

cash resources. Hence the ratio of cash to current assets is used as an index of current operations which is computed thus:

$$= \frac{\text{Cash}}{\text{Current Assets}} \times 100$$

A high ratio indicates that the liquidity position of the firm is highly sound or the profitability of current assets is low. Similar ratios may be computed from a number of Balance Sheets and compared or this ratio may be compared externally with these applicable to similar companies within the same trade since this ratio, or itself, is not adequate to adumbrate the effectiveness of its control.

Cost Turnover Ratio

This ratio can be used as a measure of the velocity of cash. It is calculated as follows:

$$\text{Cash Turnover ratio} = \frac{\text{sales for a period}}{\text{Average cash balance}}$$

A high cash turnover ratio would point out that the profitability of the business is greater and this, itself is an evidence of efficient management. It would always be better to collate this ratio with those figures compiled from previous records or obtained externally from similar companies within the same trade since laying down of any specific standard turnover ratio is generally not feasible.

Marketable Securities Management Meaning:

Marketable securities are short-term investments in which surplus cash invested, The list of marketable securities subsumes securities like Treasury Bills commercial papers, Fixed deposits (short-term) and savings bank deposits in commercial bank. Et. The essential features of these securities are ready marketability, safety and profitability.

Strategies Regarding marketable securities

Seasonal firms may adopt any one of the three alternative strategies in order to meet their seasonal needs. Under strategy I, a firm would hold no marketable securities, relying completely on bank loans to meet seasonal peaks. Under strategy II, a firm may stockpile marketable securities during slack periods, then realise them to raise funds for peak periods strategy III is a compromise, under this strategy, a firm may hold some securities, but not enough to meet all of its peak needs There are advantages to each of these strategies. It is difficult to "Prove", that one strategy is better than another. However the basic policies regarding marketable securities holding are generally formulated either on the basis of the judgement or by circumstances beyond the firm's control.

Accounts Receivable Management

Accounts receivable represent the uncollected portion of credit sales and normally subsume both trade debtors and bills receivable. The term "trade credit" refers to accounts receivable, and it involves both the credit used to support and expand sales, and the resulting investment required of the firm. The above definition clearly grosses over the basic objective of creation of receivables as to improve or support sales. Receivables constitute a major component of working capital and the investment in accounts receivable is partly of a permanent nature, in the sense as some accounts (debts) are collected, others are created so that investment is always left in the receivable is partly of a permanent nature, in the sense as some accounts (debts) are collected, others are created so that investment is always left in the receivables. Because of the

size and permanence of the investment, good management of receivables is a highly significant aspect of the goal of maximizing the value of the firm.

Objectives

Unless the firm's own finances are closely limited, the basic objective of receivables management, like that of inventory management, should be maximising return on investment. Bad debt losses may will be minimised by adopting strict credit policies and highly aggressive policing of collection. But such policies may have direct impact on sales and return on investment. Conversely, too liberal or sloppy credit policy may augment the investments in receivables and consequently bad debts losses without compensating increases in sales and profits. Hence, the obvious aim of receivables management is to maintain an optimum investment in receivables which helps to trade off between benefits and costs ie incremental expenditure on collection bad debts and opportunity cost.

Factors influencing the credit policy

The following factors are generally considered while formulating the Credit Policy, Credit Terms, Credit Risks and Cash Discounts.

Credit Terms

A firm's cash needs and its industries characteristics credit terms are the guidelines of its credit policy. Credit worthiness of the potential customer is the core of a credit policy which depends on six 'C' – character, capacity, capital, collateral conditions and capacity of the customer. Usually the credit risk is judged on the basis of this six 'Cs'. The required information on this items are obtained either from internal sources such as sales representatives reports direct visits etc. are external sources such as trade reference, credit agencies etc.

Evaluation of credit Risks

Bad debts losses largely influence the selection of credit risks. The amount of risk is expressed as certain percentages on gross sales and depends on the profit margin of the firm, its competitive position its collection policies and techniques and the susceptibility of its products to obsolescence. The seller's profit margin definitely influence the credit manager's decision concerning credit risks. However, a firm may accept a new or extend an existing credit risk provided the cost of granting such risk is less than the minimum expected rate of return.

Cash Discount Policy

Cash discount is allowed to the buyer provided he effects the payment within the period for taking such discounts. For example a trader allows 30 days time to pay the credit in full with a cash discount at 2% if paid within 10 days. It has the following merits.

- a) Collection period is shortened and thereby the need for short-term finance is reduced.
- b) Bad debts and collection costs re reduced to the minimum, and
- c) This helps to take advantage of cash discounts from his suppliers

As demerits the following points may be attributed

- a) Even a small discount cost too much to the seller and reduces his firm's rate of return.
- b) Large companies may pressurise for excessive cash discounts threatening to buy elsewhere, and
- c) Some customers may deduct cash discounts even if they pay after the discount period has elapsed.

Collection policies

Collection policy refers to the procedures the firm follows to obtain payment of past due accounts. An effective collection policy is one which assures not only the collections of debts from customers who pay according to credit terms and from delinquent accounts but also promptness of payment. An effective collection policy serves as the guide in developing procedures for

- 1) determining delinquent accounts
- 2) developing collection correspondence,
- 3) dealing with discount chislers,
- 4) suits for collection
- 5) adjustments proceedings and
- 6) liquidation proceedings.

The collection process can be expensive in terms of both out of pocket expenditure and lost good will, but at least some firmness is needed to prevent an undue lengthening in the collection period and to minimise outright losses. Hence, an optional collection policy should be selected in which a trade off between costs and benefits of different collection policies can be established.

Control of Accounts Receivable

The implementation of credit and collection policies is the responsibility of the top management personnel. To exercise their function in this regard they may fully rely on the following reports.

- a) Receivables turnover ratio and average collection period,
- b) Aging schedule,
- c) Percentage of collections
- d) Bad debts, and
- e) Delinquent accounts.

Report on Receivable to turnover and average collection period

This report enables the top management to apprehend the effectiveness of the credit and collection policies. This is computed as follows:

$$\text{RTR} = \frac{\text{Average Receivables}}{\text{Net Sales}} \times 100$$

Example:

Sales for the quarter 1977 = Rs. 420,000
 Account receivables on 31.12.1977 . = Rs.34000

$$\text{RTR} = \frac{84000}{420000} \times 100 = 20\%$$

The ratio can be collated with the ratio of the proceeding year and any increase or decrease in the ratio may be viewed with caution. This may also be expressed in terms of average day's sales outstanding or average collection period and is calculated as follows:

$$\text{Account Receivables}$$

$$\begin{aligned} \text{Average Collection Period} & \text{-----} \\ & \frac{\text{Net Credit Sales per day}}{\text{Annual Credit Sales}} \\ \text{Net Credit Sales per day} & \text{-----} \\ & 365 \end{aligned}$$

Average collection period indicates as to how, many days credit sales remain uncollected. If the average collection period exceeds the credit period, it will adumbrate the laxity in the collection procedures and goad the collection department into action.

Aging Schedule

The Second useful control device is analyse the conditions of 'receivables' is the aging schedule. This is nothing but a tabulation of receivables outstanding according to the length of time they have been outstanding. The average age of debtors may be calculated as follows:

Average Age of Debtors =

$$\frac{\text{Debtors at the end of period}}{\text{-----}} \times \text{No. of days in the accounting period}$$

Credit sales during the period

If the average age of debtors rises over time, it denotes that increasing amounts of working capital are being tied up in credit. The aging schedule by revealing tendencies for old accounts to accumulate, provides a useful supplement to the various receivables / sales ratios.

This report has gained an important place in receivables management for following reasons.

- a) It indicates the effectiveness of credit and collection policies.
- b) It reveals the general conditions of debtor's accounts and
- c) It serves the basis for bad debts reserve.

