funds will maintain lower proportion of cash and a higher proportion of inter-corporate deposits and marketable securities. Statement (c) is true.
Safety level of cash for normal periods is the product of desired cash of cash and the average daily cash outflows. Statement (d) is true.
Safety level of cash for peak periods is the product of desired cash at the business period and the average highest daily cash outflows. Statement (d) is true.
Hence (b) is the answer.

28. Answer : (e)

[<TOP>](#)

Reason : Net float is the difference between the balance in the books of the bank and that in the books of the company.

Day	Balance in the books of the company (Rs.)	Balance in the books of the bank (Rs.)
1	$20,000 + 40,000 - 30,000 = 30,000$	20,000
2	$30,000 + 40,000 - 30,000 = 40,000$	20,000
3	$40,000 + 40,000 - 30,000 = 50,000$	$20,000 + 40,000 = 60,000$
4	$50,000 + 40,000 - 30,000 = 60,000$	$60,000 + 40,000 = 1,00,000$
5	$60,000 + 40,000 - 30,000 = 70,000$	$1,00,000 + 40,000 - 30,000 = 1,10,000$
6	$70,000 + 40,000 - 30,000 = 80,000$	$1,10,000 + 40,000 - 30,000 = 1,20,000$

Net float on 6th day = Rs.1,20,000 – Rs.80,000 = Rs.40,000.

Hence (e) is the answer.

29. Answer : (d)

[<TOP>](#)

Reason : The objectivity aspect of internal audit judges the efficiency and effectiveness of the system when put into operation.

Hence (d) is the answer.

30. Answer : (a)

[<TOP>](#)

Reason : NPV will be positive if cost of capital < IRR. So is true with $BCR > 1$, which indicates PV of benefits excess the present value of cost at the given cost of capital/discount rate. When $BCR > 1$, $NBCR > 0$. Hence statement (a) is true and other statements are not true. Thus (a) is the answer.

31. Answer : (b)

[<TOP>](#)

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 A and C can be selected and (b) is the correct answer.

32. Answer : (e)

[<TOP>](#)

Reason : In order to find the dividend yield we need to first get the dividend pay-out ratio.

$E = \text{current earnings/number of shares outstanding} = \text{Rs.}5,00,000/50,000 = \text{Rs.}10 \text{ per share}$

$k_e = 0.15$

$r = 0.16$

According to the Gordon's dividend model,

$$P = \frac{E(1-b)}{k_e - br} = \frac{10(1-b)}{0.15 - b \times 0.16}$$

$$75(0.15 - b \times 0.16) = 10(1-b)$$

$$b = 0.625$$

Therefore dividend pay-out ratio = 37.5%

Dividend paid per share = $0.375 \times 10 = \text{Rs.}3.75$

Dividend yield = Dividend per share / Market price = $3.75/75 = 5 \text{ percent.}$

33. Answer : (d)

[<TOP>](#)

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 (d) is the answer.

34. Answer : (c)

[<TOP>](#)

Reason : $\text{ex-rights price of a share} = \frac{n P_0 + S}{n + 1}$

Where the notations are in their standard use.

On substituting the values,

$$58 = \frac{n \times 60 + 52}{n + 1}$$

$$58n + 58 = 60n + 52$$

$$n = 3$$

Therefore the company should issue 1 rights share for every 3 shares.

Hence (c) is the answer.

35. Answer : (b)

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Reason :

$$k_p = \frac{I(1-t) + \frac{(F-P)}{n}}{\frac{(F+P)}{2}}$$
$$= \frac{10.8(1-0.4) + \frac{(106-96^*)}{5}}{\frac{(106+96^*)}{2}}$$
$$= \frac{6.48 + 2}{101} = 0.08396 = 8.39\%$$
$$= 8.40\% \text{ (approximately)}$$

*Price of the bond = Coupon interest/current yield = 0.108/0.1125 = Rs.96.

Hence (b) is the correct answer.

