

## UNIT IV

### Working Capital Management

Working capital management is also one of the important parts of the financial management. It is concerned with short-term finance of the business concern which is a closely related trade between profitability and liquidity. Efficient working capital management leads to improve the operating performance of the business concern and it helps to meet the short- term liquidity. Hence, study of working capital management is not only an important part of financial management but also are overall management of the business concern.

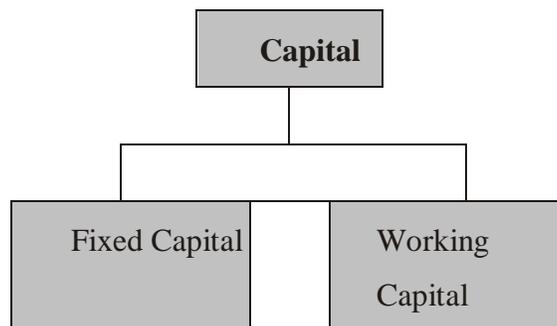
Working capital is described as the capital which is not fixed but the more common uses of the working capital is to consider it as the difference between the book value of current assets and current liabilities.

This chapter deals with the following important aspects of the working capital management.

- Meaning of Working Capital
- Concept of Working Capital
- Types of Working Capital
- Needs of Working Capital
- Factors determining Working Capital
- Computation of Working Capital
- Sources of Working Capital

### Meaning of Working Capital

Capital of the concern may be divided into two major headings.



## Fig 4.1 Capital of the Business

Fixed capital means that capital, which is used for long-term investment of the business concern. For example, purchase of permanent assets. Normally it consists of non-recurring in nature.

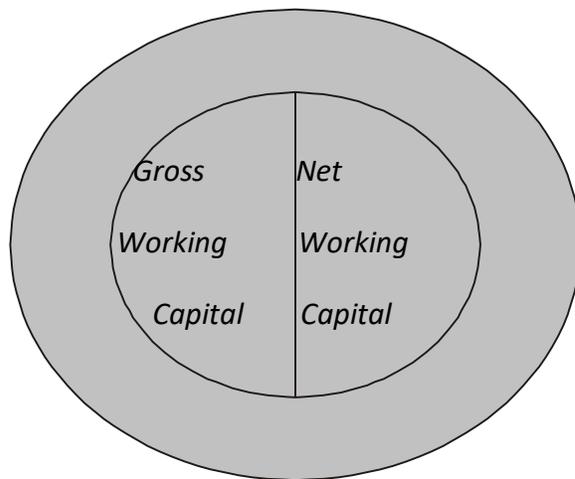
Working Capital is another part of the capital which is needed for meeting day to day requirement of the business concern. For example, payment to creditors, salary paid to workers, purchase of raw materials etc., normally it consists of recurring in nature. It can be easily converted into cash. Hence, it is also known as short-term capital.

### Definitions

1. According to the definition of Mead, Baker and Malott, “Working Capital means Current Assets”.
2. According to the definition of J.S.Mill, “The sum of the current asset is the working capital of a business”.
3. According to the definition of **Weston and Brigham**, “Working Capital refers to a firm’s investment in short-term assets, cash, short-term securities, accounts receivables and inventories”.
4. According to the definition of **Bonneville**, “Any acquisition of funds which increases the current assets, increase working capital also for they are one and the same”.
5. According to the definition of **Shubin**, “Working Capital is the amount of funds necessary to cover the cost of operating the enterprises”.
6. According to the definition of **Genestenberg**, “Circulating capital means current assets of a company that are changed in the ordinary course of business from one form to another, for example, from cash to inventories, inventories to receivables, receivables to cash”.

### Concept of Working Capital

Working capital can be classified or understood with the help of the following two important concepts.



**Fig. 4.2 Working Capital Concept**

### **Gross Working Capital**

Gross Working Capital is the general concept which determines the working capital concept. Thus, the gross working capital is the capital invested in total current assets of the business concern.

$$\boxed{\text{GWC} = \text{CA}}$$

Gross Working Capital is simply called as the total current assets of the concern.

### **Net Working Capital**

Net Working Capital is the specific concept, which, considers both current assets and current liability of the concern.

Net Working Capital is the excess of current assets over the current liability of the concern during a particular period.

If the current assets exceed the current liabilities it is said to be positive working capital;

$$\boxed{\text{NWC} = \text{CA} - \text{CL}}$$

if it is reverse, it is said to be Negative working capital.

### **Components of Working Capital**

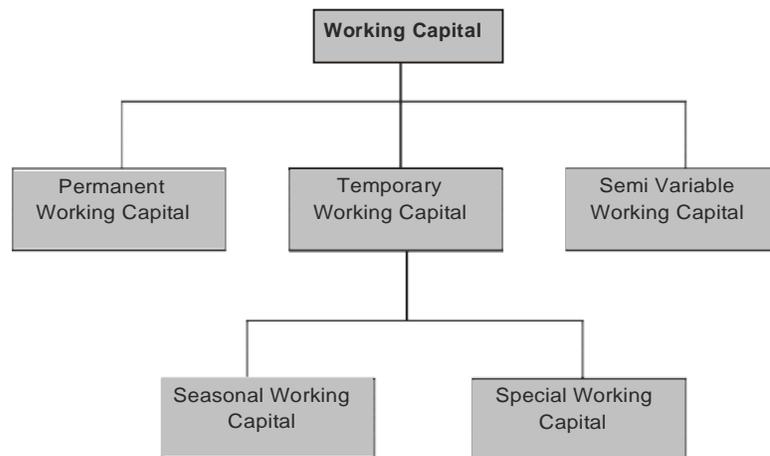
Working capital constitutes various current assets and current liabilities. This can be

**Current assets:** Cash in Hand, Cash at Bank, Bills Receivable, Sundry Debtors, Short-term Loans and Advances, Inventories, Prepaid Expenses, Accrued Income

**Current Liabilities:** Bills Payable, Sundry Creditors, Outstanding Expenses, Short-term Loans and Advances Dividend Payable, Bank Overdraft Provision for Taxation

## Types of Working Capital

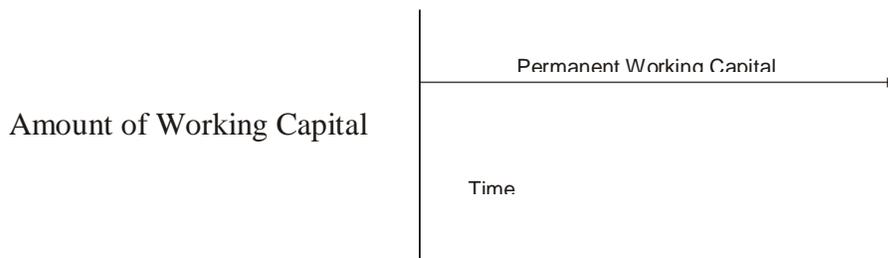
Working Capital may be classified into three important types on the basis of time.