Percentage of Collection Reports

This is helpful to evaluate the efforts taken by the credit department. Calculation is as follows :

$$\text{Percentage of collections} = \frac{\text{Debts collected for a month}}{\text{Receivables outstanding on the first day of the month}} \times 100$$

A low percentage comparing with previous collection percentage will help to uncover the inefficiency of the collection personnel and the ineffectiveness of the collection policy adopted and may insist for a change in the collection approach

Reports of Bad Debts

An acceptable bad debts ratio should be used for all comparative purposes. This is expressed as certain percentage on credit sales and computed as follows :

$$\text{Bad debts ratio} = \frac{\text{Bad debts incurred}}{\text{Total credit sales}} \times 100$$

This may be compared with past ratios or with derived ratios or with those of comparable companies within the same industry. Any deviations from the acceptable norms should be viewed with caution.

Report on Delinquent Accounts

Yet another measure to evaluate credit and collection policies is the ratio of delinquent accounts to credit sales and is calculated as follows :

$$\text{Delinquent Account ratio} = \frac{\text{Delinquent Accounts}}{\text{Total Credit Sales}} \times 1000$$

An examination of past experience or the experience of other companies in the same industry may serve as a basis for determining normal delinquency ratio. Any deviation of the actual ratio from the normal may be due to very strict or very lenient credit or collection policies.

Inventory Management Definition and kinds of Inventories

A definition of inventories which has been accepted by both Accountants and Finance executives has been set forth by the American Institute of Accountants.

"The term inventory.....designate(s) the aggregate of those items of tangible personal property which (1) are held for sale in the ordinary course of business (2) are in the process of production for sale, or (3) are to be currently consumed in the production of goods or services to be available for sale."

Based on the above definition, the inventory may be classified into four types

a) Finished Goods b) Goods in process c) Raw materials and d) Supplies. The finished goods inventory allows the firm to have flexibility in its marketing and production processes and it is valued at cost or market price. The work in process inventories denote semi-finished goods and the value of in process inventory equals the value of raw materials plus the labour and overheads which have been added of raw inventories material and supplies are repetitive as they are consumed regularly at a well defined rate of consumption. Such inventories give flexibility in manufacturing operations and are usually valued at cost.

The above kinds of inventories are usually found only in manufacturing firms. The items in inventory will change according to the nature of business.

Objective of Inventory Management Primary Objection

a) Ensure adequate maintenance of supplies of raw materials, stores and spare parts and finished goods in order to maintain an efficient level of operations and meet oscillating consumer's demands:

b) Maintain optimum level of investments in inventories by striking a balance between the economics of holding large inventories and those of holding small inventories.

Secondary Objectives

- a) Minimise and if possible prevent losses through obsolescence and pilferage, theft etc.
- b) Provide an efficient organisation for inventory control with clear accountability, standardised procedures and inventory manuals.
- c) Furnish data for short-term and long-term planning.

Inventory costs

Inventory is managed best when the total of the various cost involved is minimised. The optimum investment in inventory denotes that inventory level that minimises the total long run costs. Costs associated with the inventory can be classified under two types - a) Carrying costs and b) Not carrying costs.

Carrying Costs

- i) Cost of capital tied up

- ii) Clerical costs
- iii) Handling charges
- iv) Insurance
- v) Property taxes
- vi) Storage costs
- vii) Depreciation and obsolescence

Cost of not carrying enough :

- i) Quantity discounts lost,
- ii) Disruption of production with added costs of expediting, overtime set ups, hiring and training.
- iii) Contribution margins an lost sales,
- iv) Loss of customer goodwill,
- v) Extra costs of uneconomic production runs and
- vi) Extra purchasing and transports costs or ordering costs.

These two types of costs are ambivalent costs, The reconciliation of these costs is the main problems of inventory management. The problem is aggravated as these costs vary from time to time and is very difficult to estimate them accurately since some items of these costs are not recorded at all, for example, loss of customers goodwill. The total inventory costs influence the size of inventory most and are useful for establishing inventory design models.

Inventory Control Systems

Inventory control refers to the Planning and maintaining of adequate inventory level is for a given operation programme with the minimum of investment. To implement the control systems effectively the following conditions are essential. .

- a) Classification and codification of inventory items.
- b) Selective Inventory Management
- c) Setting Inventory levels for different items.
- d) Perpetual Inventory Control.

Classification and Codification

Classification is grouping together or inventory items of technical affinity. In any factory the assets can be broadly classified into capital, equipment, tools, general stores raw materials, finished components etc. By means of classification, each of these broad categories is subdivided into smaller groups for convenience. For example in a sugar factory, the inventory may be divided into engineering items, spare parts, tools, building items, packing materials, electrical items etc.

Every item coming under a classification should have a code number 1) for proper identification of items by all departments 2) to avoid use of long descriptions 3) to arrange Bin Cards, Stock Control Cards, Accounts records etc., in a uniform manner, and 4) for mechanisation of records. For example the main classification may be denoted by letters A to Z and subdivision by numbers 40 Watts bulb may be referred as E/2. E for Electrical and 2 for 40 Watts bulb.

This system helps to facilitate the adoption of Kardex system. Under this system, Kardex cabinets' or Rotary Filing System with visible index are used. Kardex cabinets are available with matalic holders or pockets which are more convenient as the cards can be easily removed and reflexed.

Selective Inventory Management (A,B,C Analysis)

Under this method or analysis, the inventories are classified into three categories based on their value usage rate and criticality of the items. Discrimination is necessary to the amount of effort and expense to be devoted to various types of stock. The criteria for classification may be given specified weightages. Value and usage rates are easily quantifiable but criticality is decided by judgement. High value items are considered in A category, medium value items in the B category, and low value in the C category. The importance of this system lies in the fact it directs the attention to the Key items. The rational limits of different categories are:

Category	Percentage of total items	Percentage of inventory value
A	5 to 10	70 to 85
B	10 to 20	10 to 20
C	70 to 85	5 to 10

The classification of inventory items into three categories A, B & C is rather conventional one. There are no hard and fast rules in this regard. They may be classified into two categories or four or more categories. These options are open to individual companies and the emphasis is on the underlying principle of selective control to obtain maximum return at minimum of effort and cost.

Economic purchasing and manufacturing lot sizes are developed to minimise the total cost of procuring, storing and utilising each type of inventory. A number of factors are to be considered in the determination of stock levels for individual items. They are:

- a) The rate of usage or shipment, Average, highest and lowest rate of consumption per month, week or day of each item must be obtained from the analysis of past experience although current production and sales must be considered.
- b) Lead Time: The average time elapsed between the initiation of the order and the receipt of supplies.
- c) Economic - Ordering Quantity: The quantity which is most economical to order and to stock considering all factors bearing on the situation such as availability of discounts at various levels of purchases or setting up time in machine shop etc.
- d) Availability of storage space and working capital finance.
- e) Possibility of deterioration or obsolescence of materials stored.
- d) General market conditions or extent of speculation and
- g) Government restrictions or other statutory restrictions.

Any decision involving procurement, storage and usage of items is much influenced by the above factors and it is particularly important to base such decision on a closer assay and understanding of the critical ones among. Though these factors fluctuate from time to time and complexities emanate. The inventory levels may be set by identifying the critical areas and providing the required degree of safety factor or cushion.

Normally the following inventory levels are set:

- a) Minimum level,
- b) Maximum level, and
- c) Reorder level.

Minimum Level

The minimum inventory level is that quantity below which the stock of any item should not be normally allowed to fall-if stocks go below this level, there is the very real danger of a "stock out" resulting in production stoppages. This is buffer or safety stock which would be available in emergencies. This level is established on the basis of average consumption rate and the lead time required to procure the item.

Maximum Level

It is that quantity above which the stock should not be allowed to exceed. Number of factors influence this level. For example storage space and cost of storage, amount of finance available extent of price fluctuations, any restrictions imposed by local or national authority in regard to materials etc. The maximum level will be equivalent to the minimum level plus the reorder quantity.