36. Answer : (c)

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Reason :

$$k_p = \frac{I + \frac{(F-P)}{n}}{\frac{(F+P)}{2}}$$
$$0.148 = \frac{I + \frac{(1,040 - 975)}{12}}{\frac{(1,040 + 975)}{2}}$$

$$149.11 = I + 5.417$$

$$I = \text{Rs.}143.69$$

$$\text{Dividend yield to preference shareholders} = 143.693/975 = 14.74\%$$

Hence (c) is the answer.

37. Answer : (b)

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Reason : When corporate taxes are considered, the value of the firm that is levered would be equal to the value of the unlevered firm increased by the tax shield associated with debt, i.e.,

$$V = \frac{O(1-t_c)}{k} + t_c B$$

Therefore value of Xeta Ltd, would exceed the value of Veta Ltd, by only $t_c B$, i.e.,

$$0.4 \times 12,00,000 = \text{Rs.}4,80,000.$$

Hence (b) is the answer.

38. Answer : (b)

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Reason : Weighted average cost of capital (WACC) before availing term loan:

Source of finance	Weights	Specific costs	Weighted costs
Cost of 12% debentures	3	11.45%	34.35
Cost of 9% preference shares	2	10.5%	21.00
Cost of equity capital	5	13%	65.00
	10		120.35

$$WACC = 120.35/10 = 12.035\%$$

After availing the term loan,

$$\text{Cost of term loan} = 14(1-0.4) = 8.4\%$$

New weights:

Cost of 12% debentures	$3/10 - 1/10 = 2/10$
Cost of 9% preference shares	$2/10 - 1/15 = 4/30$
Cost of equity capital	$5/10 - 1/6 = 10/30$

$$\text{Weight of term loan} = 1 - (2/10 + 4/30 + 10/30) = 10/30$$

$$\text{New proportions: } 2/10 : 4/30 : 10/30 : 10/30 = 3 : 2 : 5 : 5$$

Source of finance	Weights	Specific costs	Weighted costs
Cost of 12% debentures	3	11.45%	34.35
Cost of 9% preference shares	2	10.5%	21.00
Cost of equity capital	5	13%	65.00
Term loan	5	8.4%	42.00
	15		162.35

$$WACC = 162.35/15 = 10.823\%$$

$$\text{Therefore decrease in WACC} = 12.035\% - 10.823\% = 1.212\%$$

$$\text{Change in WACC} = -1.212\%$$

39. Answer : (b)

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Reason : Equity required to maintain capital budget:

Capital budget	Rs.80,00,000
Percent of budget financed with equity	0.60
Amount to be retained	Rs.48,00,000

Dividend:

Earnings	Rs.60,00,000
Less: equity retained	48,00,000
Dividend	Rs.12,00,000

$$\text{Therefore payout ratio} = \text{Dividend/Earnings} = \text{Rs.12,00,000/Rs.60,00,000} = 0.2000 = 20\%$$

$$\text{Earnings per share} = 60 \text{ lakh}/2 \text{ lakh} = \text{Rs.30}$$

$$\text{Dividend per share} = 0.2 \times 30 = \text{Rs.6.00}$$

According to Graham-Dodd model (Traditional model), market price of the share is given by,

$$P = m(D + E/3) = 6(6 + 30/3) = \text{Rs.96}$$

40. Answer : (c)

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Reason :

$$k_o = k_d \frac{B}{B+S} + k_e \frac{S}{B+S}$$

$$= 14 \times \frac{160}{160 + 240} + 16 \times \frac{240}{160 + 240}$$

$$= 15.2\%$$

$$k_o = \frac{\text{Net Operating income}}{\text{Market value of the firm}}$$

$$0.152 = \frac{\text{Net Operating income}}{400}$$

Net Operating income = 15.2% x 400 = Rs.60.8 lakhs

Hence (c) is the answer.