**Fig. 4.3 Types of Working Capital**

### Permanent Working Capital

It is also known as Fixed Working Capital. It is the capital; the business concern must maintain certain amount of capital at minimum level at all times. The level of Permanent Capital depends upon the nature of the business. Permanent or Fixed Working Capital will not change irrespective of time or volume of sales.



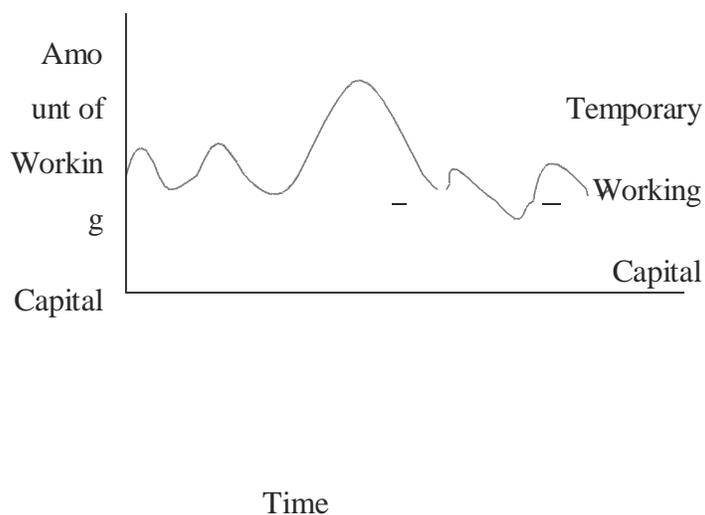
**Fig. 4.4 Permanent Working Capital**

## Temporary working capital

### Temporary Working Capital

It is also known as variable working capital. It is the amount of capital which is required to meet the Seasonal demands and some special purposes. It can be further classified into Seasonal Working Capital and Special Working Capital.

The capital required to meet the seasonal needs of the business concern is called as Seasonal Working Capital. The capital required to meet the special exigencies such as launching of extensive marketing campaigns for conducting research, etc.



**Fig. 4.5 Temporary Working Capital**

## **Semi Variable Working Capital**

Certain amount of Working Capital is in the field level up to a certain stage and after that it will increase depending upon the change of sales or time.

## **Needs of Working Capital**

Working Capital is an essential part of the business concern. Every business concern must maintain certain amount of Working Capital for their day-to-day requirements and meet the short-term obligations.

Working Capital is needed for the following purposes.

1. **Purchase of raw materials and spares:** The basic part of manufacturing process is, raw materials. It should purchase frequently according to the needs of the business concern. Hence, every business concern maintains certain amount as Working Capital to purchase raw materials, components, spares, etc.
2. **Payment of wages and salary:** The next part of Working Capital is payment of wages and salaries to labour and employees. Periodical payment facilities make employees perfect in their work. So a business concern maintains adequate the amount of working capital to make the payment of wages and salaries.
3. **Day-to-day expenses:** A business concern has to meet various expenditures regarding the operations at daily basis like fuel, power, office expenses, etc.
4. **Provide credit obligations:** A business concern responsible to provide credit facilities to the customer and meet the short-term obligation. So the concern must provide adequate Working Capital.

## **Working Capital Position/ Balanced Working Capital Position.**

A business concern must maintain a sound Working Capital position to improve the efficiency of business operation and efficient management of finance. Both excessive and inadequate Working Capital lead to some problems in the business concern.

### **A. Causes and effects of excessive working capital.**

- (i) Excessive Working Capital leads to unnecessary accumulation of raw materials, components and spares.
- (ii) Excessive Working Capital results in locking up of excess Working Capital.

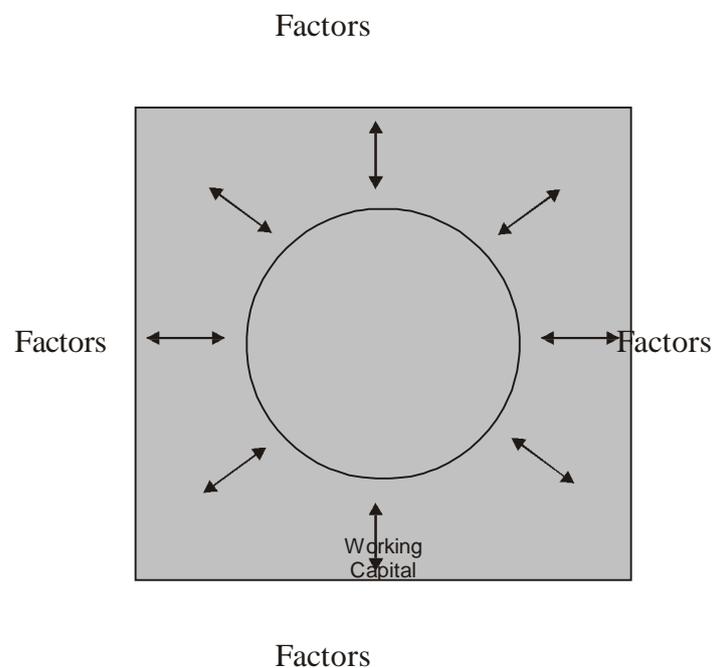
- (iii) It creates bad debts, reduces collection periods, etc.
- (iv) It leads to reduce the profits.

**B. Causes and effects of inadequate working capital**

- (i) Inadequate working capital cannot buy its requirements in bulk order.
- (ii) It becomes difficult to implement operating plans and activate the firm's profit target.
- (iii) It becomes impossible to utilize efficiently the fixed assets.
- (iv) The rate of return on investments also falls with the shortage of Working Capital.
- (v) It reduces the overall operation of the business

**Factors Determining Working Capital Requirements**

Working Capital requirements depends upon various factors. There are no set of rules or formula to determine the Working Capital needs of the business concern. The following are the major factors which are determining the Working Capital requirements.



**Fig. 4.6 Factors Determining Working Capital Requirements**

**1. Nature of business:** Working Capital of the business concerns largely

depend upon the nature of the business. If the business concerns follow rigid credit policy and sell goods only for cash, they can maintain lesser amount of Working Capital. A transport company maintains lesser amount of Working Capital while a construction company maintains larger amount of Working Capital.