Altered production methods diversification changes in specifications of materials and other similar developments may cause basic changes in the pattern and the rate of requirements of the different items in inventory. It is, therefore very essential that the maximum and minimum levels are periodically reviewed and reflexed wherever necessary.

It is the point which indicates the time to initiate purchase orders for fresh supply of inventories. It is the function of the order point to optimise the two opposing conditions of minimising the inventory investment while satisfying demand and reducing the possibility of stock-outs to an acceptable level. The determination of reorder point would be an easy task when the steady consumption rate and a stable and reliable lead time for procurement of the stock item are given. The two-bin system can be had as a straight forward approach to this situation. The total inventory held of a given item can be divided into two portions, and small one the other large. The small portions kept in a small bin, will contain enough numbers of the items to meet the consumption needs during, the lead time. The balance in the large bin for routine issue to production. By the time the items from the large bin get exhausted, the order for replenishment will be placed and further issues will be from the small bin. Just before the small bin get empty, the new supplies will arrive enabling the two bins to be refilled.

An alternative approach is the periodic inspection system which schedules verification of inventories at regular intervals. When the stock levels fall short of the consumption need till the next inspection, plus the procurement lead time, replenishment order will be issued. Both approaches should take in some safety factor in order to minimise the event of stockout situation during the reorder period. The ultimate objective of establishing reorder point is to seek an optimum or least-cost solution.

Economic Ordering Quantity (EOQ)

When inventories dip to reorder point, a new order is placed. What is the optimum size of the order lot? This is the most important as well as fundamental inventory decision area.

This optimum size is popularly known as economic ordering quantity. The reorder quantity will be such that, when it is added to the minimum stock, will never exceed the maximum stock.

The factors for determining EOQ are**a) Ordering costs or costs of acquisition**

Example: Costs of recoupmnt, obtaining quotations, preparation of orders, follow up, receiving and inspection of inventories, payment of bills. The ordering costs can be represented by:

$$\frac{AO}{Q}$$

--- where

$$Q$$

A = Annual consumption

O = Ordering

Q = The purchase order quantity.

The tendency of this cost is to decline as the number of orders is increased or the size of the purchase order quantity decreases.

b) Carrying Costs or Holding Costs

Example : Interest on investment held in stock, insurance, cost of depreciation and obsolescence, cost of storage, handling cost etc. This is represented by

$$\frac{ICQ}{2}$$

--- 1 = Inventory holding costs

$$2$$

C = Cost per unit

Q/2 = Average inventory maintained

The annual cost of holding inventory will increase, as the greater the cost of the order, the greater the average stock held and desinently the larger the holding expenses.

The total cost for any given period will, therefore, be :

$$\frac{ICQ}{2} + \frac{AO}{Q}$$

---- plus ----

$$2 \quad Q$$

ie. Inventory holding costs plus ordering costs.

$$\frac{2AO}{Q}$$

By differentiation this becomes $Q = \frac{2AO}{IC}$

$$IC$$

At this optimum size ie., EOQ, the total annual inventory costs will be at minimum.

It would be clear and useful to manifest the information graphically as the effect on, costs as the various levels is shown more distinctly below:

Fig.4. Economic order quantity-relationship of costs.

The total costs fall rapidly at first as the ordering costs are much greater on numerous small orders, but these rise after the EOQ is reached due to the greater influence of the holding costs. The EOQ is shown, therefore, where the holding cost line begin to rise.

Bulk Order Quantity

Bulk order quantity is larger than the economic order quantity. Bulk orders mean better purchase price, reduced procurement cost and reduced purchasing work but they increase the company's financial commitments and investments. The latter can be reduced by staggering deliver. As far as possible the staggered rate or delivery should be equal to economic order quantity co-operative sugar mills adopt this method.

Discounts

Sometimes suppliers may offer quantity discounts when bulk orders are placed. In order to decide about taking of such discounts the benefit of it should be compared with the inventory carrying costs. If there is a sliding scale discount, it should be considered as to what percentage of discount is more advantageous.

Perpetual Inventory Control

Perpetual inventory control adumbrates a system of records maintained by the controlling departments, which reflects the physical flow of inventories and their current balance. Closely allied to the perpetual inventory system is the continuous stock-taking. Under continuous stock-taking, a number of items are checked daily or at frequent intervals and compared with stores records. Any discrepancies sighted are investigated and rectified then and there. Besides reducing the tedium of work, it provides a cross check for the information furnished by him cards and stables correction of clerical errors, sending them a reliable basis for inventory decisions. It compels prompt updating of stock records on continuous basis:

Periodic Evaluation of Inventory Control

Standard turnover rates may be determined for the entire inventory or for different sections thereof in order to evaluate the effectiveness of the inventory control. The executives responsible for inventory control have to keep an eye on these rates for controlling inventories. Turnover rate is obtained by dividing the usage factor by average inventory. Thus the turnover rates of various inventories would be determined as follows:

$$\text{Finished Goods} = \frac{\text{Cost of goods sold}}{\text{Average stock of finished goods at cost}}$$

$$\text{Work in progress} = \frac{\text{Cost of goods completed}}{\text{Average stock of WIP}}$$

$$\text{Raw Materials} = \frac{\text{Materials used in process}}{\text{Average stock of raw materials}}$$

A low inventory turnover may reflect dull business, over investment in inventory, while a high turnover ratio may indicate the opposite. However though these ratios have a definite place in judging efficiency, improvement in turnover rate should not be pursued as an end in itself. They should never be treated as an automatic control arbitrarily imposed; rather intelligent appraisal of the situation is always necessary'

Inventory Valuation:

The valuation placed on inventories is of general importance because it directly affects the amount of net income reported by a company. More frequently, the stock valuation is employed as a technique to inflate or deflate profits in order to tax on higher profits.' If the stocks are not properly valued, the actual state of affairs of a business, much importance should be attributed to stock verification and valuation.

Problem No.1

From the following information prepare a statement in columnar form showing the working capital requirements: 1) in total and 2) as regards each constituent part of working capital.

Budgeted Sales	Rs.260000 per annum
Analysis of sales :	Rs.
Raw materials	3
Direct labour	4
Overheads	2

Total cost	9
Profit	1

Sales	10

It is estimated that:

1. Raw materials are carried in stock for three weeks and finished goods for two weeks;
2. Factory processing will take three weeks;
3. Suppliers will give five weeks' credit.
4. Customers will require eight weeks' credit.

It may be assumed that production and overheads accrue evenly throughout the year.

Solution

Statement of Working Capital Requirements

Current Assets

Stock:	ts.	Rs.
Raw materials (3 weeks) — X 78000	=	4500
Work in progress (3 weeks) — X 234000	=	13500
Finished goods (2 weeks) — X 234000	=	9000
		27000
Debtors (8 weeks) — X 260000	=	40000
		67000

Current liabilities

Trader Creditors (5 weeks) — X 78000	=	7500
		59500

		Workings
Budgeted sales	260000	
Sales per unit	10	
Number of units	260000 =	26000
	-----	-----
	10	
Per Annum of 52 weeks		
Raw material 26000 X 3	= 78000	
Direct Labour 26000 X 4	= 104000	
Overheads 26000 X 2	= 52000	

	234000	

Problem No. 2

You are required prepare a forecast of working capital requirements form the follo data:

Output	10000 units per annum
Elements of cost :	Rs.
Raw materials	6
Direct labour	4
Overheads	5

The cost	15
Profit	3

Selling price	18

Raw materials are kept in stock on an average of one month

Work -in- process is on an average 14 days

Finished goods are in stock on an average 1 ½ months

Credit allowed by creditors is 1 month

Lag in payment of wages is 1 week

Solution**Forecast of working capital requirements****Current Assets**

Stock:	Rs.
1	
Raw materials (1 month) --- X 60000	= 5000.00
12	
2	
Work in progress (14 days) --- X 150000	= 5769.23
52	
3	
Finished goods (1 ½ month) --- X 150000	= 18750.00
24	