41. Answer : (d)

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Reason : a. Market value of debt = $\frac{\text{Interest expense}}{\text{cost of debt}} = \frac{150}{0.15} = \text{Rs.1,000 lakhs}$

b. Total market value of firm = $\frac{\text{Net operating income}}{\text{Overall cost of capital}} = \frac{450}{0.18} = \text{Rs.2,500 lakhs}$

c. Market value of equity = Total market value of firm - Market value of debt
= Rs.2,500 lakh – Rs.1,000 lakh
= Rs.1,500 lakh

d. Cost of equity = $\frac{\text{Equity earnings}}{\text{Market value of equity}} = \frac{300}{1,500} = 20\%$

Hence (d) is the answer.

42. Answer : (a)

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Reason : According to the net operating approach,

$$K_e = k_o + (k_o - k_d)B/S \dots\dots\dots (1)$$

Let the maximum amount of borrowing be 'B'

Market value of equity = Total market value of firm – Market value of debt
= 4,000 – B

$$k_e \leq 16\%$$

Substituting in (1),

$$0.16 \geq 0.145 + (0.145 - 0.12) \frac{B}{4,000 - B}$$

$$0.015 \geq \frac{0.025B}{4,000 - B}$$

$$B \leq \text{Rs.1,500 lakhs.}$$

Hence in order to ensure an equity capitalization of 16%, the firm can borrow to a maximum extent of Rs.1,500 lakh. Since the market value of debt is already Rs.1,200 lakh, the company can increase its borrowings by Rs.300 lakh in terms of market value. Hence (a) is the answer.

43. Answer : (b)

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Reason :

$$\text{Average collection period} = \frac{\text{Average debtors}}{\text{Average daily credit sales}}$$

$$\begin{aligned}\text{Average debtors} &= \frac{\text{Opening stock of debtors} + \text{closing stock of debtors}}{2} \\ &= \frac{16,000 + 22,000}{2} = \text{Rs.19,000}\end{aligned}$$

$$\begin{aligned}\text{Average daily credit sales} &= \text{Average debtors} / \text{Average collection period} \\ &= 19,000 / 185 = \text{Rs.102.70}\end{aligned}$$

$$\text{Annual credit sales} = 102.70 \times 360 = \text{Rs.36,972.}$$

Hence (b) is the answer.

44. Answer : (b)

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

Hence (b) is the answer.

45. Answer : (c)

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Reason : First we need to find out the average payment period.

$$\text{Raw material storage period} = \frac{\text{Average stock of raw materials}}{\text{Daily consumption of raw materials}}$$

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

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

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

$$\text{Average stock of raw materials} = \frac{\text{Opening stock} + \text{closing stock}}{2}$$

Let opening stock = S and Closing stock = 1.1 S

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

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

$$\text{Opening stock} = \text{Rs.6,20,000} \text{ and closing stock} = 1.1 \times 6,20,000 = \text{Rs.6,82,000}$$

$$46,87,200 = 6,20,000 + \text{purchases} - 6,82,000$$

$$\text{Purchases} = \text{Rs.47,49,200}$$

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

$$\text{Operating cycle period} = 50 + 35 + 28 + 18 - 20 = 111 \text{ days.}$$

Hence (c) is the answer.

46. Answer : (c)

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Reason :

$$\begin{aligned} \text{Average conversion period} &= \frac{\text{Average stock of work-in process}}{\text{Average daily cost of production}} \\ &= \frac{2,000}{25,000/360} = 28.8 \text{ days.} \end{aligned}$$

$$\begin{aligned} \text{Finished goods storage period} &= \frac{\text{Average stock of finished goods}}{\text{Average daily cost of sales}} \\ &= \frac{7,500}{1,00,000/360} = 27 \text{ days.} \end{aligned}$$

Hence (c) is the answer.