2. **Production cycle:** Amount of Working Capital depends upon the length of the production cycle. If the production cycle length is small, they need to maintain lesser amount of Working Capital. If it is not, they have to maintain large amount of Working Capital.
3. **Business cycle:** Business fluctuations lead to cyclical and seasonal changes in the business condition and it will affect the requirements of the Working Capital. In the booming conditions, the Working Capital requirement is larger and in the depression condition, requirement of Working Capital will reduce. Better business results lead to increase the Working Capital requirements.
4. **Production policy:** It is also one of the factors which affects the Working Capital requirement of the business concern. If the company maintains the continues production policy, there is a need of regular Working Capital. If the production policy of the company depends upon the situation or conditions, Working Capital requirement will depend upon the conditions laid down by the company.
5. **Credit policy:** Credit policy of sales and purchase also affect the Working Capital requirements of the business concern. If the company maintains liberal credit policy to collect the payments from its customers, they have to maintain more Working Capital. If the company pays the dues on the last date it will create the cash maintenance in hand and bank.
6. **Growth and expansion:** During the growth and expansion of the business concern, Working Capital requirements are higher, because it needs some additional Working Capital and incurs some extra expenses at the initial stages.
7. **Availability of raw materials:** Major part of the Working Capital requirements are largely depend on the availability of raw materials. Raw materials are the basic components of the production process. If the raw material is not readily available, it leads to production stoppage.

So, the concern must maintain adequate raw material; for that purpose, they have to spend some amount of Working Capital.

**8. Earning capacity:** If the business concern consists of high level of earning capacity, they can generate more Working Capital, with the help of cash from operation. Earning capacity is also one of the factors which determines the Working Capital requirements of the business concern.

### **9. Seasonal Variations:**

There are some industries which either produce goods or make sales only seasonally. For example, the sugar industry produces practically all the sugar between December and April and the woollen textile industry makes its sales generally during winter.

In both these cases the needs of working capital will be very large, during few months (i.e., season). The working capital requirements will gradually decrease as and when the sales are made.

### **10. Requirements of Cash:**

The need to have cash in hand to meet various requirements e.g., payment of salaries, rents, rates etc., has an effect on the working capital. The more the cash requirements the higher will be working capital needs of the company and vice versa.

### **11. Other Factors:**

In addition to the above mentioned considerations there are also a number of other factors which affect the requirements of working capital. Some of them are given below.

- (i) Degree of co-ordination between production and distribution policies.
- (ii) Specialisation in the field of distribution.
- (iii) Developments of means of transportation and communications.
- (iv) The hazards and contingencies inherent in the type of business.

## **Computation (Or Estimation) Of Working Capital**

Working Capital requirement depends upon number of factors, Now the discussion is on how to calculate the Working Capital needs of the business concern. It may also depend upon various factors but some of the common methods are used to estimate the Working Capital.

### **A. Estimation of components of working capital method**

Working capital consists of various current assets and current liabilities. Hence, we have to estimate how much current assets as inventories required and how much cash required to meet the short term obligations.

Finance Manager first estimates the assets and required Working Capital for a particular period.

### B. Percent of sales method

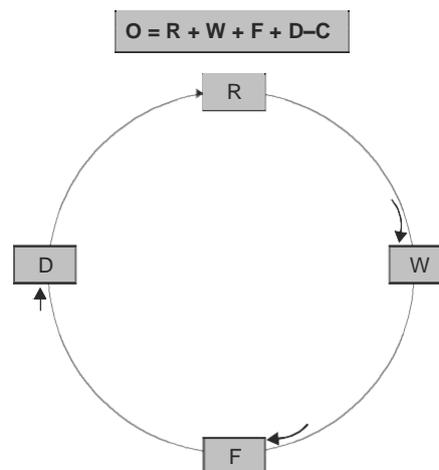
Based on the past experience between Sales and Working Capital requirements, a ratio can be determined for estimating the Working Capital requirement in future. It is the simple and tradition method to estimate the Working Capital requirements. Under this method, first we have to find out the sales to Working Capital ratio and based on that we have to estimate Working Capital requirements. This method also expresses the relationship between the Sales and Working Capital.

### C. Operating cycle

Working Capital requirements depend upon the operating cycle of the business. The operating cycle begins with the acquisition of raw material and ends with the collection of receivables.

Operating cycle consists of the following important stages:

1. Raw Material and Storage Stage, (R)
2. Work in Process Stage, (W)
3. Finished Goods Stage, (F)
4. Debtors Collection Stage, (D)
5. Creditors Payment Period Stage. (C)



**Fig. 4.7 Working Capital Cycle**

## Estimating Working Capital Requirement

### Operating Cycle Method:

This method of estimating working capital requirements is based upon the operating cycle concept of working capital. The cycle starts with the purchase of raw material and other resources and ends with the realization of cash from the sale of finished goods.

It involves purchase of raw materials and stores, its conversion into stock of finished goods through work-in-process with progressive increment of labour and service costs, conversion of finished stock into sales, debtors and receivables, realization of cash and this cycle continues again from cash to purchase of raw material and so on. The speed/time duration required to complete one cycle determines the requirement of working capital – longer the period of cycle, larger is the requirement of working capital and vice-versa.

The requirements of working capital be estimated as follows:

$$\text{Working Capital Required} = \text{Cost of goods sold} \times \frac{\text{Operating cycle (days)}}{365 \text{ or } 360 \text{ days}} + \text{Desired cash balance}$$

**Illustration 8.** Details of X Ltd. for the year 2007-08, are given as under :

Cost of goods sold	₹ 48,00,000
Operating cycle	60 days
Minimum desired level of cash balance	₹ 75,000

You are required to calculate the expected working capital requirement by assuming 360 days in a year.

**Solution :**

$$\begin{aligned} &\text{Expected Working Capital requirement} \\ &= \text{Cost of goods sold} \times \frac{\text{Operating cycle (days)}}{365 \text{ or } 360 \text{ days}} + \text{Desired cash balance} \\ &= 48,00,000 \times \frac{60}{360} + 75,000 \\ &= ₹ 8,75,000 \end{aligned}$$

For proper computation of working capital under this method, a detailed analysis is made for each individual component of working capital.

The value of each individual item of current assets and current liabilities is determined on the basis of estimated sales or budgeted production or activity level as follows:

#### (a) Stock of Raw Material:

The amount of working capital funds to be invested in holding stock of raw material can be estimated on the basis of budgeted units of production, estimated cost of raw material per unit and the average duration for which the raw material is held in stock by using the following formula:

$$\frac{\text{Budgeted annual units of production} \times \text{Estimated cost of raw material per unit} \times \text{Average raw material holding period in days/months/weeks}}{\text{No. of days/months/weeks in a year}}$$

(Note. 360 days in a year may be assumed in place of 365 to simplify calculations in some cases)

**(b) Stock of Work-in-Process:**

In manufacturing/processing industries the production is carried on continuous basis. At the end of the period, some work remains incomplete even though all or some expenses have been incurred, this work is known as work-in-progress or partly completed or semi-finished goods. The work-in-process consists of direct material, direct labour and production overheads locked up in these semi-finished goods.