	29519.23

	2			
Sundry Debtors (2 months)	---	X 180000	=	30000.00
	12			59519.23
Current liabilities				
	1			
Trader Creditors (1 month)	---	X 60000	=	5000.00
	12			
	1			
Wages (1 Week)	---	X 40000.	=	769.23
	52		-----	5769.23
Working capital requirements				53750.00

Workings

Note : 1 year = 52 weeks. 14 days = 2 weeks

Per Annum 10000 units

Raw material at Rs. 6 per unit	60000
Direct labour at Rs. 4	40000
Overheads at Rs. 5	50000

Total cost	150000

Sales at Rs. 18	180000

Problem No. 3

You are consulted as to the estimated working capital requirements for project No. 30

Date :

Raw material cost	Re. 0.75 per unit
Overheads	Rs. 15,000 per annum
	1
Labour	58 2 per unit
Output and sales	10,000 units per month
Selling price	Rs. 5 per Unit
Buffer stocks to be carried	
Raw materials	2 week's production
Finished goods	3 week's supply

The debtors on an average take 2.25 months credit

Raw material is received in uniform deliveries daily and suppliers have to be paid at the end of the month goods are received

Other trade creditors allow on an average of 1 ½ months credit

Calculate the working capital required for February in a form for presentation to the Board. For this purpose you may assume that a month is a four-week period.

Solution**Statement of working capital requirements :****Current Assets :**

Stock:			Rs.
Raw materials (2 weeks)	$\frac{2}{4} \times 7500$	=	3750
Finished goods (3 weeks)	$\frac{3}{4} \times 15600$	=	10950
			14700
Debtors (2.25 months)	2.25×50000	=	1,12,500
			127200

Current liabilities

Trade creditors			
For new materials 1 month		7500	
for expenses (1 ½ month)	$\frac{3}{2} \times 1250$	=	1875
			9375
Working Capital Requirements			117825

Workings:

Per month			
Raw materials 10,000 units at Rs. 0.75 p.		7500	
Labour 10000 units at Rs. 0.58 p.	$\frac{1}{2}$	=	5850
Over heads 15000	$\frac{1}{2}$		1250
			14600
Sales 10000 units at Rs. 5			50000

Problem No. 4

From the following information prepare a statement showing the average amount of working capital required by AB Ltd.,

Annual sales are estimated at 1,00,000 units at Rs. 10 per unit. Production quantities coincide with sales and will be carried on evenly throughout the year and the production cost is :

	Rs.
Materials	5 per unit
Labour	2 "
Expenses	1.75 "

Customers are given 60 days credit and 50 days credit is taken from suppliers – 40 days supply of raw materials and 15 days supply of finished goods are kept.

Production cycle is 20 days and all materials is issued at the commencement of each production cycle.

A cash balance equivalent to one third of the average of other working capital requirement is kept for contingencies.

Solution**Statement of working capital requirements**

Current Assets	4	50000		
Stock : Raw materials (40 days = 1 1/3 month)	----- X	-----	=	55555.55
	3	12		
	2	875000		
Workings in progress (production cycle 20 days)	----- X	-----	=	48611.11
	3	12		
	1	875000		
Finished goods (15 days)	----- X	-----	=	36458.33
	2	12		

			=	140624.99
		1000000		
Trade debtors (60 days) 2 X	-----		=	166666.66
		12		
Cash (see note)			=	79282.40
			=	386574.05

Current liabilities

	2	5	50000	
Creditors (50 days = 1 -----month)	----- X	-----	=	69444.44
	3	3	12	-----
				317129.61 or
				317130

Working capital requirements**Workings :****Per Annum**

Materials 100000 Units at RS. 5.	=	500000
Labour 100000 units at RS. 2	=	200000
Expenses 10000 units at Rs. 1.75	=	<u>175000</u>
	=	<u>875000</u>

Sales 1,00,000 Units at Rs. 10 Rs. 10,00,000

Cash**Other Working Capital requirements :**

Stock 140624.99

Debtors 166666.66

307291.65

Less Creditors 69444.44237847.21

1/3 thereof 79282.40

Problem No. 5

On 1st January 1971 the Board of Directors of ABC Ltd wish to know the amount working capital that will be required to meet the programme they have planned for the year. From the following information, prepare a Working Capital Requirements Statement and Forecast Profit and Loss Account and Balance Sheet.

Issued share capital	Rs. 2000000
6% debentures (secured on assets)	500000
Fixed assets valued at Rs. 12,50,000 on 1st January	

Production during the previous year was 600000 units; it is planned that the level of activity should be maintained during the present year

The expected ratios of cost to selling price were :

Raw materials 60% direct wages 10% overhead 20%

Raw materials are expected to remain in stores for an average of 2 months before issue to production. Each unit production is in process for one month. Finished goods will start in the warehouse awaiting despatch to customers for approximately 3 months. Credit allowed is 3 months from date of despatch. Selling price is Rs. 10 per unit.

There is a regular production and sales cycle.

Solution**Statement of working capital requirements**

Stock :

Raw materials (2 months) $2/12 \times 3600000 =$	600000
Work in progress (1 month)	
Materials $1/12 \times 3600000 =$	300000
Wages $1/12 \times 600000 =$	50000
Overhead $1/12 \times 120000 =$	<u>100000</u>
Finished goods (3 months)	
Materials $3/4 \times 3600000 =$	900000
Labour $3/4 \times 600000 =$	150000
Overheads $3/4 \times 120000 =$	<u>300000</u>
	<u>1350000</u>
	2400000
Debtors (3 months) $3/4 \times 6000000 =$	<u>1500000</u>
	3900000
Less : Creditors (2 months) $1/6$ of 3600000	= <u>600000</u>
Working capital requirements	<u>3300000</u>

Forecast Profit and Loss Account			
To Materials	3600000	By Sales	6000000
To Wages	600000		
To Overheads	1200000		
To Debenture interest	30000		
To Net Profit	570000		
	<u>6000000</u>		<u>6000000</u>

Forecast Balance Sheet			
Share Capital	2000000	Fixed Assets	1250000
Profit & Loss A/c	570000	Stock :	
6% Debentures	500000	Raw materials	600000
Creditors	600000	Work in progress	450000
Bank Over Draft	1480000	Finished goods	1350000
Sundry Debtors	1500000		
	-----		-----
	5150000		5150000

Workings

Sales : 60000 units at Rs. 10 6000000

Raw materials : 60 % of 6000000 3600000

Direct Wages : 10% of 6000000 600000

Over heads : 2% of 600000 1200000

Problem No.6

Based on the sales Forecast for the season, C. Ltd., has prepared the following Production Scheme for the coming month.

30000 units of product A and 20000 units of product B

The manufacturing specifications for the products are as follows :

Product A	Product B
2lbs. Material X at Rs. 3	3lbs. Material W at Rs. 8
½ lbs material Y at Rs. 2	¼ lbs Material Y at Rs. 2
2 hours direct labour at Rs. 20	1.5 hour direct labour at Rs. 20

To the direct labour hours a 5 per cent allowance for idleness (accounted for as overhead) should be added. Indirect labour time is estimated to be 5 per cent of direct labour hours (excluding idleness) and the wages rate for indirect is Rs. 15. The overhead estimated (not shown above) is as follows :

Fixed costs per month		Variable cost
Depreciation	69000	Rs 8 per direct labour hour;
Insurance	8000	Note : This rate includes the costs
Superintendence	<u>30000</u>	of idle time and in direct labour

It is planned to increase the inventory of the raw material X by 4000 lbs and to decrease the inventory of raw material W by 2000 lbs as of the beginning after next month

You are required to prepare an estimate of the amount of cash necessary for the manufacturing operations of the coming month.

Assume that the materials and wages costs are paid for in the month of purchase.