47. Answer : (b)

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Reason : Net working capital = Current Assets – Current liabilities

Current assets = Cash + Debtors + Inventory = 45,000 + 60,000 + 1,11,000 = Rs.2,16,000

Current liabilities = Provision for taxation + Expenses outstanding + Creditors

= 57,000 + 21,000 + 39,000 = Rs.1,17,000

Net working capital = Rs.99,000.

Hence (b) is the answer.

48. Answer : (c)

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Reason :

Particulars	Rs.	Rs.
(a) Raw material stock (2 months) 2,500 x 12 x 100 x 2/12		5,00,000
(b) Work-in-process (1 month)		
- Raw material in WIP (100%) 30,000 x 100 x 1/12	2,50,000	
- Manufacturing expenses in WIP (25%) 30,000 x 30 x 0.25 x 1/12	18,750	2,68,750
Finished goods stock 30,000 x 130 x 0.5/12		1,62,500
Debtors 30,000 x 200 x 1/12		5,00,000
Investment in current assets		14,31,250

Hence (c) is the answer.

49. Answer : (b)

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Reason :

$$\text{Cost of trade credit} = \frac{\text{Discount rate}}{1 - \text{Discount rate}} \times \frac{360}{(\text{Credit period} - \text{Discount period})}$$

$$0.216 = \frac{0.02}{1-0.02} \times \frac{360}{(45 - x)}$$

$$45 - x = 34.01$$

$$x = 10.99 \Rightarrow 11 \text{ days.}$$

50. Answer : (d)

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Reason : **Method I:**

	Rs.(lakh)
Total current assets	1,480
Less: Current liabilities other than bank borrowings	600
Working capital gap (WCG)	880
MPBF (0.75 x WCG)	660

Method II

	Rs.(lakh)
Total current assets	1,480
0.75 x CA	1,110
Less: Current liabilities other than bank borrowings	600
MPBF (0.75 x CA – CL)	510

Method III

	Rs.(lakh)
Total current assets (1)	1,480
Less core current assets (2)	380
0.75(1 – 2) (3)	825
Less: current liabilities (4)	600
MPBF (3 – 4)	225

Hence (d) is the answer.

51. Answer : (b)

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Reason :

$$\text{Number of orders in a year} = \frac{\text{Annual consumption}}{\text{EOQ}}$$

$$\text{EOQ} = \sqrt{\frac{2UF}{PC}} = \sqrt{\frac{2 \times 30,000 \times 20}{0.2 \times 30}} = 447 \text{ units}$$

$$\text{Therefore, Number of orders in a year} = \frac{30,000}{447} = 67$$

$$\text{Time gap between two orders} = \frac{365 \text{ days}}{67} = 5 \text{ days.}$$

Hence (b) is the answer.

52. Answer : (e)

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Reason :

$$\text{Average daily usage} = \text{Annual usage} / 360 = 2,000$$

$$\text{Reorder level} = 19,542 = 2,000 \times 8 + F \times \sqrt{(2,000 \times 400 \times 8)}$$

$$F = 1.4$$

Hence (e) is the answer.

53. Answer : (a)

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$$\begin{aligned} \text{Reason : Total inventory cost} &= \text{Ordering cost} + \text{Carrying cost} \\ &= (8 \times 20) + (400 \times 6)/2 \\ &= \text{Rs.1,360.} \end{aligned}$$

54. Answer : (c)

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Reason : Total incremental benefit to the company if it avails discount = Total amount of discount + savings due to reduction in ordering costs

Let Q^* be the EOQ = 14,400 units

Q' be the minimum order size stipulated by the supplier = 18,000 units

Total amount of discount (UD) = 3,60,000 x 0.05 x 400 = Rs.72,00,000

Savings due to reduction in ordering costs:

$$= \text{Rs.} \left[\frac{U}{Q^*} - \frac{U}{Q'} \right] \times F$$

$$= \left[\frac{3,60,000}{14,400} - \frac{3,60,000}{18,000} \right] \times 200 = \text{Rs.}1,000$$

Total incremental benefit = Rs.72,00,000 + 1,000 = Rs.72,01,000.