**The amount of funds estimated to be invested in work-in-process may be computed as:**

$$\frac{\text{Budgeted annual units of production} \times \text{Estimated WIP cost per unit} \times \text{Average WIP holding period in days/months/weeks}}{\text{No. of days/months/weeks in a year}}$$

**Note:**

- (i) 360 days a year may be assumed to simplify calculations.
- (ii) In the absence of information about stage of completion of WIP with regard to material labour and overheads, 100% of material cost, and 50% of labour and production overheads cost may be assumed as the estimated cost of work-in-process.
- (iii) In case cash cost approach' is followed for estimation of working capital, then depreciation should be excluded from production overheads while calculating cost of work-in-process. However, under the total approach, depreciation is also included.

**(c) Stock of Finished Goods:**

The amount of funds to be invested in holding stock of finished goods can be estimated on the basis of annual budgeted units of production, estimated cost of production per unit and the average holding period of finished goods stock by using the following formula:

$$\frac{\text{Budgeted annual units of production} \times \text{Estimated cost of production per unit} \times \text{Average holding period of finished goods in days/months/weeks}}{\text{No. of days/months/weeks in a year}}$$

**Note:**

(i) Cost of production consist of 100% of material, labour and production overheads costs.

(ii) Under the total cost approach, depreciation is included in the cost of goods produced.

However, depreciation is to be excluded under the cash cost approach.

(d) Investment in Debtors/Receivables. When the sales are made by a firm on cash basis, the amount is realized immediately and no funds are blocked for after sale period. However, in case of credit sales, there is a time lag between sales and realization of cash. Thus, funds are to be invested in receivables, i.e. debtors and bills receivables.

However, actual amount of funds locked up in receivables is only to the extent of cost of sales and not the actual sales which include profit. It would, therefore, be more appropriate to ascertain the amount of funds to be invested in debtors/receivables **at cost of sales and not the selling price**. But in case, total approach is followed for estimation of working capital then receivables may be computed on the basis of selling price.

$$\frac{\text{Budgeted units of credit sales} \times \text{Cost of sales per unit} \times \text{Average collection period of receivables in days/months/weeks}}{\text{No. of days/months/weeks in a year}}$$

**Note:**

(i) Cost of sales = Cost of goods produced/sold + Office and administrative overheads + Selling and distribution overheads

(ii) Selling price per unit should be considered in place of cost of sales per unit in case total approach is to be followed for estimation of working capital. Under the total approach, all costs including depreciation and profit margin are included.

**(e) Cash and Bank Balance:**

Cash is one of the current assets of a business. It is needed at all times to keep the business going. A business firm has to always keep sufficient cash to meet its obligations. Thus, a minimum desired cash and bank balance to be maintained by a firm should be considered as an important component of current assets while estimating the working capital requirements.

**(f) Prepaid Expenses:**

Some of the expenses like wages, manufacturing overheads, office and administrative expenses and selling and distribution expenses etc. may have to be paid in advance. Such prepayment of expenses should also be estimated while computing working capital requirements of a firm.

**(g) Trade Creditors:**

The term trade creditor refers to the creditors for purchase of raw material, consumables, stores etc. The suppliers of goods, generally, extend some period of credit in the normal course of business. The trade credit arrangement of a firm with its suppliers is an important source of short-term finance. It reduces the amount of net working capital required by a firm.

**The amount of funds to be provided by creditors can be estimated as follows:**

$$\frac{\text{Budgeting annual units of production} \times \text{Estimated raw material cost per unit} \times \text{Average payment period of creditors in days/months/weeks}}{\text{No. of days/months/weeks in a year}}$$

**(h) Creditors for Wages and Other Expenses:**

Wages and salaries are usually paid on monthly, fortnightly or weekly basis for the services already rendered by employees. The longer the payment – period, the greater is the amount of current liability towards employees or the funds provided by them. In the same manner, other expenses may also have to be paid after the lag of a certain period. The amount of such accrued or outstanding expenses reduces the level of net working capital requirements of a firm.

**The creditors for wages and other overheads may be computed as follows:**

$$\frac{\text{Budgeted annual production in units} \times \text{Estimated labour/overheads cost per unit} \times \text{Average time lag in payment of wages/overheads in days/months/weeks}}{\text{No. of days/months/weeks in a year}}$$

**Note:**

- (i) The creditors for wages and each of the overheads may be calculated separately.
- (ii) In case of selling overheads, budgeted annual sales in units should be considered in place of budgeted production units,
- (i) Advanced Received. Sometimes a payment may be received in advance along-with purchase order, such advances reduce the amount of net working capital required by a firm.

### Factors Requiring Consideration While Estimating Working Capital:

The estimation of working capital requirement is not an easy task and a large number of factors have to be considered before starting this exercise.

**For a manufacturing organisation, the following factors have to be taken into consideration while making an estimate of working capital requirements:**

Factors Requiring Consideration While Estimating Working Capital	
1.	Total costs incurred on material, wages and overheads.
2.	The length of time for which raw materials are to remain in stores before they are issued for production.
3.	The length of the production cycle or work-in-process, <i>i.e.</i> , the time taken for conversion of raw material into finished goods.
4.	The length of sales cycle during which finished goods are to be kept waiting for sales.
5.	The average period of credit allowed to customers.
6.	The amount of cash required to pay day-to-day expenses of the business.
7.	The average amount of cash required to make advance payments, if any.
8.	The average credit period expected to be allowed by suppliers.
9.	Time-lag in the payment of wages and other expenses.
10.	The average amount of advances received, if any

From the total amount blocked in current assets estimated on the basis of the first seven items given above, the total of the current liabilities, *i.e.*, the last three items, is deducted to find out the requirements of working capital.

**In case of purely trading concerns**, points 1, 2 and 3 would not arise but all other factors from points 4 to 10 are to be taken into consideration. In order to provide for contingencies, some extra amount generally calculated as a fixed percentage of the working capital may be added as a margin of safety.

**Suggested proforma for estimation of working capital requirements for a trading concern is given as below:**

**Proforma:**

Statement of Working Capital Requirements		Amount ₹
<i>Current Assets :</i>		
(i) Cash	.....	.....
(ii) Debtors or Receivables (For.....month's sales)	.....	.....
(iii) Stocks (For.....month's sales)	.....	.....
(iv) Advance payments, if any	.....	.....
(v) Others	.....	.....
<i>Less : Current Liabilities :</i>		
(i) Creditors (For.....month's purchases)	.....	.....

(ii) Lag in payment of expenses (Outstanding expenses, if any)	.....	.....
Working Capital (C.A.-C.L.)	_____	_____
		.....
Add : Provision /Margin for Contingencies		_____
Net working Capital Required		.....
		_____

**Note:**

Profits should be ignored while calculating working capital requirements as funds provided by profits may or may not be used as working capital.

**Illustration 1:**

**Prepare an estimate of working capital requirement from the following information of a trading concern:**

(a) Project annual sales	1,00,000 units
(b) Selling price	₹ 8 per unit
(c) % age of net profit on sales	25%
(d) Average credit period allowed to customers	8 weeks
(e) Average credit period allowed by suppliers	4 weeks
(f) Average stock holding in terms of sales requirement	12 weeks
(g) Allow 10% for contingencies.	