Solution

Statement of Cash Requirements		
Materials	Product A	210000
	Product B	510000

Labour	Product A	1200000
	Product B	600000
Idleness payment	Product A	60000
	Product B	30000
Indirect labour	Product A	45000
	Product B	22500
Insurance		8000
Superintendence		30000

		2715500
Less: Decrease in value of stock		
Increase in X 4000 lbs at Rs. 3. =	12000	
Decrease in W 2000 lbs at Rs. 8 =	<u>16000</u>	4000

Cash requirements for the month		2711500

Workings**Materials**

Product A	X2 lbs at Rs. 3 =	6	
	Y ½ lb at Rs.2 =	1	

		7	for 30000 lbs = 210000
Product B	W3 lbs at 8 =	24	
	Y ¾ lbs at Rs. 2 =	1 ½	

		25 ½	for 20000 lbs = 510000

Direct labour

Product A	2hrs at Rs. 20 for 30000 hrs	=	1200000
Product B	1.5 hrs at Rs. 20 for 20000 hrs	=	600000

Idleness Allowance

Product A	5% of 60000 hrs. at Rs.20	=	60000
Product B	5% of 30000 hrs at Rs. 20	=	30000

Indirect Labour

Product A	5% of 60000 hrs. at Rs.15	=	45000
Product B	5% of 30000 hrs at Rs. 15	=	22500

Variable cost

Product A	Direct labour hours	=	60000
Product B	Direct labour hours	=	30000

			90000 at Rs. 8720000

Note: This Rs. 720000 includes idleness allowance of Rs. 90000 and indirect labour Rs. 67500/ Balance is other variable costs. It is assumed that they have not be paid during the month.

Problem No. 7

AB Bank Ltd., has been asked by the management of S Co., Ltd., to advance Rs. 40000 repayable over the next four years. Comparative financial statements since the date of the company's incorporation have already been submitted to the bank.

You are required to assist in the preparation of additional statements and/or schedules to support the company's request.

S. Ltd., Trial balance on 31st December 1970, is as follows :

Accounts receivable	54000	
Inventories	59840	
Buildings at cost	20000	
Equipments at Cost	60000	
Bank overdraft	90000	
Accounts payable		30000
Income Tax payable		63600
Share capital – authorised and issued		105000
General Reserve		35000
Profit and Loss Account		16490
Accumulated Depreciation		27000
	-----	-----
	283840	283840
	-----	-----

Summary of profits since incorporation

	Rs.	Rs.	Rs.	Rs.
Operating				
Income	24000	21600	14200	11000
Depreciation	10500	12500	5000	5000
Income Tax	6750	4550	4600	3000
Net profit	6750	4550	4600	3000

Additional information

1. S Co Ltd., commenced operations on 1st January 1967
2. Of the proceeds of the issue of shares which was all issued for cash, 25% was allocated to distributable surplus.
3. On 1st January 1969, the company acquired the land and building shown in the accounts. Prior to that it occupied other premises at an annual rental Rs. 4000.
4. On 1st January 1967 the company purchased equipments for s. 50000. On 1st January 1969, additional equipment was purchased for RS. 60000. During 1969, equipments having a net book value of Rs. 14000 was sold for Rs. 17000.
5. Dividend of Rs. 2000 have been paid in each of the four years of operations.
6. You may assume that

1. Depreciation remains constant for purpose of calculating net profit and taxable income
2. The income tax rate used in the summary of profits will apply in future years also. Management anticipates that profits before depreciation will increase Rs. 3000 per year. Present facilities will adequately support such expansion for a number of years.

You are required :

Based upon the information given, prepare statements for the bank showing how funds have been provided since commencement of operations and a yearly projection of operating results and sources of funds available for the next four years.

Solution

Statement of source and application of funds

For the years ended 31st December 1967, 1968, 1969 and 1970

	1970 Rs.	1969 Rs.	1968 Rs.	1967 Rs.	Total Rs.
Source					
Profits before depreciation	17250	17050	9600	8000	51900
Issue of shares				140000	140000
Sale of equipment		17000			17000
Decrease in working capital		107950			107950
	-----	-----	-----	-----	-----
	17250	142000	9600	148000	316850
	-----	-----	-----	-----	-----
Application					
Purchase of land		20000			20000
Purchase of building		60000			60000
Purchase of equipment		60000		50000	110000
Payment of dividend	2000	2000	2000	2000	8000
Increase in working capital	15250		7600	96000	118850
	-----	-----	-----	-----	-----
	17250	142000	9600	148000	316850
	-----	-----	-----	-----	-----

**Yearly projection of Operating Results and Sources of Funds
Available for the years 1971 to 1974**

	1971 Rs.	1972 Rs.	1973 Rs.	1974 Rs.
Operating income	27000	30000	33000	36000
Less: Depreciation	10500	10500	10500	10500
	-----	-----	-----	-----
	16500	19500	22500	25500
Income tax	8250	9750	11250	12750
	-----	-----	-----	-----
Net profit	8250	9750	11250	12750
	-----	-----	-----	-----

	Sources Available for Repayment of Bank loan			
	Rs.	Rs.	Rs.	Rs.
Net profit	8250	9750	11250	12750
Depreciation Included	10500	10500	10500	10500
Funds which will be Available	18750	20250	21750	23250

100

Note : Issue of shares : 105000 X ----- = 140000

75

Exercise

1. Explain the concept of Working Capital
2. Explain the concept of operating cycle. What is its significance ?
3. Briefly explain the factors which determine the working capital needs of a firm
4. What are the principal motives for holdings cash ?
5. Explain the techniques that can be used to accelerate the firm's collections
6. Explain the objectives of Receivables management
7. Explain the techniques that can be used to control of Accounts Receivables
8. Explain the objectives of inventory management
9. Define the economic order quantity. How is it computed?
10. What is a selective control of inventory? Why is it needed?

Lesson 13**Management of Cash**

It is the duty of the Finance Manager to provide adequate cash to all segments of the organisation. He has also to ensure that no funds are blocked in idle cash since this will involve cost in terms of interest to the business. A sound cash management scheme, therefore, maintains the balance between the twin objectives of liquidity and cost.

Meaning of Cash

The term "cash" with reference to cash management is used in two senses. In a narrower sense it includes coins, currency notes, cheques, bank drafts held by a firm with it and the demand deposits held by it in banks. In a broader sense it also includes "near cash assets" such as marketable securities and time deposits with banks. Such securities or deposits can immediately be sold or converted into cash if the circumstances require. The term cash management is generally used for management of both cash and near, cash assets.

Motives for holding cash

A distinguishing feature of cash as an asset, irrespective of the firm in which it is held, is that it does not earn any substantial return for the business. In spite of this fact cash is held by the firm with the following motives.

1. Transaction motive

A firm enters into a variety of business transactions resulting in both inflows and outflows of cash. At times the cash outflows may exceed the cash inflows. In order to meet the

Business obligations in such situations, it is necessary to maintain adequate cash balance. Thus, Cash balance is kept by the firms with the motive of meeting routine business payments.

2. Precautionary motive

A firm keeps cash balance to meet unexpected cash needs arising out of unexpected contingencies such as floods, strikes, presentment of bills for payment earlier than the expected date, unexpected slowing down of collection of accounts receivable, sharp increase in prices of raw materials, etc. The more is the possibility of such contingencies, more is the amount of cash kept by the firm for meeting them.

3. Speculative motive.

A firm also keeps cash balance to take advantage of unexpected opportunities, typically outside the normal course of the business, Such motive is, therefore, of purely a speculative nature. For example, a firm may like to take advantage of an opportunity to purchase raw materials at the reduced price on payment of immediate cash or delay purchase of materials in anticipation of declining prices. Similarly, it may like to keep some cash balance to make profit by buying securities in times when their prices fall on account of tight money conditions, etc.

4. Compensation motive

Banks provide certain services to their clients free of charge. They, therefore usually require clients to keep a minimum cash balance with them which help them to earn interest and thus compensate them for the free services so provided.