Hence (c) is the answer.

55. Answer : (d)

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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 (1)	Probability (2)	No. of days (3)	Probability (4)	Possible levels of usage (1) x (3)	Probability (2) x (4)
150	0.3	20	0.6	3,000	0.18
		35	0.4	5,250	0.12
360	0.7	20	0.6	7,200	0.42
		35	0.4	12,600	0.28

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

Average Daily Usage rate = 150 x 0.30 + 360 x 0.70 = 297 units.

Average Lead Time = 20 x 0.6 + 35 x 0.4 = 26 days

Normal Usage during lead time = 297 x 26 = 7,722 units.

Stock outs will occur if the usage is above 7,722 units. From the table computed above, we can infer that stock-outs will occur when the usage level is 12,600 (with probability 0.28). Therefore the total probability of stock out is 0.28, i.e., 28%. Hence, (d) is the answer.

56. Answer : (e)

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Reason : Net benefit from the first order = 0.75 x 40,000 – 0.25 x 80,000 = Rs.10,000

Net weighted benefit from the repeat order = 0.75 (0.80(40,000)-0.20(80,000)) =
Rs. 12,000

Total benefit = Rs.10,000 + Rs.12,000 = Rs.22,000.

57. Answer : (d)

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Reason : **Category A customers**

Incremental Sales = Rs.80,000

Variable cost @ 60% = Rs.48,000

Collection costs @ 5% = Rs.4,000

Bad debts @ 10% = Rs.8,000

Net benefit = Incremental Sales – (Variable costs +Collection costs +Bad debts)
= 80,000- (48,000+4,000+8,000) = Rs.20,000

Category B customers

Incremental Sales = Rs.1,00,000

Variable cost @ 60% = Rs.60,000

Collection costs @ 10% = Rs.10,000

Bad debts @ 20% = Rs.20,000

Net benefit = Incremental Sales – (Variable costs +Collection costs +Bad debts)
= 1,00,000 - (60,000+10,000+20,000) = Rs.10,000.

Hence (d) is the answer.

58. Answer : (e)

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Reason :

$$\begin{aligned}\text{Increase in receivables} &= \Delta I = (ACP_N - ACP_o) \left[\frac{S_0}{360} \right] + V(ACP_N) \frac{\Delta S}{360} \\ &= (54 - 45) \left[\frac{50}{360} \right] + 0.75(54) \frac{30}{360} \\ &= 1.25 + 3.375 = \text{Rs.4.625 lakhs.}\end{aligned}$$

Increase in cost of funds locked in receivables = 0.14 x 4.625 = Rs.64,750.

Hence (e) is the answer.

59. Answer : (c)

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Reason : Incremental contribution = Rs.6 lakh x 0.2 = Rs.1.2 lakh

$$\begin{aligned}\text{Increase in receivables} &= \Delta I = (ACP_N - ACP_o) \left[\frac{S_0}{360} \right] + V(ACP_N) \frac{\Delta S}{360} \\ &= (45 - 30) \left[\frac{50}{360} \right] + 0.8(45) \frac{6}{360} \\ &= 2.083 + 0.6 = \text{Rs.2.683 lakhs.}\end{aligned}$$

Increase in cost of funds locked in receivables = 0.20 x 2.683 = Rs.53,660.

Therefore incremental gain = Incremental contribution – Increase in cost of funds locked in receivables = Rs.1, 20,000 - Rs.53,660 = Rs.66,340.

Hence (c) is the answer.

60. Answer : (d)

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Reason :

$$\begin{aligned}\text{Annual capital charge} &= \frac{\text{PV of costs}}{\text{PVIFA}_{k,n}} \\ &= \frac{50,00,000 + 4,00,000 \times \text{PVIFA}_{13\%,9}}{\text{PVIFA}_{13\%,9}} \\ &= \frac{50,00,000 + 4,00,000 \times 5.132}{5.132} = \text{Rs. } 13,74,279.\end{aligned}$$

Hence (d) is the answer..

