

UNIT - VI

FINANCING OF WORKING CAPITAL



26. INTRODUCTION

After determining the amount of working capital required, the next step to be taken by the finance manager is to arrange the funds.

As discussed earlier, it is advisable that the finance manager bifurcate the working capital requirements between the permanent working capital and temporary working capital.

The permanent working capital is always needed irrespective of sales fluctuation; hence it should be financed by the long-term sources such as debt and equity. On the contrary the temporary working capital may be financed by the short-term sources of finance.

Broadly speaking, the working capital finance may be classified between the two categories:

- (i) Spontaneous sources; and
- (ii) Negotiable sources.

Spontaneous Sources: Spontaneous sources of finance are those which naturally arise in the course of business operations. Trade credit, credit from employees, credit from suppliers of services, etc. are some of the examples which may be quoted in this respect.

Negotiated Sources: On the other hand, the negotiated sources, as the name implies, are those which have to be specifically negotiated with lenders say, commercial banks, financial institutions, general public etc.

The finance manager has to be very careful while selecting a particular source, or a combination thereof for financing of working capital. Generally, the following parameters will guide his decisions in this respect:

- (i) Cost factor
- (ii) Impact on credit rating

- (iii) Feasibility
- (iv) Reliability
- (v) Restrictions
- (vi) Hedging approach or matching approach i.e., Financing of assets with the same maturity as of assets.



27. SOURCES OF FINANCE

27.1 Spontaneous Sources of Finance

(a) Trade Credit: As outlined above trade credit is a spontaneous source of finance which is normally extended to the purchaser organization by the sellers or services providers. This source of financing working capital is more important since it contributes to about one-third of the total short-term requirements. The dependence on this source is higher due to lesser cost of finance as compared with other sources. Trade credit is guaranteed when a company acquires supplies, merchandise or materials and does not pay immediately. If a buyer is able to get the credit without completing much formality, it is termed as 'open account trade credit.'

(b) Bills Payable: On the other hand, in the case of "Bills Payable" the purchaser will have to give a written promise to pay the amount of the bill/invoice either on demand or at a fixed future date to the seller or the bearer of the note.

Due to its simplicity, easy availability and lesser explicit cost, the dependence on this source is much more in all small or big organizations. Especially, for small enterprises this form of credit is more helpful to small and medium enterprises. The amount of such financing depends on the volume of purchases and the payment timing.

(c) Accrued Expenses: Another spontaneous source of short-term financing is the accrued expenses or the outstanding expenses liabilities. The accrued expenses refer to the services availed by the firm, but the payment for which has yet to be made. It is a built in and an automatic source of finance as most of the services like wages, salaries, taxes, duties etc., are paid at the end of the period. The accrued

expenses represent an interest free source of finance. There is no explicit or implicit cost associated with the accrued expenses and the firm can ensure liquidity by accruing these expenses.

27.2 Inter-corporate Loans and Deposits

Sometimes, organizations having surplus funds invest for short-term period with other organizations. The rate of interest will be higher than the bank rate of interest and depends on the financial soundness of the borrower company. This source of finance reduces dependence on bank financing.

27.3 Commercial Papers

Commercial Paper (CP) is an unsecured promissory note issued by a firm to raise funds for a short period. This is an instrument that enables highly rated corporate borrowers for short-term borrowings and provides an additional financial instrument to investors with a freely negotiable interest rate. The maturity period ranges from minimum 7 days to less than 1 year from the date of issue. CP can be issued in denomination of ₹ 5 lakhs or multiples thereof.

Advantages of CP: From the point of the issuing company, CP provides the following benefits:

- (a) CP is sold on an unsecured basis and does not contain any restrictive conditions.
- (b) Maturing CP can be repaid by selling new CP and thus can provide a continuous source of funds.
- (c) Maturity of CP can be tailored to suit the requirement of the issuing firm.
- (d) CP can be issued as a source of fund even when money market is tight.
- (e) Generally, the cost of CP to the issuing firm is lower than the cost of commercial bank loans.

However, CP as a source of financing has its own limitations:

- (i) Only highly credit rating firms can use it. New and moderately rated firm generally are not in a position to issue CP.

- (ii) CP can neither be redeemed before maturity nor can be extended beyond maturity.

27.4 Funds Generated from Operations

Funds generated from operations, during an accounting period, increase working capital by an equivalent amount. The two main components of funds generated from operations are profit and depreciation. Working capital will increase by the extent of funds generated from operations. Students may refer to funds flow statement given earlier in this chapter.

27.5 Public Deposits

Deposits from the public are one of the important sources of finance particularly for well-established big companies with huge capital base for short and medium-term.

27.6 Bills Discounting

Bill discounting is recognized as an important short-term Financial Instrument and it is widely used method of short-term financing. In a process of bill discounting, the supplier of goods draws a bill of exchange with direction to the buyer to pay a certain amount of money after a certain period, and gets its acceptance from the buyer or drawee of the bill.

27.7 Bill Rediscounting Scheme

The Bill rediscounting Scheme was introduced by Reserve Bank of India with effect from 1st November, 1970 in order to extend the use of the bill of exchange as an instrument for providing credit and the creation of a bill market in India with a facility for the rediscounting of eligible bills by banks. Under the bills rediscounting scheme, all licensed scheduled banks are eligible to offer bills of exchange to the Reserve Bank for rediscount.

27.8 Factoring

Students may refer to the unit on Receivable Management wherein the concept of factoring has been discussed. Factoring is a method of financing whereby a firm

sells its trade debts at a discount to a financial institution. In other words, factoring is a continuous arrangement between a financial institution, (namely the factor) and a firm (namely the client) which sells goods and services to trade customers on credit. As per this arrangement, the factor purchases the client's trade debts including accounts receivables either with or without recourse to the client, and thus, exercises control over the credit extended to the customers and administers the sales ledger of his client. To put it in a layman's language, a factor is an agent who collects the dues of his client for a certain fee.

The differences between Factoring and Bills discounting are as follows:

- (i) Factoring is called as 'Invoice factoring' whereas bills discounting is known as "Invoice discounting".
- (ii) In factoring the parties are known as client, factor and debtor whereas in bills discounting they are known as Drawer, Drawee and Payee.
- (iii) Factoring is a sort of management of book debts whereas bills discounting is a sort of borrowing from commercial banks.
- (iv) For factoring there is no specific Act; whereas in the case of bills discounting, the Negotiable Instrument Act is applicable.



28. WORKING CAPITAL FINANCE FROM BANKS

Banks in India today constitute the major suppliers of working capital credit to any business activity. Recently, some term lending financial institutions have also announced schemes for working capital financing. The two committees viz., Tandon Committee and Choure Committee have evolved definite guidelines and parameters in working capital financing, which have laid the foundations for development and innovation in the area.

28.1 Instructions on Working Capital Finance by Banks

Assessment of Working Capital

- Reserve Bank of India has withdrawn the prescription, in regard to assessment of working capital needs, based on the concept of Maximum Permissible Bank Finance (MPBF), in April 1997. Banks are now free to evolve, with the approval

of their Boards, methods for assessing the working capital requirements of borrowers, within the prudential guidelines and exposure norms prescribed. Banks, however, have to take into account Reserve Bank's instructions relating to directed credit (such as priority sector, export, etc.), and prohibition of credit (such as bridge finance, rediscounting of bills earlier discounted by NBFCs) while formulating their lending policies.

- With the above liberalizations, all the instructions relating to MPBF issued by RBI from time to time stand withdrawn. Further, various instructions/guidelines issued to banks with objective of ensuring lending discipline in appraisal, sanction, monitoring and utilization of bank finance cease to be mandatory. However, banks have the option of incorporating such of the instructions/guidelines as are considered necessary in their lending policies/procedures.



29. FORMS OF BANK CREDIT

The bank credit will generally be in the following forms:

- **Cash Credit:** This facility will be given by the banker to the customers by giving certain amount of credit facility on continuous basis. The borrower will not be allowed to exceed the limits sanctioned by the bank.
- **Bank Overdraft:** It is a short-term borrowing facility made available to the companies in case of urgent need of funds. The banks will impose limits on the amount they can lend. When the borrowed funds are no longer required they can quickly and easily be repaid. The banks issue overdrafts with a right to call them in at short notice.
- **Bills Discounting:** The Company which sells goods on credit will normally draw a bill on the buyer who will accept it and sends it to the seller of goods. The seller, in turn discounts the bill with his banker. The banker will generally earmark the discounting bill limit.
- **Bills Acceptance:** To obtain finance under this type of arrangement a company draws a bill of exchange on bank. The bank accepts the bill thereby promising to pay out the amount of the bill at some specified future date.

- **Line of Credit:** Line of Credit is a commitment by a bank to lend a certain amount of funds on demand specifying the maximum amount.
- **Letter of Credit:** It is an arrangement by which the issuing bank on the instructions of a customer or on its own behalf undertakes to pay or accept or negotiate or authorizes another bank to do so against stipulated documents subject to compliance with specified terms and conditions.
- **Bank Guarantees:** Bank guarantee is one of the facilities that the commercial banks extend on behalf of their clients in favour of third parties who will be the beneficiaries of the guarantees.

SUMMARY

- ◆ Working Capital Management involves managing the balance between firm's short-term assets and its short-term liabilities.
- ◆ From the value point of view, Working Capital can be defined as Gross Working Capital or Net Working Capital.
- ◆ From the point of view of time, the term working capital can be divided into two categories viz., Permanent and temporary.
- ◆ A large amount of working capital would mean that the company has idle funds. Since funds have a cost, the company has to pay huge amount as interest on such funds. If the firm has inadequate working capital, such firm runs the risk of insolvency.
- ◆ Some of the items/factors which need to be considered while planning for working capital requirement are nature of business, market and demand conditions, operating efficiency, credit policy etc.
- ◆ Finance manager has to pay particular attention to the levels of current assets and their financing. To decide the levels and financing of current assets, the risk return trade off must be taken into account.
- ◆ In determining the optimum level of current assets, the firm should balance the profitability – Solvency tangle by minimizing total costs.