**Solution :**

Statement of Working Capital Requirements	
	₹
<i>Current Assets</i>	
Debtors (8 weeks) : $6,00,000 \times 8/52$	92,308
(At Cost)	
Stock (12 weeks) : $6,00,000 \times 12/52$	1,38,462
	<u>2,30,770</u>
<i>Less : Current Liabilities :</i>	
Creditors (4 weeks) : $6,00,000 \times 4/52$	46,154
Net working capital	1,84,616
Add 10% for contingencies	18,462
Working Capital Required	<u>2,03,078</u>

**Working Notes :**

- (a) Sales =  $1,00,000 \times 8 = ₹ 8,00,000$   
Profit = 25% of ₹ 8,00,000 = ₹ 2,00,000  
Cost of Sales = ₹ 6,00,000
- (b) As, it is a trading concern, cost of sales are assumed to be the purchases.
- (c) Profits have been ignored as funds provided by profits may or may not be used as working capital.

**Illustration 13.3**

Prepare an estimate of networking capital requirement of Zero company from the data given below:

Estimated Cost per Unit of Production	Amount per Unit (Rs.)
Raw Materials	100
Direct Labour	40
Overheads	80
	<u>220</u>

The following is the additional information:

Selling price per unit	Rs. 240
Level of activity	1,04,000 units per annum average 4 weeks
Raw materials in stock	
Work in progress [Assume 100% stage of completion of materials and 50 per cent for labour and overheads]	average 2 weeks
Finished goods in stock	average 4 weeks
Credit allowed by suppliers	average 4 weeks
Credit allowed to debtors	average 8 weeks
Lag in payment of wages	average 1 1/2 weeks.

Cash at Bank is expected to be Rs. 25,000. Assume that production is sustained during 52 weeks of the year.

**Solution:**

**STATEMENT OF WORKING CAPITAL REQUIREMENT**

	Amount (Rs.)	Amount (Rs.)
<b>A. Current Assets</b>		
Raw Materials	(2000 × 4 × 100)	8,00,000
Work in Progress		
Raw Material	(2000 × 2 × 100)	
Wages	(2000 × 2 × 40) 50%	4,00,000
Overheads	(2000 × 2 × 80) 50%	80,000
Finished stock	(2000 × 4 × 220)	1,60,000
Debtors	(2000 × 8 × 220)	6,40,000
Cash		17,60,000
<b>Total Current Assets (CA)</b>		<u>35,20,000</u>
<b>B. Current Liabilities</b>		
Creditors		25,000
Outstanding Wages	(2000 × 4 × 100)	67,45,000
<b>Total Current Liabilities (CL)</b>	(2000 × 40 × 1.5)	<u>8,00,000</u>
<b>Net Working Capital (CA-CL)</b>		<u>1,20,000</u>
		<u>9,20,000</u>
		<u>58,25,000</u>

**Working Notes:**

- (i) Annual production is 1,04,000 units and year is consisting of 52 weeks. So, the weekly production is 2000 units.
- (ii) Debtors have been taken at cost of production.

Average raw material in stock is for one month. Average material in work-in-progress is for half month. Credit allowed by suppliers: one month; credit allowed to debtors: one month. Average time lag in payment: average time lag in...

**Illustration 13.4**

# CASH MANAGEMENT

## **Nature of Cash:**

For some persons, cash means only money in the form of currency (cash in hand). For other persons, cash means both cash in hand and cash at bank. Some even include near cash assets in it. They take marketable securities too as part of cash.

These are the securities which can easily be converted into cash. These viewpoints reflect the degree of freedom of the persons using the cash. Whether a person's wants to use it immediately or can wait for a time to use it depends upon the needs of the concerned person.

Cash itself does not produce goods or services. It is used as a medium to acquire other assets. It is the other assets which are used in manufacturing goods or providing services. The idle cash can be deposited in bank to earn interest.

A business has to keep required cash for meeting various needs. The assets acquired by cash again help the business in producing cash. The goods manufactured or services produced are sold to acquire cash. A firm will have to maintain a critical level of cash. If at a time it does not have sufficient cash with it, it will have to borrow from the market for reaching the required level.

There remains a gap between cash inflows and cash outflows. Sometimes cash receipts are more than the payments or it may be vice-versa at another time. A financial manager tries to synchronize the cash inflows and cash outflows. But this situation is seldom found in the real world. Perfect synchronization of receipts and payments of cash is only an ideal situation.

## **Motives for Holding Cash:**

The firm's needs for cash may be attributed to the following needs: Transactions motive, Precautionary motive and Speculative motive. Some people are of the view that a business requires cash only for the first two motives while others feel that speculative motive also remains.

### **These motives are discussed as follows:**

#### **1. Transaction Motive:**

A firm needs cash for making transactions in the day to day operations. The cash is needed to make purchases, pay expenses, taxes, dividend, etc. The cash needs arise due to the fact that there is no

complete synchronization between cash receipts and payments. Sometimes cash receipts exceed cash payments or vice-versa.

The transaction needs of cash can be anticipated because the expected payments in near future can be estimated. The receipts in future may also be anticipated but the things do not happen as desired. If more cash is needed for payments than receipts, it may be raised through bank overdraft.

On the other hand if there are more cash receipts than payments, it may be spent on marketable securities. The maturity of securities may be adjusted to the payments in future such as interest payment, dividend payment, etc.

## **2. Precautionary Motive:**

A firm is required to keep cash for meeting various contingencies. Though cash inflows and cash outflows are anticipated but there may be variations in these estimates. For example, a debtor who was to pay after 7 days may inform of his inability to pay; on the other hand a supplier who used to give credit for 15 days may not have the stock to supply or he may not be in a position to give credit at present.

In these situations cash receipts will be less than expected and cash payments will be more as purchases may have to be made for cash instead of credit. Such contingencies often arise in a business. A firm should keep some cash for such contingencies or it should be in a position to raise finances at a short period.

The cash maintained for contingency needs is not productive or it remains ideal. However, such cash may be invested in short-period or low-risk marketable securities which may provide cash as and when necessary.

## **3. Speculative Motive:**

The speculative motive relates to holding of cash for investing in profitable opportunities as and when they arise. Such opportunities do not come in a regular manner. These opportunities cannot be scientifically predicted but only conjectures can be made about their occurrence.

For example, the prices of shares and securities may be low at a time with an expectation that these will go up shortly. The prices of raw materials may fall temporarily and a firm may like to make purchases at these prices.

Such opportunities can be availed of if a firm has cash balance with it. These transactions are speculative because prices may not move in a direction in which we suppose them to move. The primary motive of a firm is not to indulge in speculative transactions but such investments may be made at times.