Business firms normally do not enter into speculative activities and, therefore, out of the four motives of holding cash balances, the two most important motives are the transaction motive and the compensation motive.

Objectives of cash management

There are two basic objectives of cash management:

1. To meet the cash disbursement need as per the payment schedule.
2. To minimise the amount locked up as cash balances.

As a matter of fact both the objectives are mutually contradictory and therefore, it is a challenging task for the finance manager to reconcile them and to have the best in this process.

1. Meeting cash disbursement

The first basic objective of cash management is to meet the payments schedule. In other words, the firm should have sufficient cash to meet the various requirements of the firm at different periods of times. The business has to make payment for purchase of raw materials, wages, taxes, purchase of plant, etc. The business activity may come to a grinding halt if the payment schedule is not maintained. Cash has, therefore, been aptly described as the "oil to lubricate the ever turning wheels of the business, without it the process grinds to a stop."

2. Minimising funds locked up as cash balances

The second basic objective of cash management is to minimise the amount locked up as cash balances. In the process of minimising the cash balances, the Finance Manager is confronted with two conflicting aspects. A higher cash balance ensures proper payment with all its advantages. But this will result in a large balance of cash remaining idle. A low level of cash balance may result in failure of the firm to meet the payment schedule. The finance manager should, therefore, try to have an optimum amount of cash balance keeping the above facts in view.

Cash Management - Basic Problems

Cash management involves the following four basic problems:

1. Controlling level of cash;
2. Controlling inflows of cash;
3. Controlling outflows of cash; and
4. Optimum investment of surplus cash.

1. Controlling level of cash

One of the basic objectives of cash management is to minimise the level of cash balance with the firm. This objective is sought to be achieved by means of the following:

i) Preparing Cash Budget: Cash budget or cash forecast is the most significant device for planning and controlling, the use of cash. It involves a projection of future cash receipts and cash disbursements of the firm over various intervals of time. It reveals to the financial manager the timings and amount of expected cash inflows and outflows over a period studied. With this information, he is better able to determine the future cash needs of the firm, plan for the financing of these needs and exercise control over the cash and liquidity of the firm.

Thus, in case a cash budget is properly prepared it correctly reveals the timings and size of net cash flows as well as the periods during which the excess cash may be available for temporary investment. In a small company, the preparation of a cash budget or a cash forecast does not involve much of complications and therefore, relatively a minor job. However, in case of big companies; it is almost a full time job handled by a senior person, namely, the budget controller or the treasurer.

The technique of preparing the cash budget has already been explained under the chapter "Budgetary Control", discussed earlier in the book.

ii) Providing for unpredictable discrepancies. Cash budget as explained above predicts discrepancies between cash inflows and outflows on the basis of normal business activities. It does not take into account discrepancies between cash inflows and outflows on account of unforeseen circumstances such as strikes, short-term recession, floods, etc. A certain minimum amount of cash balance has therefore, to be kept for meeting such unforeseen contingencies. Such amount is fixed on the basis of past experience and some intuition regarding the future.

iii) Consideration of short costs : The term short costs refers to the cost incurred as a result of shortage of cash. Such cost may take any of the following forms.

a) The failure of the firm to meet its obligations in time may result in legal action by the firm's creditors against the firm. This costs in terms of fall in the firm's reputation besides financial costs incurred in defending the suit.

b) Borrowing may have to be resorted to at high rates of interest. The firm may also be required to pay penalties, etc. to banks for not meeting the obligation in time.

c) There may be loss on account of losing of cash discount besides losing opportunity to make purchases at lower prices.

iv) Availability of other sources of funds. A firm can avoid holding unnecessary large balance of cash for contingencies in case it has adequate arrangements with its bankers for borrowing money in times of emergencies. Of course, for such arrangements, the firm has to pay a slightly higher rate of interest than that on a long-term debt. But considerable saving in interest costs will be effected because such interests will have to be paid only for shorter period.

2. Controlling inflows of cash

Having prepared the cash budget, the financial manager should also ensure that there is no significant deviation between the projected cash inflows and the projected cash outflows. This requires controlling of both inflows as well as outflows of cash.

The financial manager has to devise appropriate techniques which help not only in prevention of fraudulent diversion of cash receipts but also in speeding up collections of cash. Proper system of internal check can to a great extent minimise the possibilities of cash defalcations. Speedier collection of cash can be made possible by adoption of the following techniques which have been found to be quite useful and effective in the USA.

i) Concentration Banking: Concentration Banking is a system of decentralising collections of accounts receivable in case of large firms having their business split over a large area. According this system, a large number of collection centres are established by the firm in different areas selected on geographical basis. The firm opens its bank accounts in local bank of different areas where it has collection centre. The collection centres are required to collect cheques from their customers and deposit in local bank accounts. Instructions are given to the local collection centres to transfer funds over a certain limits daily telegraphically to the bank at the head office. This facilitates fast movements of funds. The company's treasurer on the basis of the daily report received from the head office bank about the collected funds can use them for disbursement according to need.

This system of concentration banking results in the following advantages.

a) The mailing time is reduced since the collection centres themselves collect cheques from the customers and immediately deposited them in local bank accounts. Moreover, when the local collection centres are also used to proper and send bills to the customers in their area, the mailing time in sending this to the customer is also reduced.

b) The time required to collect cheques is also reduced since the cheque deposited in the local bank account are usually drawn on bank in that area.

This all helps in quicker collection of cash.

ii) Lock-box system: Lock-box system is a further step in speeding up collection of cash. In case of concentration banking cheques are received by collection centres who, after processing, deposit them in the local bank accounts. Thus, there is a time gap between actual receipt of cheques by a collection centre and its actual depositing in the local bank account. Lock-box' system has been devised to eliminate delay on account of this time gap. According to this system, the firm hires a post-office box and instructs its customers to mail their remittances to the box. The firm's local bank is given the authority to pick the remittances directly from the local box. The bank picks up the mail several times a day and deposits the cheques in the firm's accounts. Standing instructions are given to the local banks to transfer fund to the Head Office Bank when they exceed a particular limit.

The lock-box system offers the following advantages:

a) All remittances are handled by the bankers even prior to their deposits with them at a very low cost.

b) The cheques are deposited immediately upon receipts remittances and the correcting process starts much earlier than that under the system of concentrating banking.

Besides the above methods, the firms use other methods also for prompt collection. For example in case of large funds involved, the firms arrange for personnel 'pick-up' of the cheques from customers. They may also request their collecting bankers to present them before the drawee banks via. Air mail or through special messenger.

In order to avoid unnecessary pockets of idle funds, the firms should maintain minimum number of bank accounts. Of course, small accounts with a number of bank may create some goodwill with bankers but it helps little in efficient management of cash. The firm by closing this unnecessary accounts, can release funds which it can put to profitable use.

3. Control over cash outflows

An effective control over cash outflows or disbursements also helps a firm in conserving cash and reducing financial requirements. However, there is a basic difference between the underlying objective of exercising control over cash inflows and cash outflows. In case of the former, the objective is the maximum acceleration of collections while in the case of latter, it is to slow down the disbursements as much as possible. The combination of fast collections and slow disbursements will result maximum availability of funds.

A firm can advantageously control outflows or disbursements also helps a firm in conserving cash and reducing financial requirements. However, there is a basic difference between the underlying objective of exercising control over cash inflows and cash outflows. In case of the former, the objective is the maximum acceleration of collections while in the case of latter, it is to slow down the disbursements as much as possible. The combination of fast collections and slow disbursements will result in maximum availability of funds.