- ◆ Working Capital cycle indicates the length of time between a company's paying for materials, entering into stock and receiving the cash from sales of finished goods. It can be determined by adding the number of days required for each stage in the cycle.
- ◆ Treasury management is defined as 'the corporate handling of all financial matters, the generation of external and internal funds for business, the management of currencies and cash flows and the complex, strategies, policies and procedures of corporate finance.'
- ◆ The main objectives of cash management for a business are:-
 - (a) Provide adequate cash to each of its units;
 - (b) No funds are blocked in idle cash; and
 - (c) The surplus cash (if any) should be invested in order to maximize returns for the business.
- ◆ Large amounts are tied up in sundry debtors, there are chances of bad debts and there will be cost of collection of debts. On the contrary, if the investment in sundry debtors is low, the sales may be restricted, since the competitors may offer more liberal terms. Therefore, management of sundry debtors is an important issue and requires proper policies and their implementation.
- ◆ There are basically three aspects of management of sundry debtors: Credit policy, Credit Analysis and Control of receivables.
- ◆ Trade creditor is a spontaneous source of finance in the sense that it arises from ordinary business transaction. But it is also important to look after your creditors - slow payment by you may create ill-feeling and your supplies could be disrupted and also create a bad image for your company.
- ◆ It is advisable that the finance manager bifurcates the working capital requirements between the permanent working capital and temporary working capital.
- ◆ The permanent working capital is always needed irrespective of sales fluctuations, hence should be financed by the long-term sources such as debt and equity. On the contrary the temporary working capital may be financed by the short-term sources of finance.

TEST YOUR KNOWLEDGE

Multiple Choice Questions (MCQs)

1. *The credit terms may be expressed as "3/15 net 60". This means that a 3% discount will be granted if the customer pays within 15 days, if he does not avail the offer, he must make payment within 60 days.*
 - (a) *I agree with the statement*
 - (b) *I do not agree with the statement*
 - (c) *I cannot say.*
2. *The term 'net 50' implies that the customer will make payment:*
 - (a) *Exactly on 50th day*
 - (b) *Before 50th day*
 - (c) *Not later than 50th day*
 - (d) *None of the above.*
3. *Trade credit is a source of:*
 - (a) *Long-term finance*
 - (b) *Medium term finance*
 - (c) *Spontaneous source of finance*
 - (d) *None of the above.*
4. *The term float is used in:*
 - (a) *Inventory Management*
 - (b) *Receivable Management*
 - (c) *Cash Management*
 - (d) *Marketable securities.*
5. *William J Baumol's model of Cash Management determines optimum cash level where the carrying cost and transaction cost are:*
 - (a) *Maximum*

- (b) Minimum
 - (c) Medium
 - (d) None of the above.
6. In Miller – ORR Model of Cash Management:
- (a) The lower, upper limit, and return point of Cash Balances are set out
 - (b) Only upper limit and return point are decided
 - (c) Only lower limit and return point are decided
 - (d) None of the above are decided.
7. Working Capital is defined as:
- (a) Excess of current assets over current liabilities
 - (b) Excess of current liabilities over current assets
 - (c) Excess of Fixed Assets over long-term liabilities
 - (d) None of the above.
8. Working Capital is also known as "Circulating Capital, fluctuating Capital and revolving capital". The aforesaid statement is;
- (a) Correct
 - (b) Incorrect
 - (c) Cannot say.
9. The basic objectives of Working Capital Management are:
- (a) Optimum utilization of resources for profitability
 - (b) To meet day-to-day current obligations
 - (c) Ensuring marginal return on current assets is always more than cost of capital
 - (d) Select any one of the above statements.
10. The term Gross Working Capital is known as:
- (a) The investment in current liabilities

- (b) *The investment in long-term liability*
- (c) *The investment in current assets*
- (d) *None of the above.*
11. *The term net working capital refers to the difference between the current assets minus current liabilities.*
- (a) *The statement is correct*
- (b) *The statement is incorrect*
- (c) *I cannot say.*
12. *The term "Core current assets" was coined by:*
- (a) *Chore Committee*
- (b) *Tandon Committee*
- (c) *Jilani Committee*
- (d) *None of the above.*
13. *The concept operating cycle refers to the average time which elapses between the acquisition of raw materials and the final cash realization. This statement is:*
- (a) *Correct*
- (b) *Incorrect*
- (c) *Partially True*
- (d) *I cannot say.*
14. *As a matter of self-imposed financial discipline can there be a situation of zero working capital now-a-days in some of the professionally managed organizations.*
- (a) *Yes*
- (b) *No*
- (c) *Impossible*
- (d) *Cannot say.*

15. Over trading arises when a business expands beyond the level of funds available. The statement is:
- (a) Incorrect
 - (b) Correct
 - (c) Partially correct
 - (d) I cannot say.
16. A Conservative Working Capital strategy calls for high levels of current assets in relation to sales.
- (a) I agree
 - (b) Do not agree
 - (c) I cannot say.
17. The term Working Capital leverage refer to the impact of level of working capital on company's profitability. This measures the responsiveness of ROCE for changes in current assets.
- (a) I agree
 - (b) Do not agree
 - (c) The statement is partially true.
18. The term spontaneous source of finance refers to the finance which naturally arise in the course of business operations. The statement is:
- (a) Correct
 - (b) Incorrect
 - (c) Partially Correct
 - (d) I cannot say.
19. Under hedging approach to financing of working capital requirements of a firm, each asset in the balance sheet assets side would be offset with a financing instrument of the same approximate maturity. This statement is:
- (a) Incorrect

- (b) *Correct*
- (c) *Partially correct*
- (d) *I cannot say.*
20. *Trade credit is a:*
- (a) *Negotiated source of finance*
- (b) *Hybrid source of finance*
- (c) *Spontaneous source of finance*
- (d) *None of the above.*
21. *Factoring is a method of financing whereby a firm sells its trade debts at a discount to a financial institution. The statement is:*
- (a) *Correct*
- (b) *Incorrect*
- (c) *Partially correct*
- (d) *I cannot say.*
22. *A factoring arrangement can be both with recourse as well as without recourse:*
- (a) *True*
- (b) *False*
- (c) *Partially correct*
- (d) *Cannot say.*
23. *The Bank financing of working capital will generally be in the following form. Cash Credit, Overdraft, bills discounting, bills acceptance, line of credit; Letter of credit and bank guarantee.*
- (a) *I agree*
- (b) *I do not agree*
- (c) *I cannot say.*

24. When the items of inventory are classified according to value of usage, the technique is known as:
 - (a) XYZ Analysis
 - (b) ABC Analysis
 - (c) DEF Analysis
 - (d) None of the above.
25. When a firm advises its customers to mail their payments to special Post Office collection centers, the system is known as.
 - (a) Concentration banking
 - (b) Lock Box system
 - (c) Playing the float
 - (d) None of the above.

Theoretical Questions

1. DISCUSS the factors to be taken into consideration while determining the requirement of working capital.
2. DISCUSS the liquidity vs. profitability issue in management of working capital.
3. DISCUSS the estimation of working capital need based on operating cycle process.
4. EXPLAIN briefly the functions of Treasury Department.
5. EXPLAIN Baumol's Model of Cash Management.
6. STATE the advantage of Electronic Cash Management System.
7. EXPLAIN with example the formula used for determining optimum cash balance according to Baumol's cash management model.
8. DISCUSS Miller-Orr Cash Management model.
9. EXPLAIN briefly the accounts receivable systems.
10. DESCRIBE Factoring.

11. DESCRIBE the various forms of bank credit in financing the working capital of a business organization.

Practical Problems

1. Following information is forecasted by R Limited for the year ending 31st March, 2022:

	<i>Balance as at 31st March, 2022</i>	<i>Balance as at 31st March, 2021</i>
	<i>(₹ in lakh)</i>	<i>(₹ in lakh)</i>
<i>Raw Material</i>	65	45
<i>Work-in-progress</i>	51	35
<i>Finished goods</i>	70	60
<i>Receivables</i>	135	112
<i>Payables</i>	71	68
<i>Annual purchases of raw material (all credit)</i>	400	
<i>Annual cost of production</i>	450	
<i>Annual cost of goods sold</i>	525	
<i>Annual operating cost</i>	325	
<i>Annual sales (all credit)</i>	585	

You may take one year as equal to 365 days.

You are required to CALCULATE:

- (i) Net operating cycle period.
 - (ii) Number of operating cycles in the year.
 - (iii) Amount of working capital requirement.

2. The following data relating to an auto component manufacturing company is available for the year 2021-22:

Raw material held in storage

20 days

<i>Receivables' collection period</i>	30 days
<i>Conversion process period</i>	10 days
<i>(raw material – 100%, other costs – 50% complete)</i>	
<i>Finished goods storage period</i>	45 days
<i>Credit period from suppliers</i>	60 days
<i>Advance payment to suppliers</i>	5 days
<i>Total cash operating expenses per annum</i>	₹ 800 lakhs

75% of the total cash operating expenses are for raw material. 360 days are assumed in a year.

You are required to CALCULATE:

- (i) Each item of current assets and current liabilities,
- (ii) The working capital requirement, if the company wants to maintain a cash balance of ₹ 10 lakhs at all times.