## **Meaning of cash management**

Cash management is the efficient collection, disbursement, and investment of cash in an organization while maintaining the company's liquidity. In other words, it is the way in which a particular organization manages its financial operations such as investing cash in different short-term projects, collection of revenues, payment of expenses, and liabilities while ensuring it has sufficient cash available for future use.

## **Cash management facets**

Cash management is concerned with the managing of (i) cash flows into and out of the firm, (ii) cash flows within the firm and (iii) cash balances held by the firm at a point of time by financing deficit or investing surplus cash. It can be represented by a cash management cycle as shown in sales generate cash which has to be disbursed out. The surplus cash has to be invested while deficit has to be borrowed. Cash management seeks to accomplish this cycle at a minimum cost. At the same time, it also seeks to achieve liquidity and control. Cash management assumes more importance than other current assets because cash is the most significant and the least productive asset that a firm holds. It is significant because it is used to pay the firm's obligations. However, cash is unproductive. Unlike fixed assets or inventories, it does not produce goods for sale. Therefore, the aim of cash management is to maintain adequate control over cash position to keep the firm sufficiently liquid and to use excess cash in some profitable way.

Cash management is also important because it is difficult to predict cash flows accurately, particularly the inflows, and there is no perfect coincidence between the inflows and outflows of cash. During some periods, cash outflows will exceed cash inflows, because payments for taxes, dividends, or seasonal inventory buildup. At other times, cash inflow will be more than cash payment because there may be large cash sales and debtors may be realised in large sums promptly.

In order to resolve the uncertainty about cash flow prediction and lack of synchronization between cash receipts and payments, the firm should develop appropriate strategies for cash management. The

firm should evolve strategies regarding the following **four facets** of cash management:

1. Cash planning cash inflows and outflows should be planned to project cash surplus or deficit for each period of the planning period. Cash budget should be prepared for this purpose.
2. Managing the cash flows the flow of cash should be properly managed. The cash inflows should be accelerated while, as far as possible, the cash outflows should be decelerated.
3. Optimum cash level the firm should decide about the appropriate level of cash balances. The cost of excess cash and danger of cash deficiency should be matched to determine the optimum level of cash balances.
4. Investing surplus cash the surplus cash balances should be properly invested to earn profits. The firm should decide about the division of such cash balance between alternative short-term investment opportunities such as bank deposits, marketable securities, or inter- corporate lending.

The ideal cash management system will depend on the firm's products, organisation structure, competition, culture and options available. The task is complex, and decisions taken can affect important areas of the firm. For example, to improve collections if the credit period is reduced, it may affect sales. However, in certain cases, even without fundamental changes, it is possible to significantly reduce cost of cash management system by choosing a right bank and controlling the collections properly.

### **Managing cash flows**

After estimating the cash flows, efforts should be made to adhere to the estimates of receipts and payments of cash. Cash management will be successful only if cash collections are accelerated and cash disbursements, as far as possible, are delayed. The following methods of cash management will help:

## **Methods of accelerating cash inflows:**

### **1. Quick Deposit of Customer's Cheques:**

One way of shortening the time lag between the date when a customer signs a cheque and the date when the funds are available for use is to make an arrangement for quick deposit of the cheques in the bank's the moment they are received. Special attention should be given to large remittances.

For example, these may be deposited individually or air mail services may be used for such remittances. Collection of cheques through electronic devices may also be helpful.

### **2. Prompt payment by customers:**

In order to accelerate cash inflows, the collections from customers should be prompt. This will be possible by prompt billing. The customers should be promptly informed about the amount payable and the time by which it should be paid. It will be better if self addressed envelope is sent along with the bill and quick reply is requested. Another method for prompting customers to pay earlier is to allow them a cash discount. The availability of discount is a good saving for the customer and in an anxiety to earn it they make quick payments.

### **3. Establishing Collection Centres:**

To accelerate the cash turnover a nationwide organisation may, instead of a single collection centre, establish collection centres in various marketing centres of the country. The customers are instructed to remit their payments to the collection centre of their region. The collection centre deposits the cheques in the local bank.

These cheques are collected quickly because many of them originate in the very city in which the bank is located. Surplus money of the local bank can then be transferred to the company's main bank. Thus, with this decentralized system of collection the company stands to gain two main advantages. First, time required to mail bills of customers is reduced because bills are handed over to customers by collection centre of the area.

Again, time the customer's payments reach the company's head office is also reduced because the collection centre will receive all the payments whether cash or cheques, from the customers of its region.

Secondly, the decentralised system hastens the collection of cheques because most of the cheques deposited in the company's regional bank are drawn on banks located in that area. Thus, the company can reduce the time a cheque takes to collect.

Thus, if a company could reduce, say for example, two days-one day in mailing bill and one day in collection of cheques by adopting the decentralised system and if the company's average daily remittances amount to Rs. 20 lakhs, funds of about Rs. 40 lakhs could be released for investment elsewhere.

This would increase the profits of the company. However, the company will have to incur additional cost to man these collection centres. An in-depth cost-benefit analysis of each region, where the collection centre is to be set up, should be undertaken by the company.

#### **4. Lock-Box Method:**

Another device which has become popular in the recent past is lock-box method which will help reduce the time interval from the mailing of the cheque to the use of funds by the firm. Under this arrangement, the company rents lock-box from post office through its service area. The customers are instructed to mail cheques to the local box.

The company's bank branch picks up the mail from the lock several times a day and deposits them in the company's account and on the same day sends the firm by air mail the deposit slip listing all the cheques deposited.

Thus, the company is freed from the botheration of receiving, processing, endorsing and depositing remittance cheques and accordingly, overhead cost of the company is reduced to that extent. It takes less time under lockbox system in mailing cheques for deposit in bank and in their collection.

Instead of going to the regional collection office and then to the bank, consumers' cheques go directly to the company's bank via the lock-box. Another advantage of this arrangement is that it reduces the exposure to credit losses by expediting the time at which data are posted to ledgers.

However, the basic limitation of the lock-box system lies in additional cost which the company's bank will charge in lieu of additional service rendered. Since the cost for these services is directly in proportion to the number of cheques handled by the bank, obviously the lock-box arrangement will prove useful and economical too particularly when average remittance is large.

Before deciding to adopt the lock-box system, finance manager must compare the added income on funds released as a consequence of speedy collection of remittances with the increased cost entailed by the system. If the benefits are more than the cost, obviously the company should use the lock-box system otherwise the idea of employing the system should be dropped.

## **Methods of slowing cash outflows**

### **1. Paying on Last Date:**

The disbursements can be delayed on making payments on the last due date only. If the credit is for 10 days then payment should be made on 10th day only. It can help in using the money for short periods and the firm can make use of each discount also.

### **2. Payments through Drafts:**

A company can delay payments by issuing drafts to the suppliers instead of giving cheques. When a cheque is issued then the company will have to keep a balance in its account so that the cheque is paid whenever it comes. On the other hand a draft is payable only on presentation to the issuer.