61. Answer : (b)

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Reason :

$$\begin{aligned}\text{NBCR} &= \frac{\text{NPV}}{\text{Initial investment}} \\ \text{Initial investment} &= \frac{\text{NPV}}{\text{NBCR}} = \frac{4,000}{0.25} = \text{Rs. } 16,000\end{aligned}$$

Now, NPV = PV of inflows - Initial investment

$$\text{PV of inflows} = \text{NPV} + \text{Initial investment} = 4,000 + 16,000 = \text{Rs. } 20,000.$$

62. Answer : (b)

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Reason : NPV = PV of CI - I

$$2.5 I = \text{PV of CI} - I$$

$$\text{PV of CI} = 3.5 I$$

$$\text{PI} = \text{PV of CI} / I = 3.5 \times I / I = 3.5$$

$$\text{PV of CI} = 3.5 \text{ times PV of CO.}$$

Statement (I) is true and statement (IV) is not true.

$$\text{NBCR} = \text{BCR} - 1 = 3.5 - 1 = 2.5$$

Statement (II) is not true.

Since NPV considers the time value of money, it contributes to the maximization of shareholders' wealth. Statement (III) is true.

Hence, (b) is the answer.

63. Answer : (a)

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Reason :

CFBDT	Depreciation	CFBT	Tax @ 35%	PAT	Depreciation	CFAT	PVIF at 12%	PV of CFs
10,000	10,000	0	0	0	10,000	10,000	0.893	8,930
10,692	10,000	692	242.2	449.8	10,000	10,450	0.797	8,329
12,769	10,000	2,769	969.15	1,799.85	10,000	11,800	0.712	8,402
13,462	10,000	3,462	1,211.7	2,250.3	10,000	12,250	0.636	7,791
20,385	10,000	10,385	3,634.75	6,750.25	10,000	16,750	0.567	9,497

PV of cash inflows = Rs.42,949

Investment = Rs.50,000

NPV = PV of cash inflows – Investment = - Rs.-7,051.

Hence (a) is the answer.

64. Answer : (b)

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Reason : IRR is that rate of return that equates the PV of cash inflows and PV of cash outflows.

$$5,60,000 = 80,000 \times PVIFA_{(r\%,15)}$$

At $r = 11\%$,

$$RHS = Rs.5,75,280$$

At $r = 12\%$,

$$RHS = Rs.5,44,960$$

Therefore IRR lies between 11% and 12%,

By interpolating,

$$r = 11\% + \frac{(5,75,280 - 5,60,000)}{(5,75,280 - 5,44,960)}$$

$$r = 11.50\%$$

Hence (b) is the answer.

65. Answer : (c)

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Reason : Initial investment:

Cost of the machine = Rs.20,00,000
 Less: Sale proceeds of existing machine = Rs.6,00,000
 Initial investment Rs.14,00,000.

Incremental CFAT:

		Rs.
Incremental contribution		
(a) Increase in revenue	2,00,000	
(b) Savings in cost	2,00,000	4,00,000
Less: Incremental Depreciation		
Depreciation on new machine (20,00,000 – 2,00,000)/5	3,60,000	
Depreciation on existing machine (10,00,000 – nil)/10	1,00,000	<u>2,60,000</u>
		<u>1,40,000</u>
Less: Tax @ 40%		56,000
PAT		84,000
Add: Incremental depreciation		2,60,000
Incremental annual CFAT		3,44,000

Hence (c) is the answer.