3. The following figures and ratios are related to a company:

(i) Sales for the year (all credit)	₹ 90,00,000
(ii) Gross Profit ratio	35 percent
(iii) Fixed assets turnover (based on cost of goods sold)	1.5
(iv) Stock turnover (based on cost of goods sold)	6
(v) Liquid ratio	1.5:1
(vi) Current ratio	2.5:1
(vii) Receivables (Debtors) collection period	1 month
(viii) Reserves and surplus to Share capital	1:1.5
(ix) Capital gearing ratio	0.7875
(x) Fixed assets to net worth	1.3 : 1

You are required to PREPARE:

- (a) Balance Sheet of the company on the basis of above details.

- (b) The statement showing working capital requirement, if the company wants to make a provision for contingencies @15 percent of net working capital.
4. PQ Ltd., a company newly commencing business in 2021-22 has the following projected Profit and Loss Account:

	(₹)	(₹)
Sales		2,10,000
Cost of goods sold		<u>1,53,000</u>
Gross Profit		57,000
Administrative Expenses	14,000	
Selling Expenses	<u>13,000</u>	<u>27,000</u>
Profit before tax		30,000
Provision for taxation		<u>10,000</u>
Profit after tax		<u>20,000</u>
<i>The cost of goods sold has been arrived at as under:</i>		
Materials used	84,000	
Wages and manufacturing Expenses	62,500	
Depreciation	<u>23,500</u>	
	1,70,000	
<i>Less: Stock of Finished goods</i>		
(10% of goods produced not yet sold)	<u>17,000</u>	
	1,53,000	

The figure given above relate only to finished goods and not to work-in-progress. Goods equal to 15% of the year's production (in terms of physical units) will be in process on the average requiring full materials but only 40% of the other expenses. The company believes in keeping materials equal to two months' consumption in stock.

All expenses will be paid one month in advance. Suppliers of materials will extend 1-1/2 months credit. Sales will be 20% for cash and the rest at two months' credit. 70% of the Income tax will be paid in advance in quarterly instalments. The company wishes to keep ₹8,000 in cash. 10% has to be added to the estimated figure for unforeseen contingencies.

PREPARE an estimate of working capital.

Note: All workings should form part of the answer.

5. M.A. Limited is commencing a new project for manufacture of a plastic component. The following cost information has been ascertained for annual production of 12,000 units which is the full capacity:

	Costs per unit (₹)
Materials	40.00
Direct labour and variable expenses	20.00
Fixed manufacturing expenses	6.00
Depreciation	10.00
Fixed administration expenses	4.00
	80.00

The selling price per unit is expected to be ₹ 96 and the selling expenses ₹ 5 per unit, 80% of which is variable.

In the first two years of operations, production and sales are expected to be as follows:

Year	Production (No. of units)	Sales (No. of units)
1	6,000	5,000
2	9,000	8,500

To assess the working capital requirements, the following additional information is available:

- (a) Stock of materials 2.25 months' average consumption
- (b) Work-in-process Nil

- (c) *Debtors* 1 month's average sales.
- (d) *Cash balance* ₹ 10,000
- (e) *Creditors for supply of materials* 1 month's average purchase during the year.
- (f) *Creditors for expenses* 1 month's average of all expenses during the year.

PREPARE, for the two years:

- (i) A projected statement of Profit/Loss (Ignoring taxation); and
 - (ii) A projected statement of working capital requirements.
6. *Aneja Limited, a newly formed company, has applied to a commercial bank for the first time for financing its working capital requirements. The following information is available about the projections for the current year:*

Estimated level of activity: 1,04,000 completed units of production plus 4,000 units of work-in-progress. Based on the above activity, estimated cost per unit is:

<i>Raw material</i>	₹ 80 per unit
<i>Direct wages</i>	₹ 30 per unit
<i>Overheads (exclusive of depreciation)</i>	₹ 60 per unit
<i>Total cost</i>	₹ 170 per unit
<i>Selling price</i>	₹ 200 per unit

Raw materials in stock: Average 4 weeks consumption, work-in-progress (assume 50% completion stage in respect of conversion cost) (materials issued at the start of the processing).

<i>Finished goods in stock</i>	8,000 units
<i>Credit allowed by suppliers</i>	Average 4 weeks
<i>Credit allowed to debtors/receivables</i>	Average 8 weeks
<i>Lag in payment of wages</i>	Average 1.5 weeks

Cash at banks (for smooth operation) is expected to be ₹ 25,000.

Assume that production is carried on evenly throughout the year (52 weeks) and wages and overheads accrue similarly. All sales are on credit basis only.

You are required to **CALCULATE** the net working capital required.

7. The management of Trux Company Ltd. is planning to expand its business and consults you to prepare an estimated working capital statement. The records of the company reveals the following annual information:

	(₹)
Sales – Domestic at one month's credit	18,00,000
Export at three month's credit (sales price 10% below domestic price)	8,10,000
Materials used (suppliers extend two months credit)	6,75,000
Lag in payment of wages – ½ month	5,40,000
Lag in payment of manufacturing expenses (cash) – 1 month	7,65,000
Lag in payment of Administration Expenses – 1 month	1,80,000
Selling expenses payable quarterly in advance	1,12,500
Income tax payable in four installments, of which one falls in the next financial year	1,68,000

Rate of gross profit is 20%. Ignore work-in-progress and depreciation.

The company keeps one month's stock of raw materials and finished goods (each) and believes in keeping ₹ 2,50,000 available to it including the overdraft limit of ₹ 75,000 not yet utilized by the company.

The management is also of the opinion to make 10% margin for contingencies on computed figure.

You are required to **PREPARE** the estimated working capital statement for the next year.

8. The following information relates to Zeta Limited, a publishing company:

The selling price of a book is ₹ 15, and sales are made on credit through a book club and invoiced on the last day of the month.

Variable costs of production per book are materials (₹ 5), labour (₹ 4), and overhead (₹ 2)

The sales manager has forecasted the following volumes:

Month	No. of Books
November	1,000
December	1,000
January	1,000
February	1,250
March	1,500
April	2,000
May	1,900
June	2,200
July	2,200
August	2,300

Customers are expected to pay as follows:

<i>One month after the sale</i>	40%
<i>Two months after the sale</i>	60%

The company produces the books two months before they are sold and the creditors for materials are paid two months after production.

Variable overheads are paid in the month following production and are expected to increase by 25% in April; 75% of wages are paid in the month of production and 25% in the following month. A wage increase of 12.5% will take place on 1st March.

The company is going through a restructuring and will sell one of its freehold properties in May for ₹25,000, but it is also planning to buy a new printing press in May for ₹10,000. Depreciation is currently ₹1,000 per month, and will rise to ₹1,500 after the purchase of the new machine.

The company's corporation tax (of ₹10,000) is due for payment in March.

The company presently has a cash balance at bank on 31 December 2021, of ₹1,500.

You are required to PREPARE a cash budget for the six months from January to June, 2022.

9. From the information and the assumption that the cash balance in hand on 1st January 2022 is ₹ 72,500, PREPARE a cash budget.

Assume that 50 per cent of total sales are cash sales. Assets are to be acquired in the months of February and April. Therefore, provisions should be made for the payment of ₹ 8,000 and ₹ 25,000 for the same. An application has been made to the bank for the grant of a loan of ₹ 30,000 and it is hoped that the loan amount will be received in the month of May.

It is anticipated that a dividend of ₹ 35,000 will be paid in June. Debtors are allowed one month's credit. Creditors for materials purchased and overheads grant one month's credit. Sales commission at 3 per cent on sales is paid to the salesman each month.

Month	Sales (₹)	Materials Purchases (₹)	Salaries & Wages (₹)	Production Overheads (₹)	Office and Selling Overheads (₹)
January	72,000	25,000	10,000	6,000	5,500
February	97,000	31,000	12,100	6,300	6,700
March	86,000	25,500	10,600	6,000	7,500
April	88,600	30,600	25,000	6,500	8,900
May	1,02,500	37,000	22,000	8,000	11,000
June	1,08,700	38,800	23,000	8,200	11,500

10. Consider the balance sheet of Maya Limited as on 31 December, 2022. The company has received a large order and anticipates the need to go to its bank to increase its borrowings. As a result, it has to forecast its cash requirements for January, February and March, 2023. Typically, the company collects 20 per cent of its sales in the month of sale, 70 per cent in the subsequent month, and 10 per cent in the second month after the sale. All sales are credit sales.

Equity & liabilities	Amount (₹ in '000)	Assets	Amount (₹ in '000)
Equity shares capital	100	Net fixed assets	1,836
Retained earnings	1,439	Inventories	545
Long-term borrowings	450	Accounts receivables	530

<i>Accounts payables</i>	360	<i>Cash and bank</i>	50
<i>Loan from banks</i>	400		
<i>Other liabilities</i>	212		
	2,961		2,961

Purchases of raw materials are made in the month prior to the sale and amounts to 60 per cent of sales. Payments for these purchases occur in the month after the purchase. Labour costs, including overtime, are expected to be ₹ 1,50,000 in January, ₹ 2,00,000 in February, and ₹ 1,60,000 in March. Selling, administrative, taxes, and other cash expenses are expected to be ₹ 1,00,000 per month for January through March. Actual sales in November and December and projected sales for January through April are as follows (in thousands):

Month	₹	Month	₹	Month	₹
November	500	January	600	March	650
December	600	February	1,000	April	750

On the basis of this information:

- (a) PREPARE a cash budget and DETERMINE the amount of additional bank borrowings necessary to maintain a cash balance of ₹ 50,000 at all times for the months of January, February, and March.
 - (b) PREPARE a pro forma balance sheet for March 31.
11. PQR Ltd. having an annual sales of ₹ 30 lakhs, is re-considering its present collection policy. At present, the average collection period is 50 days and the bad debt losses are 5% of sales. The company is incurring an expenditure of ₹ 30,000 on account of collection of receivables. Cost of funds is 10 percent.