A firm can advantageously control outflows of cash if the following considerations are kept in view

i) Centralised system for disbursements should be followed as compared to decentralised system in case of collections. All payments should be made from a single control account. This will result in delay in presentment of cheques for payment by parties who are away from place of control account.

ii) Payments should be made on the due dates, neither before nor after. The firm should neither lose cash discount nor its prestige on account of delay in payments. In other words, the firm should pay within the terms offered by the suppliers.

iii) The firm may use the technique of "playing float" for maximising the availability of funds. The term float means the amount tied up in cheques that have been drawn but have not yet been presented for payment. There is always a time lag between issue of a cheque by the firm and its actual presentment for payment. As a result of this a firm's actual balance at bank may be more than the balance as shown by its books.

In case the financial manager can accurately estimate when the cheques issued will be actually presented for payment, he can make remittance through issue of cheques though there may be no balance in the firm's bank account as per books. In the meanwhile, he will arrange funds so that the cheques are met when presented for payment. However, this is a very risky game and should be played very cautiously.

4. Investing surplus cash

Following are the two basic problems regarding the investment of surplus cash:

- i) Determination of the amount of surplus cash.
- ii) Determination of the channels of investment.

i) Determination of surplus cash

Surplus cash is the cash in excess of the firm's normal cash requirements. While determining the amount of surplus cash, the financial manager has to take into account the minimum cash balance that the firm must keep to avoid risk or cost of running out of funds.

Such minimum level may be termed as 'safety level for cash'.

Determining safety level for cash

The financial manager determines the safety level of cash separately both for normal period and peak periods. In both the cases, he has to decide about the following two basic factors

i) Desired days of cash: It means the number of days for which cash balance should be sufficient to cover payments.

ii) Average daily cash outflows: This means the average amount of disbursements which we have to be made daily.

The "desired days of cash" and "average daily cash outflows" are separately determined for normal and peak periods. Having determined them, the safety level of cash can be calculated as follows.

During normal periods :

Safety level of cash = Desired days of cash x average daily cash outflows

For example, If the Financial manager feels that a safety level should provide sufficient cash to cover cash payments for seven days and the firm's average daily cash outflows are Rs.6000, the safety level of cash will be Rs.42000 .(ie. 7 x 6000).

During Peak Periods.:

Safety level of cash = Desired days of cash at the biggest periods x
Average of Highest daily cash outflows
= Rs.15492 or say Rs.15000.

For example, During the 3 busiest days in the month of December, the firms cash outflows were Rs.7000, Rs.8000 and Rs.9000. The average cash outflows comes to Rs.8000. If the financial manager desires sufficient cash to cover cash payments for 5 days during the peak periods, the safety level would be Rs.40000 (ie. Rs.8000 x 5).

The above ratios are helpful in monitoring the level of cash balances. The actual cash balance is compared with the daily cash outflows to determine the number of days for which cash is available. Such number of days is then compared with the desired days of cash to ascertain whether the firm is below or above the safety level.

Illustration 13.1

From the following data ascertain whether the firm has surplus or deficiency of cash.

	Normal Periods	Peak periods
Desired days of cash	6	4
Average daily outflows	30000	50000
Actual cash balance	1 00000	120000

Solution

During Normal Periods. The firm has a cash balance of Rs. 100000. The average daily cash outflows are RS. 30000. It means the firm has cash available only for 3.3 days as compared to required for 6 days. Hence the firm has deficiency of cash.

During Peak Periods: The firm has a cash balance of Rs. 120000. The average daily outflows are estimated Rs. 50000. It means the firm has cash available only for 2.4 days as compared to the required for 4 days. Hence the firm has deficiency of cash.

ii) Investing surplus cash : The financial manager can determine the amount of surplus cash, by comparing the actual amount of cash available with the safety or minimum level of cash, as explained in the preceding pages. Such surplus cash may be either of a temporary or a permanent nature. Temporary cash surplus consists of funds which are available for investment on a short-term basis (maximum 6 months), since they are required to meet regular obligations such as those of taxes, dividends etc. While permanent cash surplus consists of funds which are kept by the firm to avail of some unforeseen profitable opportunity of expansion or acquisition of some assets, such funds are, therefore, available for investments for a period ranging from 6 months to a year.

Criteria for Investment

In most of the companies there are usually no formal written instruction for investing the surplus cash. It is left to the discretion and judgement of the financial management. While exercising such discretion of judgement, he usually takes into consideration the following factors.

1) **Security** : This can be ensure by investing money in securities whose price remain more or less stable.

2) **Liquidity** : This can be ensured by investing money in short-term securities including short-term fixed deposits with banks.

3) **Yield** : Ofcourse, most corporate manager due less emphasis to yield as compared to security and liquidity of investment. They, therefore, prefer short-term Government securities for investing surplus cash. However, some corporate manager follow aggressive investment policies which maximize the yield on their investment.

4) **Maturity** : Surplus cash is available not for an indefinite period. Hence, it will be advisable to select securities according to their maturities keeping in view the period for which surplus cash is available. If such selection is done carefully, the financial manager can maximize the yields as well as maintain the liquidity of investments.

For example, a firm can divide the surplus cash available with it in three categories.

1. Surplus cash, which is to be made available for meeting unforeseen disbursement. Such cash should, therefore, be invested in securities which can be immediately sold without much loss. In case of such cash, liquidity is more important than yield.
2. Surplus cash, which is to be made available on certain definite dates for making specific payments such as those on accounts to tax dividends, capital expenditure, etc. Such cash can therefore be invested in securities with relatively longer maturities and more favourable yields.

Cash Management Models

Several types of cash management models have recently been designed to help in determining optimum cash balance. These models are interesting and are beginning to be used in practice. One of such models is that suggested by William J Baumol. This model is similar to one used for the termination of economic order quantity, explained later in the chapter. According to this model, optimum cash level is that level of cash where the carrying cost and the transactions costs are the minimum.

Carrying cost :

This refers to the cost holding cash, namely, the interest foregone on marketable securities. They may also be termed as opportunity, cost of keeping cash balance.

Transaction cost

This refers to cost involved in getting the marketable securities converted into cash. This happens when the firm falls short of cash and has to sell the securities resulting in clerical, brokerage, registration and other costs.

There is an inverse relationship between the two costs. When one increases the other decreases. Hence, optimum cash level will be at that point where these two costs are equal.

The formula for determining optimum cash balance can be put as follows.

$$C = \frac{\sqrt{2U \times P}}{S}$$

Where C = Optimum cash balance

- U = Annual (or monthly) cash disbursement
 P = Fixed cost per transaction
 S = Opportunity cost of one rupee p.a. (or p.m)

Illustration 13.2

Monthly cash requirements	Rs. 60000
Fixed cost per transaction	Rs. 10
Interest rate on marketable securities	6% p.a.

You are required to calculate optimum cash balance

Solution

$$C = \frac{\sqrt{2U \times P}}{S}$$

$$= \frac{\sqrt{2 \times 60000 \times 10}}{.005}$$

Thus, the optimum cash balance is Rs. 15000. The average cash balance will be taken at Rs. 7500. (ie 15000/2). In other words, the firm should make four (i.e 60000/15000) transactions regarding sale of marketable securities for conversion into cash during the month. This can be verified as follows :

No. of transaction	Amount of conversion	Average cash	Transaction cost	Opportunity cost	Total cost
2	30000	15000	20	75	95
4	15000	7500	40	37.5	77.5
6	10000	5000	60	25	85

The above table shows that the total cost of holding cash is the least when the cash balance is kept at Rs. 15000. This may, therefore, be taken as the optimum cash balance. As will be seen from the table, the transaction cost and the opportunity cost are just equal to each other at this level.

There are two limitations of the optimum cash model given in the preceding pages :

i) Cash payments are assumed to be steady over the period of time specified. When the cash payment becomes lumpy, it may be appropriate to reduce the period for which calculations are made so that expenditures during the period are relatively steady.

ii) Cash payments are seldom predictable. Hence the model may not give 100% correct results. In general, it may be said that the cash model gives the financial manager a bench-mark for judging the optimum cash balance. It does not have to be used as a precise rule governing his behaviour. The model merely suggests what would be the optimal balance under a set of assumptions. The actual balance may be more or less if the assumptions do not hold good entirely.