66. Answer : (c)

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Reason : Present value of a perpetual inflow of Rs.42,500 =

$$\frac{42,500}{0.125} = \text{Rs.}3,40,000.$$

$$\begin{aligned} \text{NPV} &= \text{PV of cash inflows} - \text{PV of cash outflows} \\ &= 3,40,000 - 3,00,000 \\ &= \text{Rs.}40,000. \end{aligned}$$

$$\text{BCR} = \frac{\text{PV of cash inflows}}{\text{PV of cash outflows}} = \frac{3,40,000}{3,00,000} = 1.13.$$

67. Answer : (d)

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Reason : Cash budget from Jan 2007 to March 2007:

Particulars	Rs. (lakh)		
	January '07	February '07	March '07
Opening cash balance	20,000	16,000	25,600
Add: Cash receipts (anticipated)			
- Cash sales	2,000	2,000	2,000
- Credit sales	-	21,600	21,600
			2,400
Total cash receipts	22,000	39,600	51,600
Less: Cash payments:			
- Monthly bills	(10,000)	(10,000)	(10,000)
Cash balance	12,000	29,600	41,600
Add: Borrowings (as minimum required cash for 1 month is Rs.16,000 lakh)	4,000		
Less: Repayments	-	(4,000)	-
Closing balance of cash	16,000	25,600	41,600

The firm needs to borrow Rs.4,000 during the month of January to maintain the minimum balance of cash and has to repay during the month of February.

Hence (d) is the answer.

68. Answer : (d)

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Reason : Amount collected in the same month = 20% x 1,50,000 = Rs.30,000

Amount collected from previous month's sale = 50% x 1,40,000 = Rs.70,000

Amount collected from the sales that occurred in the month of November = 30% x 1,20,000 = Rs.36,000.

Hence, the total cash receipts in the month of January = 30,000 + 70,000 + 36,000 = Rs.1,36,000.

Hence, the correct option is (d).

69. Answer : (e)

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$$\frac{D_t + P_t}{P_{t-1}}$$

Reason : Wealth ratio, $W_t = \frac{D_t + P_t}{P_{t-1}}$ where

D_t = Dividend per share for year t payable at the end of year

P_t = Price per share at the end of the year t.

$$\text{Therefore, } W_t = \frac{(0.25)(10) + 176}{125} = 1.43$$

70. Answer : (d)

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Reason : According to the Walter's model on dividend policy,

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

Given,

Market price of the share, P = Rs.65

Cost of equity capital, $k_e = 18\%$

Earnings per share, E = Rs.14.4

Dividend per share, D = Rs.3.6

Investors' required rate of return, $r = ?$

Substituting in the formula,

$$65 = \frac{3.6}{0.18} + \frac{r(14.4 - 3.6)/0.18}{0.18}$$

$$65 = 20 + \frac{60r}{0.18}$$

$$\frac{60r}{0.18} = 45$$

$$r = \frac{45 \times 0.18}{60} = 0.135 = 13.5\%$$

If the earnings per share increased to Rs.18 and the pay-out ratio is 40 percent, it implies dividend paid is Rs.7.2. Therefore,

$$P = \frac{7.2}{0.18} + \frac{0.135(14.4 - 7.2)/0.18}{0.18}$$

$$= 40 + 30$$

$$= \text{Rs.70}$$

Therefore the market price of the share would increase by Rs.5. In percentage terms, it would increase by 7.69%

71. Answer : (c)

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Reason : According to M-M model,
When dividends are paid,

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

$$P_0 = \text{Rs.250 (given)}$$

$$k = 0.14$$

$$D_1 = 20/5 = \text{Rs.4 per share}$$

$$P_1 = ?$$

$$250 = \frac{1}{(1+0.14)} \times (4 + P_1)$$

$$P_1 = 285 - 4 = \text{Rs.281.}$$

$$\text{Now } n_1 P_1 = I - (E - nD_1)$$

$$\text{Amount of additional investment required} = I - (E - nD_1) = 120 - (80 - 5 \times 4) = \text{Rs.60 lakh}$$

$$\text{Therefore, } n_1 P_1 = 60,00,000$$

$$n_1 = 21352.3 \text{ shares}$$

Thus 21,352 new shares need to be issued.

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