The alternative policies are as under:

	Alternative I	Alternative II
Average Collection Period	40 days	30 days
Bad Debt Losses	4% of sales	3% of sales
Collection Expenses	₹ 60,000	₹ 95,000

DETERMINE the alternatives on the basis of incremental approach and state which alternative is more beneficial.

12. As a part of the strategy to increase sales and profits, the sales manager of a company proposes to sell goods to a group of new customers with 10% risk of non-payment. This group would require one and a half months credit and is likely to increase sales by ₹ 1,00,000 p.a. Production and Selling expenses amount to 80% of sales and the income-tax rate is 50%. The company's minimum required rate of return (after tax) is 25%.

Should the sales manager's proposal be accepted? ANALYSE

Also COMPUTE the degree of risk of non-payment that the company should be willing to assume if the required rate of return (after tax) were (i) 30%, (ii) 40% and (iii) 60%.

13. Slow Payers are regular customers of Goods Dealers Ltd. and have approached the sellers for extension of credit facility for enabling them to purchase goods. On an analysis of past performance and on the basis of information supplied, the following pattern of payment schedule emerges in regard to Slow Payers:

Pattern of Payment Schedule	
At the end of 30 days	15% of the bill
At the end of 60 days	34% of the bill
At the end of 90 days	30% of the bill
At the end of 100 days	20% of the bill
Non-recovery	1% of the bill

Slow Payers want to enter into a firm commitment for purchase of goods of ₹ 15 lakhs in 2021-22, deliveries to be made in equal quantities on the first day of each quarter in the calendar year. The price per unit of commodity is ₹ 150 on which a profit of ₹ 5 per unit is expected to be made. It is anticipated by Goods Dealers Ltd., that taking up of this contract would mean an extra recurring expenditure of ₹ 5,000 per annum. If the opportunity cost of funds in the hands of Goods Dealers is 24% per annum, would you as the finance manager of the seller recommend the grant of credit to Slow Payers? ANALYSE. Workings should form part of your answer. Assume year of 365 days.

14. PREPARE a working capital estimate to finance an activity level of 52,000 units a year (52 weeks) based on the following data:

Raw Materials	- ₹ 400 per unit
Direct Wages	- ₹ 150 per unit

Overheads (Manufacturing) - ₹200 per unit

Overheads (Selling & Distribution) - ₹100 per unit

Selling Price - ₹1,000 per unit, Raw materials & Finished Goods remain in stock for 4 weeks, Work in process takes 4 weeks. Debtors are allowed 8 weeks for payment whereas creditors allow us 4 weeks. Finished goods are valued at cost of sales.

Minimum cash balance expected is ₹50,000. Receivables are valued at Selling Price.

Case Scenarios

1. *ArMore LLP is a newly established startup dealing in manufacture of a revolutionary product HDHMR which is a substitute to conventional wood and plywood. It is an economical substitute for manufacture of furniture and home furnishing. It has been asked by a venture capitalist for an estimated amount of funds required for setting up plant and also the amount of circulating capital required. A consultant hired by the entity has advised that the cost of setting up the plant would be ₹ 5 Crores and it will require 1 year to make the plant operational. The anticipated revenue and associated cost numbers are as follows:*

Units to be sold = 3 lakh sq metres p.a.

Sale Price of each sq mtr = ₹1000

Raw Material cost = ₹200 per sq mtr

Labour cost = ₹50 per hour

Labour hours per sq mtr = 3 hours

Cash Manufacturing Overheads = ₹75 per machine hour

Machine hours per sq mtr = 2 hours

Selling and credit administration Overheads = ₹250 per sq mtr

Being a new product in the industry, the firm will have to give a longer credit period of 3 months to its customers. It will maintain a stock of raw material equal to 15% of annual consumption. Based on negotiation with the creditors, the payment period has been agreed to be 1 month from the date of purchase. The entity will hold finished goods equal to 2 months of units to be sold. All

other expenses are to be paid one month in arrears. Cash and Bank balance to the tune of ₹ 25,00,000 is required to be maintained.

The entity is also considering reducing the working capital requirement by either of the two options: a) reducing the credit period to customers by a month which will lead to reduction in sales by 5%. b) Engaging with a factor for managing the receivables, who will charge a commission of 2% of invoice value and will also advance 65% of receivables @ 12% p.a. This will lead to savings in administration and bad debts cost to the extent of ₹ 20 lakhs and 16 lakhs respectively.

The entity is also considering funding a part of working capital by bank loan. For this purpose, bank has stipulated that it will grant 75% of net current assets as advance against working capital. The bank has quoted 16.5% rate of interest with a condition of opening a current account with it, which will require 10% of loan amount to be minimum average balance.

You being an finance manager, has been asked the following questions:

- (i) The anticipated profit before tax per annum after the plant is operational is
 - (a) ₹ 750 Lakhs
 - (b) ₹ 570 Lakhs
 - (c) ₹ 370 Lakhs
 - (d) ₹ 525 Lakhs
- (ii) The estimated current assets requirement in the first year of operation (debtors calculated at cost) is
 - (a) ₹ 9,42,50,000
 - (b) ₹ 2,17,08,333
 - (c) ₹ 7,25,41,667
 - (d) ₹ 67,08,333
- (iii) The net working capital requirement for the first year of operation is
 - (a) ₹ 9,42,50,000
 - (b) ₹ 2,17,08,333
 - (c) ₹ 7,25,41,667
 - (d) ₹ 67,08,333

- (iv) *The annualised % cost of two options for reducing the working capital is*
- (a) *18.18% and 16.92%*
 - (b) *18.33% and 16.92%*
 - (c) *18.59% and 18.33%*
 - (d) *16.92% and 19.05%*
- (v) *What will be the Maximum Permissible Bank Finance by the bank and annualised % cost of the same?*
- (a) *₹4,55,03,630 and 18.33%*
 - (b) *₹5,44,06,250 and 18.33%*
 - (c) *₹4,45,86,025 and 18.59%*
 - (d) *₹3,45,89,020 and 19.85%*

ANSWERS/SOLUTIONS

Answers to the MCQs

- | | | | | | | | | | | | |
|------------|-----|------------|-----|------------|-----|------------|-----|------------|-----|------------|-----|
| 1. | (a) | 2. | (c) | 3. | (c) | 4. | (c) | 5. | (b) | 6. | (a) |
| 7. | (a) | 8. | (a) | 9. | (b) | 10. | (c) | 11. | (a) | 12. | (b) |
| 13. | (a) | 14. | (a) | 15. | (b) | 16. | (a) | 17. | (a) | 18. | (a) |
| 19. | (b) | 20. | (c) | 21. | (a) | 22. | (a) | 23. | (a) | 24. | (b) |
| 25. | (b) | | | | | | | | | | |

Answers to the Theoretical Questions

1. Please refer paragraph 9.3
2. Please refer paragraph 9.4.1
3. Please refer paragraph 9.5
4. Please refer paragraph 9.8
5. Please refer paragraph 9.11.1
6. Please refer paragraph 9.12.6

7. Please refer paragraph 9.11.1
8. Please refer paragraph 9.11.2
9. Please refer paragraph 9.21
- 10.** Please refer paragraph 9.20
11. Please refer paragraph 9.29

Answers to the Practical Problems

1. Working Notes:

1. Raw Material Storage Period (R)

$$\begin{aligned}
 &= \frac{\text{Average Stock of Raw Material}}{\text{Annual Consumption of Raw Material}} \times 365 \\
 &= \frac{\underline{\text{₹45 + ₹65}}}{\underline{\frac{2}{₹380}}} \times 365 = 52.83 \text{ or } 53 \text{ days}
 \end{aligned}$$

Annual Consumption of Raw Material = Opening Stock + Purchases - Closing Stock

$$= ₹45 + ₹400 - ₹65 = ₹380 \text{ lakh}$$

2. Work – in - Progress (WIP) Conversion Period (W)

$$\begin{aligned}
 &= \frac{\text{Average Stock of WIP}}{\text{Annual Cost of Production}} \times 365 \\
 &= \frac{\underline{\text{₹35 + ₹51}}}{\underline{\frac{2}{₹450}}} \times 365 = 34.87 \text{ or } 35 \text{ days}
 \end{aligned}$$

3. Finished Stock Storage Period (F)

$$\begin{aligned}
 &= \frac{\text{Average Stock of Finished Goods}}{\text{Cost of Goods Sold}} \times 365 \\
 &= \frac{\underline{\text{₹60 + ₹70}}}{\underline{\frac{2}{₹525}}} \times 365 = 45.19 \text{ or } 45 \text{ days.}
 \end{aligned}$$

4. Receivables (Debtors) Collection Period (D)

$$\begin{aligned}
 &= \frac{\text{Average Receivables}}{\text{Annual Credit Sales}} \times 365 \\
 &= \frac{\frac{\text{₹}112 + \text{₹}135}{2}}{\text{₹}585} \times 365 = 77.05 \text{ or } 77 \text{ days}
 \end{aligned}$$

5. Payables (Creditors) Payment Period (C)

$$\begin{aligned}
 &= \frac{\text{Average Payables for materials}}{\text{Annual Credit purchases}} \times 365 \\
 &= \frac{\frac{\text{₹}68 + \text{₹}71}{2}}{\text{₹}400} \times 365 = 63.41 \text{ or } 64 \text{ days}
 \end{aligned}$$

(i) Net Operating Cycle Period

$$\begin{aligned}
 &= R + W + F + D - C \\
 &= 53 + 35 + 45 + 77 - 64 = 146 \text{ days}
 \end{aligned}$$

(ii) Number of Operating Cycles in the Year

$$= \frac{365}{\text{Operating Cycle Period}} = \frac{365}{146} = 2.5 \text{ times}$$

(iii) Amount of Working Capital Required

$$= \frac{\text{Annual Operating Cost}}{\text{Number of Operating Cycles}} = \frac{\text{₹}325}{2.50} = \text{₹}130 \text{ lakh}$$

2. Since WIP is 100% complete in terms of material and 50% complete in terms of other cost, the same has been considered for number of days for WIP inventory i.e. 10 days for material and 5 days for other costs respectively.