The receiver will give the draft to its bank for presenting it to the buyer's bank. It takes a number of days before it is actually paid. The company can economise large resources by using this method. The funds so saved can be invested in highly liquid low risk securities to earn income thereon.

### **3. Adjusting Payroll Funds:**

Some economy can be exercised on payroll funds also. It can be done by reducing the frequency of payments. If the payments are made weekly then this period can be extended to a month. Secondly, finance manager can plan the issuing of salary cheques and their disbursements.

If the cheques are issued on Saturday then only a few cheques may be presented for payment, even on Monday all cheques may not be presented. On the basis of his past experience finance manager can deposit the money in bank because it may be clear to him about the average time taken by employees in encashing their pay cheques.

### **4. Centralisation of Payments:**

The payments should be centralised and payments should be made through drafts or cheques. When cheques are issued from the main office then it will take time for the cheques to be cleared through post. The benefit of cheque collecting time is availed.

### **5. Inter-Bank Transfer:**

An efficient use of cash is also possible by inter-bank transfers. If the company has accounts with more than one bank then amounts can be transferred to the bank where disbursements are to be made. It will help in avoiding excess amount in one bank.

## **6. Making Use of Float:**

Float is a difference between the balance shown in company's cash book (Bank column) and balance in pass book of the bank. Whenever a cheque is issued, the balance at bank in cash book is reduced. The party to whom the cheque is issued may not present it for payment immediately. If the party is at some other station then cheque will come through post and it may take a number of days before it is presented. Until the time, the cheques are not presented to bank for payment there will be a balance in the bank. The company can make use of this float if it is able to estimate it correctly.

## **Determining optimum cash balance:**

A firm has to maintain minimum amount of cash for settling the dues in time. The cash is needed to purchase raw material, pay creditors, day to day expenses, dividend etc. The test of liquidity of the firm is that it is able to meet various obligations in time.

Some cash will be needed for transaction needs and amount may be kept as a safety stock. An appropriate amount of cash balance to be maintained should be determined on the basis of past experience and future expectations. If a firm maintains less cash balance then its liquidity position will be weak. If higher cash balance is maintained then an opportunity to earn is lost. Thus a firm should maintain an optimum cash balance, neither a small nor a large cash balance. For this purpose the transaction costs and risk of too small a balance should be matched with the opportunity costs of too larger balance.

There are basically two approaches to determine an optimal cash balance, namely, (i) Minimising cost models and (ii) preparing cash budget. Cash budget is the most important tool in cash management.

## **Cash Budget**

Cash budget is the budget which is prepared under the finance budget. It is an estimation of the expected cash receipts and cash payments during the budget period. By preparing cash budget it becomes possible for the organisation to predict whether at any point of time there will be excess or shortage of cash. Two main points should be remembered before preparing cash budget: Time period of the cash budget and the items to be included in the cash budget.

## **Methods of Preparing Cash Budget**

There are three methods of preparing a cash budget. They are briefly explained below:

### **1. Adjusted Profit and Loss Method**

This method is also called the cash flow statement. This type of budget is prepared for long period. It gives more details of incomes and expenses in connection with long term planning.

The profit is considered to be equivalent to cash. Even though, cash receipts and payments are not into consideration but considers only non-cash transactions to prepare the cash budget under this method. The profit is adjusted by adding back depreciation, provisions, stock, work in progress, capital receipts, decrease in debtors, increase in creditors and by deducting dividends, capital payments, increase in debtors, increase in stock and decrease in creditors. The adjusted profit is the closing balance of cash.

### **2. Balance Sheet Method**

This method is very similar to adjusted profit and loss method. Under this method, all the items of balance sheet are recorded in respective sides except cash. Then, the balance sheet is balanced. If the liabilities side is heavier than assets side, the balancing figure is cash at bank. Likewise, if the assets side is heavier than liabilities side, the balancing figure is overdraft.

**3. Receipts and Payments Method:** This method is the most simple and widely used method of cash budget. A columnar statement is prepared in this method, in which first column shows items of receipts and payments, whereas other columns show the amount of receipts and payments in each time break-up of budget period. Under this method all Cash receipts and disbursements for the enterprise for a budget period are estimated. Thereafter, all estimated cash receipts are added to the opening balance of cash and all estimated cash payments are deducted from this to arrive at the closing balance of cash.

For example, a cash budget is to be prepared for three months from January to March; the following format may be adopted for this purpose-

## Cash Budget

(for the period of three months ended March 31, .....)

Details / Particulars	January	February	March
	₹	₹	₹
Opening Balance			
<i>Receipts :</i>			
Cash Sales			
Collection from Debtors			
Call money on Shares			
Loan Received			
Sale of Capital Assets			
Other Receipts			
<b>Total</b>			
<i>Payments / Disbursement :</i>			
Cash Purchases			
Payment to Creditors			
Wages & Salaries			
Interest Payable			
Capital Expenditure			
Loans Repaid			
Taxes			
Dividends			
<b>Total</b>			
<b>Closing Balance</b>			

- Notes :*
1. Receipts and payments related to budget period only are calculated, i.e., receipts and payments either before or after the budget period are not considered.
  2. Those items of debit side are not shown in payments which has no cash flow, such as depreciation, outstanding expenses, provision for doubtful debts, etc.
  3. If there is time-lag in respect of any item of receipts or payments, separate working table should be prepared for detailed calculation of receipts or payments related to that item (See Illustrations 1 and 2).
  4. If there is no specific direction in respect of a particular item it is assumed that its receipts or payments will take place in the month of its occurrence.
  5. If in any month, the amount of payments exceeds, the closing balance will be shown either with the sign of minus (-) or with the indication of credit (i.e., Cr.) and in the same manner it will be carried forward as opening balance in the next month.

**Cash management techniques**

**Concentration Banking**

**Definition:** The **Concentration Banking** is the arrangement used by the firms, wherein the funds from all the regional banks in different locations gets concentrated or collected into the single bank account.

In other words, a firm has its operations in several parts of the country and in order to ease the complexity of handling multiple bank accounts at different locations, the firm may opt for a concentration banking service, whereby all the funds from different regional banks gets forwarded to a single bank account called as a concentration account.

Although the organizations can have many accounts in different banks, but they usually have a single account in which major transactions take place, such account is called the concentration account and the bank in which the account is held is called the concentration bank.

How does the Concentration Banking operate?

- First of all, the places are identified where company's major customers are placed and then the local bank accounts are opened at each location.
- Once the accounts are opened, the local collection center (agents) or the bank branch is identified where all the cheques are collected from the customers at the respective locations.
- The remittances from the customers can be collected either in person or through the post. Once the cheques are collected are deposited in the local banks for the clearance.
- On the realization of cheques, the funds are transferred to the head office bank account (concentration account) through any telegraphic/electronic transfer schemes.