Particulars	For Raw Material	For Other Costs	Total
Cash Operating expenses	$\frac{75}{100} \times 800 = 600$	$\frac{25}{100} \times 800 = 200$	800.00
Raw Material Stock Holding	$\frac{20}{360} \times 600 = 33.33$	-	33.33

WIP Conversion	$\frac{10}{360} \times 600 = 16.67$	$\frac{5}{360} \times 200 = 2.78$	19.45
Finished Goods Stock Holding	$\frac{45}{360} \times 600 = 75$	$\frac{45}{360} \times 200 = 25$	100.00
Receivable Collection Period	$\frac{30}{360} \times 600 = 50$	$\frac{30}{360} \times 200 = 16.67$	66.67
Advance to suppliers	$\frac{5}{360} \times 600 = 8.33$	-	8.33
Credit Period from suppliers	$\frac{60}{360} \times 600 = 100$	-	100.00

Computation of working capital

	₹ in lakhs
Raw Material Stock	33.33
WIP	19.45
Finished Goods stock	100.00
Receivables	66.67
Advance to Suppliers	8.33
Cash	10.00
	237.78
Less: Payables (Creditors)	100.00
Working capital	137.78

3. Working Notes:

$$(i) \text{ Cost of Goods Sold} = \text{Sales} - \text{Gross Profit} (35\% \text{ of Sales})$$

$$= ₹ 90,00,000 - ₹ 31,50,000$$

$$= ₹ 58,50,000$$

$$(ii) \text{ Closing Stock} = \text{Cost of Goods Sold} / \text{Stock Turnover}$$

$$= ₹ 58,50,000/6 = ₹ 9,75,000$$

$$\begin{aligned}
 \text{(iii) Fixed Assets} &= \text{Cost of Goods Sold / Fixed Assets Turnover} \\
 &= ₹ 58,50,000 / 1.5 \\
 &= ₹ 39,00,000
 \end{aligned}$$

(iv) Current Assets and Current Liabilities

Current Ratio = 2.5 and Liquid Ratio = 1.5

$$\text{CA / CL} = 2.5 \quad \dots \text{(i)}$$

$$(\text{CA} - \text{Inventories}) / \text{CL} = 1.5 \quad \dots \text{(ii)}$$

By subtracting equation (ii) from (i), we get,

$$\text{Inventories} / \text{CL} = 1$$

$$\text{Current Liabilities} = \text{Inventories (stock)} = ₹ 9,75,000$$

$$\therefore \text{Current Assets} = ₹ 9,75,000 \times 2.5 = ₹ 24,37,500$$

Or

Current Ratio / Quick Ratio = Current Assets / Quick Assets

$$2.5 / 1.5 = \text{Current Assets} / (\text{Current Assets} - \text{Inventory})$$

$$2.5 / 1.5 \text{ Current Assets} - 2.5 / 1.5 \times ₹ 9,75,000 = \text{Current Assets}$$

Hence, Current Assets = ₹ 24,37,500

(v) Liquid Assets (Receivables and Cash)

$$\begin{aligned}
 &= \text{Current Assets} - \text{Inventories (Stock)} \\
 &= ₹ 24,37,500 - ₹ 9,75,000 \\
 &= ₹ 14,62,500
 \end{aligned}$$

$$\begin{aligned}
 \text{(vi) Receivables (Debtors)} &= \text{Sales} \times \text{Debtors Collection period} / 12 \\
 &= ₹ 90,00,000 \times 1 / 12 \\
 &= ₹ 7,50,000
 \end{aligned}$$

$$\begin{aligned}
 \text{(vii) Cash} &= \text{Liquid Assets} - \text{Receivables (Debtors)} \\
 &= ₹ 14,62,500 - ₹ 7,50,000 = ₹ 7,12,500
 \end{aligned}$$

$$\begin{aligned}
 \text{(viii) Net worth} &= \text{Fixed Assets} / 1.3 \\
 &= ₹ 39,00,000 / 1.3 = ₹ 30,00,000
 \end{aligned}$$

(ix) Reserves and Surplus

$$\text{Reserves and Surplus} / \text{Share Capital} = 1/1.5$$

$$\text{Share Capital} = 1.5 \text{ Reserves and Surplus} \quad \dots \text{(i)}$$

$$\text{Now, Reserves and Surplus} + \text{Share Capital} = \text{Net worth} \quad \dots \text{(ii)}$$

From (i) and (ii), we get,

$$2.5 \text{ Reserves and Surplus} = \text{Net worth}$$

$$\text{Reserves and Surplus} = ₹ 30,00,000 / 2.5 = ₹ 12,00,000$$

(x) Share Capital	= Net worth – Reserves and Surplus
	= ₹ 30,00,000 – ₹ 12,00,000
	= ₹ 18,00,000

(xi) Long-term Debts

$$\text{Capital Gearing Ratio} = \text{Long-term Debts} / \text{Equity Shareholders' Fund}$$

$$\text{Long-term Debts} = ₹ 30,00,000 \times 0.7875 = ₹ 23,62,500$$

(a) Balance Sheet of the Company

Particulars	Figures as the end of 31-03-2021 (₹)	Figures as the end of 31-03-2020 (₹)
I. EQUITY AND LIABILITIES		
Shareholders' funds		
(a) Share capital	18,00,000	-
(b) Reserves and surplus	12,00,000	-
Non-current liabilities		
(a) Long-term borrowings	23,62,500	-
Current liabilities	9,75,000	-
TOTAL	63,37,500	-
II. ASSETS		
Non-current assets		
Fixed assets	39,00,000	-

Current assets		
Inventories	9,75,000	-
Trade receivables	7,50,000	-
Cash and cash equivalents	7,12,500	-
TOTAL	63,37,500	-

(b) Statement Showing Working Capital Requirement

	(₹)	(₹)
A. Current Assets		
(i) Inventories (Stocks)		9,75,000
(ii) Receivables (Debtors)		7,50,000
(iii) Cash in hand & at bank		7,12,500
Total Current Assets		24,37,500
B. Current Liabilities:		
Total Current Liabilities		9,75,000
Net Working Capital (A – B)		14,62,500
Add: Provision for contingencies (15% of Net Working Capital)		2,19,375
Working capital requirement		16,81,875

4. Statement showing the requirements of Working Capital

Particulars	(₹)	(₹)
A. Current Assets:		
Inventory:		
Stock of Raw material ($\text{₹ } 96,600 \times 2/12$)	16,100	
Stock of Work-in-progress (As per Working Note)	16,350	
Stock of Finished goods ($\text{₹ } 1,46,500 \times 10/100$)	14,650	
Receivables (Debtors) ($\text{₹ } 1,27,080 \times 2/12$)	21,180	
Cash in Hand	8,000	
Prepaid Expenses:		

Wages & Mfg. Expenses ($\text{₹ } 66,250 \times 1/12$)	5,521	
Administrative expenses ($\text{₹ } 14,000 \times 1/12$)	1,167	
Selling & Distribution Expenses ($\text{₹ } 13,000 \times 1/12$)	1,083	
Advance taxes paid $\{(70\% \text{ of } \text{₹ } 10,000) \times 3/12\}$	1,750	
Gross Working Capital	85,801	85,801
B. Current Liabilities:		
Payables for Raw materials ($\text{₹ } 1,12,700 \times 1.5/12$)	14,088	
Provision for Taxation (Net of Advance Tax) ($\text{₹ } 10,000 \times 30/100$)	3,000	
Total Current Liabilities	17,088	17,088
C. Excess of CA over CL		68,713
Add: 10% for unforeseen contingencies		6,871
Net Working Capital requirements		75,584

Working Notes:**(i) Calculation of Stock of Work-in-progress**

Particulars	(₹)
Raw Material ($\text{₹ } 84,000 \times 15\%$)	12,600
Wages & Mfg. Expenses ($\text{₹ } 62,500 \times 15\% \times 40\%$)	3,750
Total	16,350

(ii) Calculation of Stock of Finished Goods and Cost of Sales

Particulars	(₹)
Direct material Cost [$\text{₹ } 84,000 + \text{₹ } 12,600$]	96,600
Wages & Mfg. Expenses [$\text{₹ } 62,500 + \text{₹ } 3,750$]	66,250
Depreciation	0
Gross Factory Cost	1,62,850
Less: Closing W.I.P	(16,350)
Cost of goods produced	1,46,500

Add: Administrative Expenses	14,000
	1,60,500
Less: Closing stock	(14,650)
Cost of Goods Sold	1,45,850
Add: Selling and Distribution Expenses	13,000
Total Cash Cost of Sales	1,58,850
Debtors (80% of cash cost of sales)	1,27,080

(iii) Calculation of Credit Purchase

Particulars	(₹)
Raw material consumed	96,600
Add: Closing Stock	16,100
Less: Opening Stock	-
Purchases	1,12,700

5. (i)

M.A. Limited
Projected Statement of Profit / Loss
(Ignoring Taxation)

	Year 1	Year 2
Production (Units)	6,000	9,000
Sales (Units)	5,000	8,500
	(₹)	(₹)
Sales revenue (A) (Sales unit × ₹ 96)	4,80,000	8,16,000
Cost of production:		
Materials cost (Units produced × ₹ 40)	2,40,000	3,60,000
Direct labour and variable expenses (Units produced × ₹ 20)	1,20,000	1,80,000
Fixed manufacturing expenses (Production Capacity: 12,000 units × ₹ 6)	72,000	72,000
Depreciation	1,20,000	1,20,000

(Production Capacity : 12,000 units × ₹ 10)		
Fixed administration expenses (Production Capacity : 12,000 units × ₹ 4)	48,000	48,000
Total Costs of Production	6,00,000	7,80,000
Add: Opening stock of finished goods (Year 1 : Nil; Year 2 : 1,000 units)	---	1,00,000
Cost of Goods available for sale (Year 1: 6,000 units; Year 2: 10,000 units)	6,00,000	8,80,000
Less: Closing stock of finished goods at average cost (year 1: 1000 units, year 2 : 1500 units) (Cost of Production × Closing stock/ units produced)	(1,00,000)	(1,32,000)
Cost of Goods Sold	5,00,000	7,48,000
Add: Selling expenses – Variable (Sales unit × ₹ 4)	20,000	34,000
Add: Selling expenses -Fixed (12,000 units × ₹ 1)	12,000	12,000
Cost of Sales : (B)	5,32,000	7,94,000
Profit (+) / Loss (-): (A - B)	(-) 52,000	(+) 22,000

Note: Value of closing stock valued at average cost of goods available for sale.

Working Notes:

- Calculation of creditors for supply of materials:

	Year 1 (₹)	Year 2 (₹)
Materials consumed during the year	2,40,000	3,60,000
Add: Closing stock (2.25 month's average consumption)	45,000	67,500
	2,85,000	4,27,500
Less: Opening Stock	---	45,000
Purchases during the year	2,85,000	3,82,500

Average purchases per month (Creditors)	23,750	31,875
--	--------	--------

2. Creditors for expenses:

	Year 1 (₹)	Year 2 (₹)
Direct labour and variable expenses	1,20,000	1,80,000
Fixed manufacturing expenses	72,000	72,000
Fixed administration expenses	48,000	48,000
Selling expenses (variable + fixed)	32,000	46,000
Total (including	2,72,000	3,46,000
Average per month	22,667	28,833

(ii) Projected Statement of Working Capital requirements

	Year 1 (₹)	Year 2 (₹)
Current Assets:		
Inventories:		
- Stock of materials (2.25 month's average consumption)	45,000	67,500
- Finished goods	1,00,000	1,32,000
Debtors (1 month's average sales) (including profit)	40,000	68,000
Cash	10,000	10,000
Total Current Assets/ Gross working capital (A)	1,95,000	2,77,500
Current Liabilities:		
Creditors for supply of materials (Refer to working note 1)	23,750	31,875
Creditors for expenses (Refer to working note 2)	22,667	28,833
Total Current Liabilities: (B)	46,417	60,708
Estimated Working Capital Requirements: (A-B)	1,48,583	2,16,792

**Projected Statement of Working Capital Requirement
(Cash Cost Basis)**

	Year 1 (₹)	Year 2 (₹)
(A) Current Assets		
Inventories:		
- Stock of Raw Material (6,000 units × ₹ 40 × 2.25/12); (9,000 units × ₹ 40 × 2.25 /12)	45,000	67,500
- Finished Goods (Refer working note 3)	80,000	1,11,000
Receivables (Debtors) (Refer working note 4)	36,000	56,250
Minimum Cash balance	10,000	10,000
Total Current Assets/ Gross working capital (A)	1,71,000	2,44,750
(B) Current Liabilities		
Creditors for raw material (Refer working note 1)	23,750	31,875
Creditors for Expenses (Refer working note 2)	22,667	28,833
Total Current Liabilities	46,417	60,708
Net Working Capital (A – B)	1,24,583	1,84,042

Working Note:

3. Cash Cost of Production:

	Year 1 (₹)	Year 2 (₹)
Cost of Production as per projected Statement of P&L	6,00,000	7,80,000
Less: Depreciation	1,20,000	1,20,000
Cash Cost of Production	4,80,000	6,60,000
Add: Opening Stock at Average Cost:	--	80,000
Cash Cost of Goods Available for sale	4,80,000	7,40,000
Less : Closing Stock at Avg. Cost	(80,000)	(1,11,000)

$\left(\frac{\text{₹ } 4,80,000 \times 1,000}{6,000} \right); \left(\frac{\text{₹ } 7,40,000 \times 1,500}{10,000} \right)$		
Cash Cost of Goods Sold	4,00,000	6,29,000

4. Receivables (Debtors)

	Year 1 (₹)	Year 2 (₹)
Cash Cost of Goods Sold	4,00,000	6,29,000
Add : Variable Expenses @ ₹ 4	20,000	34,000
Add : Total Fixed Selling expenses (12,000 units × ₹1)	12,000	12,000
Cash Cost of Debtors	4,32,000	6,75,000
Average Debtors	36,000	56,250

6. Calculation of Net Working Capital requirement:

	(₹)	(₹)
A. Current Assets:		
Inventories:		
- Raw material stock (Refer to Working note 3)	6,64,615	
- Work in progress stock (Refer to Working note 2)	5,00,000	
- Finished goods stock (Refer to Working note 4)	13,60,000	
Receivables (Debtors) (Refer to Working note 5)	25,10,769	
Cash and Bank balance	25,000	
Gross Working Capital	50,60,384	50,60,384
B. Current Liabilities:		
Creditors for raw materials	7,15,740	

(Refer to Working note 6)		
Creditors for wages (Refer to Working note 7)	91,731	
	8,07,471	8,07,471
Net Working Capital (A - B)		42,52,913

Working Notes:**1. Annual cost of production**

	(₹)
Raw material requirements {(1,04,000 units × ₹ 80) + ₹3,20,000}	86,40,000
Direct wages {(1,04,000 units × ₹ 30) + ₹60,000}	31,80,000
Overheads (exclusive of depreciation) {(1,04,000 × ₹ 60) + ₹1,20,000}	63,60,000
Gross Factory Cost	1,81,80,000
Less: Closing W.I.P	(5,00,000)
Cost of Goods Produced	1,76,80,000
Less: Closing Stock of Finished Goods (₹1,76,80,000 × 8,000/1,04,000)	(13,60,000)
Total Cash Cost of Sales	1,63,20,000

2. Work in progress stock

	(₹)
Raw material requirements (4,000 units × ₹ 80)	3,20,000
Direct wages (50% × 4,000 units × ₹ 30)	60,000
Overheads (50% × 4,000 units × ₹ 60)	1,20,000
	5,00,000

3. Raw material stock

It is given that raw material in stock is average 4 weeks consumption. Since, the company is newly formed, the raw material requirement for production and work in progress will be issued and consumed during the year.

Hence, the raw material consumption for the year (52 weeks) is as follows:

	(₹)
For Finished goods ($1,04,000 \times ₹ 80$)	83,20,000
For Work in progress ($4,000 \times ₹ 80$)	3,20,000
	86,40,000

$$\text{Raw material stock} = \frac{₹ 86,40,000}{52 \text{ weeks}} \times 4 \text{ weeks} \quad \text{i.e. ₹ 6,64,615}$$

4. **Finished goods stock:** 8,000 units @ ₹ 170 per unit = ₹ 13,60,000

5. **Debtors for sale:** $1,63,20,000 \times \frac{8}{52} = ₹ 25,10,769$

6. **Creditors for raw material:**

Material Consumed (₹ 83,20,000 + ₹ 3,20,000)	₹ 86,40,000
Add: Closing stock of raw material	₹ 6,64,615
Purchases of Raw Material	₹ 93,04,615

$$\text{Credit allowed by suppliers} = \frac{₹ 93,04,615}{52 \text{ weeks}} \times 4 \text{ weeks} = ₹ 7,15,740$$

7. **Creditors for wages**

$$\text{Outstanding wage payment} = \frac{₹ 31,80,000}{52 \text{ weeks}} \times 1.5 \text{ weeks} = ₹ 91,731$$

7. Preparation of Statement of Working Capital Requirement for Trux Company Ltd.

	(₹)	(₹)
A. Current Assets		
(i) Inventories:		
Material (1 month) $\left(\frac{\text{₹}6,75,000}{12\text{months}} \times 1 \text{month} \right)$	56,250	
Finished goods (1 month) $\left(\frac{\text{₹}21,60,000}{12\text{months}} \times 1 \text{month} \right)$	1,80,000	2,36,250
(ii) Receivables (Debtors)		
For Domestic Sales $\left(\frac{\text{₹}15,17,586}{12\text{months}} \times 1 \text{month} \right)$	1,26,466	
For Export Sales $\left(\frac{\text{₹}7,54,914}{12\text{months}} \times 3 \text{months} \right)$	1,88,729	3,15,195
(iii) Prepayment of Selling expenses $\left(\frac{\text{₹}1,12,500}{12\text{months}} \times 3 \text{months} \right)$		28,125
(iii) Cash in hand & at bank (net of overdraft)		1,75,000
Total Current Assets		7,54,570
B. Current Liabilities:		
(i) Payables (Creditors) for materials (2 months)		
$\left(\frac{\text{₹}6,75,000}{12\text{months}} \times 2 \text{month} \right)$		1,12,500