The concentration banking helps the organizations in reducing the mailing float. Since the remittances from the customers are either collected in person or by local post, the mailing float has substantially reduced. Also, it has reduced the cheque processing float at company's office, as the detailed list of all the remittances received is sent to the company's head office as a credit advice.

Through concentration banking, the banking processing float has also been reduced considerably, as the cheques are cleared locally and the funds are readily made available. Thus, the time required for the clearance of the outstation cheques have reduced manifold.

**Lock box system (refer under Methods of accelerating cash inflows 4<sup>th</sup> point)**

## Problems on cash budget (receipts and payments method)

### Illustration 1.

From the following information prepare a cash budget for the months of June and July

Month	Credit sales Rs	Credit purchase Rs	Manufacturing Overheads Rs	Selling overheads Rs
April	80,000	60,000	2,000	3,000
May	84,000	64,000	2,400	2,800
June	90,000	66,000	2,600	2,800
July	84,000	64,000	2,000	2,600

#### Additional Information:

1. Advance tax of Rs 4,000 payable in June and in December 1994
2. Credit period allowed to debtors is two months
3. Credit period allowed by the vendors or suppliers is one month
4. Delay in the payment of other expenses one month
5. Opening balance of cash on 1st June is estimated as Rs.20,000/-

#### Solution:

1. First step is in the preparation of a cash budget is to open the statement with the opening cash balance available.
2. Secondly, if any cash receipts are available that should be added one after another. In this problem, Sales can be bifurcated into two classifications, the first one is cash sales. If the cash sales is given, the amount of cash receipt due to cash sales should have to be immediately brought under the respective period i-e during the same month or week.

The next is the credit sales of the firm, the volume of sales should only be effected only at the amount of realization of sales or collection of credit sales from the consumers and customers. If cash sales is not given instead credit sales only the component given, that should be added in the list of cash receipts; by registering the credit period involved for the customers and consumers. Being as credit sales, the amount of sales realization should only relevantly be considered during the specified period.

3. Third step is to list out the various items of cash expenses expected to incur during the specified period. The text of the problem deals with the delay of making the payment of expenses is one month in all cases; It means the expenses like Manufacturing overheads, selling overheads are expected to pay one month later i-e these expenses will be paid one month after. It means that the May

month of other expenses are paid only in the month of June and during the month of June month expenses are met out.

4. The purchases requires same kind of treatment in the case of sales. Normally, the purchases are classified into two divisions viz cash purchases and credit purchases.

The cash purchases should be given effect only at the moment of cash payment is paid on the volume of purchase, but, if the credit purchases are made by the firm, the credit allowed by the vendor/supplier to make the payments should be relatively considered for the expected outflow of cash i-e payment of purchase one month later or two months later.

The expected time period occurrence of a either cash receipt or cash payment should be considered for the preparation of the cash budget.

5. The cash budget should be prepared separately in the statement to derive the closing balance of the specified year/month. The closing balance of the yester period or previous period has to be carried forward to the next period as opening balance of the preparation of a budget. The closing balance of the month June will be the opening balance of the month July. Once the statement has been completed in the preparation of budget of respective periods should be consolidated for the specified periods

<b>Particulars</b>	<b>June Rs</b>	<b>July Rs</b>
Opening balance	20,000	26,800
Receipts:	80,000	84,000
Sales		
<b>Total Cash Receipts I</b>	<b>1,00,000</b>	<b>1,10,800</b>
Payments:	64,000	66,000
Purchases		
Manufacturing Overheads	2,400	2,600
Selling Overheads	2,800	2,800
Tax payable	4,000	-----
<b>Total Payments II</b>	<b>73,200</b>	<b>71,400</b>
<b>Balance I-II</b>	<b>26,800</b>	<b>39,400</b>

### **Illustration 2**

From the estimates of income and expenditure, prepare cash budget for the months from April to June.

Month	Sales Rs	Purchases Rs	Wages Rs	Office Exp. Rs	Selling Exp. Rs
Feb	1,20,000	80,000	8,000	5,000	3,600
Mar	1,24,000	76,000	8,400	5,600	4,000
Apr	1,30,000	78,000	8,800	5,400	4,400
May	1,22,000	72,000	9,000	5,600	4,200
June	1,20,000	76,000	9,000	5,200	3,800

1. Plant worth Rs. 20,000 purchase in June 25% payable immediately and the remaining in two equal installments in the subsequent months
2. Advance payment of tax payable in Jan and April Rs 6,000
3. Period of credit allowed
  - (a) By suppliers 2 months
  - (b) To customers 1 month
4. Dividend payable Rs.10,000 in the month of June
5. Delay in payment of wages and office expenses 1 month and selling expenses  $\frac{1}{2}$  month. Expected cash balance on 1st April is Rs. 40,000.

**Solution:**

- Plant worth Rs 20,000/ purchased, payable immediately is 25% i-e Rs.5,000 should be paid in the month of June. The remaining cost of the machine has to be paid in the subsequent months, after June. The payments whatever are expected to make after June is not relevant as far as the budget preparation concerned.
- Delay in the payment of wages and office expenses is only one month. It means wages and office expenses of Feb month are paid in the next month, March.  
Selling expense from the above table, it is obviously understood that during the months of April, May and June; the following will be stream of payment of selling expenses.  
April= Rs.2,000 of Mar (Previous Month) and Rs. 2,200 of April (Current month)= Rs.4,200/  
May= Rs. 2,200 of April (Previous Month) and Rs.2,100 of May (Current month)=Rs.4,300/  
June= Rs. 2,100 of May (Previous Month) and Rs.1,900 of June (Current month)=Rs.4,000/
- Selling expenses is having the delay of  $\frac{1}{2}$  month, which means 50% of the selling expenses is paid only in the current month and the remaining 50% is paid in the next

Particulars	Feb	Mar	April	May	June
Selling Expenses	3,600	4,000	4,400	4,200	3,800
Payment 50% in the current month	1,800	2,000	2,200	2,100	1,900
Delay 50%- will be paid in the subsequent month	1,800	2,000	2,200	2,100	1,900

Every month 50% of the selling expenses of the current month and 50% of the previous month selling expenses are paid together; the above table depict the payment of 50% of the current selling expenses along with 50% expenses of previous month.

Particulars	April Rs	May Rs	June Rs
Opening Cash Balance	40,000	59,800	95,300
Cash Receipts			
Sales	1,24,000	1,30,000	1,22,000
Total Receipts (A)	1,64,000	1,89,800	2,17,300
Payments			
Plant Purchased	-----	-----	5,000
Tax payable	6,000	-----	-----
Purchases	80,000	76,000	78,000
Dividend payable	-----	-----	10,000
Wages	8,400	8,800	9,000
Office expenses	5,600	5,400	5,600
Selling expenses	4,200	4,300	4,000
Total Payments(B)	1,04,200	94,500	1,11,600
Balance (A-B)	59,800	95,300	1,05,700