(ii) Outstanding wages (0.5 months)	$\left(\frac{\text{₹}5,40,000}{12\text{months}} \times 0.5\text{month} \right)$	22,500
(iii) Outstanding manufacturing expenses	$\left(\frac{\text{₹}7,65,000}{12\text{months}} \times 1\text{month} \right)$	63,750
(iv) Outstanding administrative expenses	$\left(\frac{\text{₹}1,80,000}{12\text{months}} \times 1\text{month} \right)$	15,000
(v) Income tax payable		42,000
Total Current Liabilities		2,55,750
Net Working Capital (A – B)		4,98,820
Add: 10% contingency margin		49,882
Total Working Capital required		5,48,702

Working Notes:

1. Calculation of Cost of Goods Sold and Cost of Sales

	Domestic ₹)	Export ₹)	Total (₹)
Domestic Sales	18,00,000	8,10,000	26,10,000
Less: Gross profit @ 20% on domestic sales and 11.11% on export sales (Working note-2)	3,60,000	90,000	4,50,000
Cost of Goods Sold	14,40,000	7,20,000	21,60,000
Add: Selling expenses (Working note-3)	77,586	34,914	1,12,500
Cash Cost of Sales	15,17,586	7,54,914	22,72,500

2. Calculation of gross profit on Export Sales

Let domestic selling price is ₹ 100. Gross profit is ₹ 20, and then cost per unit is ₹ 80

Export price is 10% less than the domestic price i.e. ₹ 100–(1-0.1)= ₹ 90

Now, gross profit will be = ₹ 90 - ₹ 80 = ₹ 10

So, Gross profit ratio at export price will be = $\frac{₹ 10}{₹ 90} \times 100 = 11.11\%$

3. Apportionment of Selling expenses between Domestic and Exports sales:

Apportionment on the basis of sales value:

$$\text{Domestic Sales} = \frac{₹ 1,12,500}{₹ 26,10,000} \times ₹ 18,00,000 = ₹ 77,586$$

$$\text{Exports Sales} = \frac{₹ 1,12,500}{₹ 26,10,000} \times ₹ 8,10,000 = ₹ 34,914$$

4. Assumptions

(i) It is assumed that administrative expenses is related to production activities.

(ii) Value of opening and closing stocks are equal.

8. Workings:

1. Sale receipts

Month	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Forecast sales (S)	1,000	1,000	1,000	1,250	1,500	2,000	1,900	2,200
	₹	₹	₹	₹	₹	₹	₹	₹
S×15	15,000	15,000	15,000	18,750	22,500	30,000	28,500	33,000
Debtors pay:								
1month 40%		6,000	6,000	6,000	7,500	9,000	12,000	11,400
2month 60%		-	9,000	9,000	9,000	11,250	13,500	18,000
	-	-	15,000	15,000	16,500	20,250	25,500	29,400

2. Payment for materials – books produced two months before sale

Month	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Qty produced (Q)	1,000	1,250	1,500	2,000	1,900	2,200	2,200	2,300
	₹	₹	₹	₹	₹	₹	₹	₹
Materials (Q×5)	5,000	6,250	7,500	10,000	9,500	11,000	11,000	11,500
Paid (2 months after)	-	-	5,000	6,250	7,500	10,000	9,500	11,000

3. Variable overheads

Month	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Qty produced (Q)	1,000	1,250	1,500	2,000	1,900	2,200	2,200	2,300
	₹	₹	₹	₹	₹	₹	₹	₹
Var. overhead (Q×2)	2,000	2,500	3,000	4,000	3,800			
Var. overhead (Q×2.50)						5,500	5,500	5,750
Paid one month later		2,000	2,500	3,000	4,000	3,800	5,500	5,500

4. Wages payments

Month	Dec	Jan	Feb	Mar	Apr	May	Jun
Qty produced (Q)	1,250	1,500	2,000	1,900	2,200	2,200	2,300
	₹	₹	₹	₹	₹	₹	₹
Wages (Q × 4)	5,000	6,000	8,000				
Wages (Q × 4.50)				8,550	9,900	9,900	10,350
75% this month	3,750	4,500	6,000	6,412	7,425	7,425	7,762
25% this month		1,250	1,500	2,000	2,138	2,475	2,475
	5,750	7,500	8,412	9,563	9,900	10,237	

Cash budget – six months ended June

	Jan	Feb	Mar	Apr	May	Jun
	₹	₹	₹	₹	₹	₹
Receipts:						
Sales receipts	15,000	15,000	16,500	20,250	25,500	29,400
Freehold property	-	-	-	-	25,000	-
	15,000	15,000	16,500	20,250	50,500	29,400
Payments:						
Materials	5,000	6,250	7,500	10,000	9,500	11,000
Var. overheads	2,500	3,000	4,000	3,800	5,500	5,500
Wages	5,750	7,500	8,412	9,563	9,900	10,237
Printing press	-	-	-	-	10,000	-
Corporation tax	-	-	10,000	-	-	-
	13,250	16,750	29,912	23,363	34,900	26,737
Net cash flow	1,750	(1,750)	(13,412)	(3,113)	15,600	2,663
Balance b/f	1,500	3,250	1,500	(11,912)	(15,025)	575
Cumulative cash flow	3,250	1,500	(11,912)	(15,025)	575	3,238

9. Cash Budget

	Jan ₹	Feb ₹	Mar ₹	Apr ₹	May ₹	June ₹	Total ₹
Receipts							
Cash sales	36,000	48,500	43,000	44,300	51,250	54,350	2,77,400
Collections from debtors	-	36,000	48,500	43,000	44,300	51,250	2,23,050
Bank loan	-	-	-	-	30,000	-	30,000
Total	36,000	84,500	91,500	87,300	1,25,550	1,05,600	5,30,450

Payments							
Materials	-	25,000	31,000	25,500	30,600	37,000	1,49,100
Salaries and wages	10,000	12,100	10,600	25,000	22,000	23,000	1,02,700
Production overheads	-	6,000	6,300	6,000	6,500	8,000	32,800
Office & selling overheads	-	5,500	6,700	7,500	8,900	11,000	39,600
Sales commission	2,160	2,910	2,580	2,658	3,075	3,261	16,644
Capital expenditure	-	8,000	-	25,000	-	-	33,000
Dividend	-	-	-	-	-	35,000	35,000
Total	12,160	59,510	57,180	91,658	71,075	1,17,261	4,08,844
Net cash flow	23,840	24,990	34,320	(4,358)	54,475	(11,661)	1,21,606
Balance, beginning of month	72,500	96,340	1,21,330	1,55,650	1,51,292	2,05,767	72,500
Balance, end of month	96,340	1,21,330	1,55,650	1,51,292	2,05,767	1,94,106	1,94,196

10. (a) Cash Budget *(in thousands)*

	Nov.	Dec.	Jan.	Feb.	Mar.
	₹	₹	₹	₹	₹
Opening Balance (A)			50	50	50
Sales	500	600	600	1,000	650
Receipts:					
Collections, current month's sales			120	200	130
Collections, previous month's sales			420	420	700
Collections, previous 2 month's sales			50	60	60
Total (B)			590	680	890
Purchases		360	600	390	450
Payments:					
Payment for purchases			360	600	390

Labour costs			150	200	160
Other expenses			100	100	100
Total (C)			610	900	650
Surplus/Deficit (D) = (A + B - C)			30	(170)	290
Minimum cash balance (E)			50	50	50
Additional borrowings (F) = (E - D)			20	220	(240)

	Jan.	Feb.	Mar.
	₹	₹	₹
Additional borrowings	20	220	(240)
Cumulative borrowings (Opening balance of 400)	420	640	400

The amount of financing peaks in February owing to the need to pay for purchases made the previous month and higher labour costs. In March, substantial collections are made on the prior month's billings, causing large net cash inflow sufficient to pay off the additional borrowings.

(b)

Pro forma Balance Sheet, 31st March, 2023

Equity & liabilities	Amount (₹ in '000)	Assets	Amount (₹ in '000)
Equity shares capital	100	Net fixed assets	1,836
Retained earnings	1,529	Inventories	635
Long-term borrowings	450	Accounts receivables	620
Accounts payables	450	Cash and bank	50
Loan from banks	400		
Other liabilities	212		
	3,141		3,141

$$\text{Accounts receivable} = \text{Sales in March} \times 0.8 + \text{Sales in February} \times 0.1$$

	= ₹ 650 × 0.8 + ₹ 1,000 × 0.1 = ₹ 620
Inventories	= ₹ 545 + Total purchases from January to March – Total sales from January to March × 0.6
	= ₹ 545 + (₹ 600 + ₹ 390 + ₹ 450) – (₹ 600 + ₹ 1000 + ₹ 650) × 0.6 = ₹ 635
Accounts payable	= Purchases in March = ₹ 450
Retained earnings	= ₹ 1,439 + Sales – Payment for purchases – Labour costs and – Other expenses, all for January to March = ₹ 1,439 + (₹ 600 + ₹ 1000 + ₹ 650) – (₹ 360 + ₹ 600 + ₹ 390) – (₹ 150 + ₹ 200 + ₹ 160) – (₹ 100 + ₹ 100 + ₹ 100) = ₹ 1,529

11. Evaluation of Alternative Collection Programmes

	Present Policy	Alternative I	Alternative II
	₹	₹	₹
Sales Revenues	30,00,000	30,00,000	30,00,000
Average Collection Period (ACP) (days)	50	40	30
Receivables (₹) $\left(\text{Sales} \times \frac{\text{ACP}}{360} \right)$	4,16,667	3,33,333	2,50,000
Reduction in Receivables from Present Level (₹)	–	83,334	1,66,667
Savings in Interest @ 10% p.a. (A)	–	₹ 8,333	₹ 16,667
% of Bad Debt Loss	5%	4%	3%
Amount (₹)	1,50,000	1,20,000	90,000
Reduction in Bad Debts from Present Level (B)	–	30,000	60,000

Incremental Benefits from Present Level (C) = (A) + (B)	-	38,333	76,667
Collection Expenses (₹)	30,000	60,000	95,000
Incremental Collection Expenses from Present Level (D)	-	<u>30,000</u>	<u>65,000</u>
Incremental Net Benefit (C – D)	-	₹ 8,333	₹ 11,667

Conclusion: From the analysis it is apparent that Alternative I has a benefit of ₹ 8,333 and Alternative II has a benefit of ₹ 11,667 over present level. Alternative II has a benefit of ₹ 3,334 more than Alternative I. Hence Alternative II is more viable.

(Note: In absence of Cost of Sales, sales has been taken for purpose of calculating investment in receivables. 1 year = 360 days.)

12. Statement showing the Evaluation of Proposal

Particulars	₹
A. Expected Profit:	
Net Sales	1,00,000
Less: Production and Selling Expenses @ 80%	(80,000)
Profit before providing for Bad Debts	20,000
Less: Bad Debts @10%	(10,000)
Profit before Tax	10,000
Less: Tax @ 50%	(5,000)
Profit after Tax	5,000
B. Opportunity Cost of Investment in Receivables	(2,500)
C. Net Benefits (A – B)	2,500

Advise: The sales manager's proposal should be accepted.

Working Note: Calculation of Opportunity Cost of Funds

$$\text{Opportunity Cost} = \frac{\text{Total Cost of Credit Sales}}{\text{Collection period}} \times \frac{\text{Required Rate of Return}}{100} = \frac{₹ 80,000}{12} \times \frac{1.5}{100} \times \frac{25}{100} = ₹ 2,500$$

Statement showing the Acceptable Degree of Risk of Non-payment

Particulars	Required Rate of Return		
	30%	40%	60%
Sales	1,00,000	1,00,000	1,00,000
Less: Production and Sales Expenses	80,000	80,000	80,000
Profit before providing for Bad Debts	20,000	20,000	20,000
Less: Bad Debts (assume X)	X	X	X
Profit before tax	20,000 – X	20,000 – X	20,000 – X
Less: Tax @ 50%	(20,000 – X) 0.5	(20,000 – X) 0.5	(20,000 – X) 0.5
Profit after Tax	10,000 – 0.5X	10,000 – 0.5X	10,000 – 0.5X
Required Return (given)	30% of 10,000*	40% of 10,000*	60% of 10,000*
	= ₹ 3,000	= ₹ 4,000	= ₹ 6,000

$$\text{*Average Debtors} = \text{Total Cost of Credit Sales} \times \frac{\text{Collection period}}{12}$$

$$= ₹ 80,000 \times \frac{1.5}{12} = ₹ 10,000$$

Computation of the value and percentage of X in each case is as follows:

$$\text{Case I} \quad 10,000 – 0.5x = 3,000$$

$$0.5x = 7,000$$

$$X = 7,000/0.5 = ₹ 14,000$$

$$\text{Bad Debts as \% of sales} = ₹ 14,000/₹ 1,00,000 \times 100 = 14\%$$

$$\text{Case II} \quad 10,000 – 0.5x = 4,000$$

$$0.5x = 6,000$$

$$X = 6,000/0.5 = ₹ 12,000$$

$$\text{Bad Debts as \% of sales} = ₹ 12,000/₹ 1,00,000 \times 100 = 12\%$$

$$\text{Case III} \quad 10,000 – 0.5x = 6,000$$

$$0.5x = 4,000$$

$$X = 4,000/0.5 = ₹ 8,000$$

$$\text{Bad Debts as \% of sales} = ₹ 8,000/₹ 1,00,000 \times 100 = 8\%$$

Thus, it is found that the Acceptable Degree of risk of non-payment is 14%, 12% and 8% if required rate of return (after tax) is 30%, 40% and 60% respectively.

13. Statement showing the Evaluation of Debtors Policies

Particulars	Proposed Policy ₹
A. Expected Profit:	
(a) Credit Sales	15,00,000
(b) Total Cost	
(i) Variable Costs	14,50,000
(ii) Recurring Costs	5,000
	14,55,000
(c) Bad Debts	15,000
(d) Expected Profit [(a) – (b) – (c)]	30,000
B. Opportunity Cost of Investments in Receivables	68,787
C. Net Benefits (A – B)	(38,787)

Recommendation: The Proposed Policy should not be adopted since the net benefits under this policy are negative

Working Note: Calculation of Opportunity Cost of Average Investments

$$\text{Opportunity Cost} = \text{Total Cost} \times \frac{\text{Collection period}}{365} \times \frac{\text{Rate of Return}}{100}$$

Particulars	15%	34%	30%	20%	Total
A. Total Cost	2,18,250	4,94,700	4,36,500	2,91,000	14,40,450
B. Collection period	30/365	60/365	90/365	100/365	
C. Required Rate of Return	24%	24%	24%	24%	
D. Opportunity Cost (A × B × C)	4,305	19,517	25,831	19,134	68,787

14.

Cost Structure for 52,000 units	
Particulars	Amount (₹)
Raw Material @ ₹ 400P	2,08,00,000
Direct Wages @ ₹ 150	78,00,000
Manufacturing Overheads @ ₹ 200	1,04,00,000
Selling and Distribution OH @ ₹ 100	52,00,000
Total Cost	4,42,00,000
Sales @ ₹ 1,000	5,20,00,000

Particulars	Calculation	Amount (₹)
A. Current Assets:		
Raw Material Stock	$2,08,00,000 \times \frac{4}{52}$	16,00,000
Work in Progress (WIP) Stock**	$2,08,00,000 + \frac{(78,00,000 + 1,04,00,000)}{2} \times \frac{4}{52}$	23,00,000
Finished Goods Stock	$4,42,00,000 \times \frac{4}{52}$	34,00,000
Receivables	$5,20,00,000 \times \frac{8}{52}$	80,00,000
Cash		50,000
	Total Current Assets	1,53,50,000
B. Current Liabilities:		
Creditors	$2,08,00,000 \times \frac{4}{52}$	16,00,000
C. Working Capital Estimates(A-B)		1,37,50,000

** Assuming that labour and overhead are incurred evenly throughout the year.

Answers to the Case Scenarios

i.	(a)	ii.	(a)	iii.	(c)	iv.	(a)	v.	(b)
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1. (i)

	Units	Per unit ₹)	Amount ₹)
Raw Material consumption	3,50,000	200	7,00,00,000
labour cost	3,50,000	150	5,25,00,000
Production Overheads	3,50,000	150	5,25,00,000
Cost of Production	3,50,000	500	17,50,00,000
Less: Stock of FG	50,000	500	2,50,00,000
COGS	3,00,000	500	15,00,00,000
Selling and admin exp	3,00,000	250	7,50,00,000
Cost of Sales	3,00,000	750	22,50,00,000
Sales	3,00,000	1000	30,00,00,000
Profit	3,00,000	250	7,50,00,000

Stock of FG (sq. mtr.) = $30,00,000 \times 2/12 = 50,000$

Units sold = 3,00,000

Raw material consumed (sq. mtr.) = 3,50,000

Raw Material Purchases = Consumption + RM stock (15%)
 $= 7,00,00,000 + 1,05,00,000$
 $= ₹ 8,05,00,000$

(ii) Stock of Raw Material (15% of 7,00,00,000) = 1,05,00,000

Stock of finished goods = 2,50,00,000

Debtors ($22,50,00,000 \times 3/12$) = 5,62,50,000

Cash = 25,00,000

Total Current Assets = **9,42,50,000**

(iii) **Working Capital Statement**

	Amount (₹)
Stock of Raw Material (15% of 7,00,00,000)	1,05,00,000
Stock of finished goods	2,50,00,000

Debtors (22,50,00,000 x 3/12)	5,62,50,000
Cash	25,00,000
Total Current Assets	9,42,50,000
Creditors (8,05,00,000 x 1/12)	67,08,333
O/s Exp (18,00,00,000 x 1/12)	1,50,00,000
Total Current Liabilities	2,17,08,333
Net Working Capital	7,25,41,667

(iv) Cost reducing debtors credit period

Debtors credit period	= 2 months
Debtors balance	= 21,37,50,000(2,85,000 units) x 2/12 = ₹3,56,25,000
Debtors credit period	= 3 months
Debtors balance	= 22,50,00,000 x 3/12 = ₹ 5,62,50,000
Amount released from debtors	= ₹ 2,06,25,000
reduction in profit (15,000 units x ₹ 250)	= ₹ 37,50,000
% p.a. cost (37,50,000/2,06,25,000)	= 18.18%

Costs of factoring

Commission (2% of 30 crores)	= 60,00,000
Interest (30cr x 65% x 12% x 3/12)	= ₹ 58,50,000
savings	= ₹ 36,00,000
Net cost of factoring	$\frac{82,50,000}{65\% \text{ of } 30\text{cr. i.e. } 19,50,00,000} \times \frac{12}{3} = ₹ 82,50,000$
% p.a. cost	= 16.92%

(v) 5,44,06,250 and 18.33%

Maximum Permissible Bank Finance	= 75% of 7,25,41,667
	= ₹ 5,44,06,250
Annualised cost of bank loan	= 16.5/90% = 18.33%