Exercises :

1. Explain briefly the objectives of management of cash
2. What are the motives for holding cash.
3. Bring out the basic problems of cash management
4. Explain briefly about cash management models.
5. Write note on the following:
 - a) Carrying costs
 - b) Transaction costs
 - c) Criteria for investments

Lesson 14
Motive for Holding Cash

Management of cash

Cash is needed by all segments of the organisation. The finance director should manage the cash in such a way that there is no idle cash as it involved interest payment. That is, there must be the policy of liquidity and cost.

Meaning of Cash

The term cash with reference to cash management is used in two senses. Narrow point of view is that cash means currency, cheques and drafts. The broader view is that, cash include easily marketable securities also. That is, in case emergencies such securities can be converted into cash.

Motive for holding cash

- 1) In order to meet the business obligations, we have to maintain adequate cash balance.
- 2) We have to maintain adequate cash balance to meet unexpected events such as strike,, lock-out, delay in collection of debts, acute increase in raw material prizes and wage rates
- 3) Sometimes with objects of speculation, we may keep adequate cash balance. That is, when the price of materials is abnormally low, we may purchase in big lot to get profit on purchase.

Objectives of cash management

- 2) The first objective of cash management is to meet the payments promptly, That is, payment towards materials, wages, other expenses, purchase of machineries etc. another objective of cash management is to avoid lock-up of cash in various forms. However, there are two contradictory views. According, to one economist, a higher cash balance ensures prompt payment. On the other hand, the capital locked up without use may lead to payment of interest. Therefore, the finance officer should try to maintain optimum cash balance, taking into account, the above mentioned factors.

Basic problems in cash management

Following are the basic problems connected with cash management :

- 1) Control of level of cash
- 2) Control of cash in flows.
- 3) Control of cash out flows

Control of level of cash

The object of cash management is to control the level of cash by maintaining minimum balance of cash; For this purpose the management may use a cash budget which shows cash receipts and payments at regular intervals. That is, cash budget shows any surplus or deficit of cash. In case of deficit the management may go for fresh raising of short term finance through banks.

The cash officers should also provide some amount towards unforeseen contingencies while planning the cash in flows and out flows.

- 1) **Control of cash in flows**

After preparing the cash budget it should be ensured that there is no much deviation between the expected cash inflows and cash outflows. The cash so received should not be diverted towards non plan expenditure. There should be proper system of internal check in operation. Effective steps should be taken to speed up the collection of cash from parties.

If the business covered a larger area, we may establish various collection centres, to collect accounts receivable. However, this system is not suitable to small organizations.

2) Control of cashout flows

A successful organisation will have effective control over cash outflows. In case of cash inflows we have to speed up the collections and in case of outflows the disbursements are slowed down as much as possible. The above two factors will result in adequate availability of funds.

The firm should have the following factors in mind while controlling over cash outflows.

- a) All payments should be centralized
- b) Payments should be made only on the exact due date which is as per the terms and conditions with the parties.

Lesson 15

Management of Inventory & Accounts Receivables

Goods are meant for sale. In order to earn the desired profit through desired sales, the inventories of the company should be managed efficiently. Inventories include raw materials, work in progress and finished goods.

Raw materials

These are goods which have not been used for production

Work in progress

These are goods which are partly completed @ production process have been commenced but not completed

Finished goods

These are totally completed products awaiting for sale

A manufacturer generally have stock of all kinds of inventories namely Raw material, work in progress and finished goods. A wholesaler or retailer will have larger stock of finished goods but no stock of raw material and work in progress,

Advantages of Holding inventories

- 1) Adequate stock of inventories ensures continuous supply of goods to customers
- 2) The cost connected with purchase orders e.g. typing, checking, mailing etc. can be reduced if the organisation places a few big orders instead of number of small orders.
- 3) The concern can avoid over stocking

Cost of holding inventories

- a. Material cost : It includes the cost of materials less discount, transport cost and handling expenses.
- b. Ordering cost : It means the cost of placing one order. The fewer the orders, lower will be the ordering cost of the organisation
- c. Interest and storage cost : It includes the storage, interest expenses insurance cost, spoilage cost etc.

Risks associated with inventories

- 1) Inventory prices are subject to fluctuations sometimes there will be heavy price decline due to heavy supply, competitors price cutting, and introduction of new product. At that time if the organisation holds huge inventories, it leads to loss.
- 2) Some of the products loses its quality if it is kept for a long time and with improper storage conditions.

- 3) Sometimes the product become outdated, (obsolete) due to change in customer's taste, improvement in product design.

Management of inventory

A major component if the working capital is inventory. Hence it has to be correctly management. In fact, "good stock management is good financial management".

In includes many matters such as deciding various stock levels, deciding the economic ordering quantity, pricing decisions purchase procedure, providing storage facilities, checking up the obsolete materials.

Techniques of management of inventories

To have effective management of inventories, the organization should have effective control over inventories. Inventory control refers to a system that ensures supply of required quantity and quality at the time when it is needed to ensure continuous production/ The techniques of inventory management are as follows.

1. ABC Analysis

The technique is based on the assumption that the firm should exercise more control over costly item as compared to those item which are less costly. Accordingly the inventories are divided into three categories namely A,B & C.

A= Costly item

B = Loss Costly items

C = Least costly items

Therefore the items are classified in importance to their values. While exercising control maximum attention should be given to "A". Their stock levels should be controlled strictly. In case of "B" ordinary stores routine, procedure should be followed. Items of "C" type may be considered as free issue items and least control over such material is enough.

The greatest drawback of this method is that the inventories are classified according to its value and not according to its importance in the process of production. In case of material "C" in some organisations it may be very important in the process of production. When it is not properly controlled it may lead to stoppage in production of finished goods.

Advantages of ABC analysis

1. Costly items are completely controlled in an organization
2. It is a scientific method of controlling inventories
3. The cost of inventory control can be kept at minimum

2) VED analysis

This is a control measure which is generally followed, in the case of spareparts which are used in plants and machineries. According to the requirements, the inventories can be classified into three, namely a) Vital 'b) Essential c) Desirable

- a) In order to ensure continuous production certain materials are vital
- b) Certain materials are essential for production but the organization may have limited stock
- c) The stock of certain materials are desirable. But some times when such stock is not available the management need not worry about it. ie it is according to the desire of the management.

3) Inventory turnover ratio

Inventory turnover ratios are calculated to minimize the capital lock in inventories

$$\text{Inventory turnover Ratio} = \frac{\text{Cost of goods sold}}{\text{Average stock}}$$

It is expressed in terms of "Times". The ratios of different items can be compared for two years and it is easy to locate slow moving inventories. Dormant inventories, obsolete inventories, and fast moving inventories.

$$\text{Cost of goods sold} = \text{Sales} - \text{gross profit}$$

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

4) Determination of Economic ordering quantity Economic ordering quantity

It is the quantity to be ordered by the management which gives maximum economy in purchasing any item of raw material or finished product. This is otherwise called as Economic Batch size, Reorder quantity. This can be calculated using the following formula.

$$EOQ = \frac{2CO}{I}$$

Where C = quantity (units) purchased in a year (month)

O = Cost of placing an order

I = Annual (monthly) cost of storage of one unit

EOQ is calculated taking into account the following factors

- Ordering cost : It is the cost of placing an order and securing the supplies. It varies from time to time. The more the frequent orders with fewer quantities the ordering cost will be greater and vice versa.
- Inventory carrying cost : It includes interest on investment, obsolete losses store keeping cost, insurance premium, The larger the value of inventory higher will be the inventory carrying cost.

EOQ is calculated on the following assumptions

- The annual consumptions or demand of the particular material is known certainly
- The sales is constant throughout the year.

5) Determination of Reorder level

Reorder level is the level of inventory at which the firm should place an order to replenish the inventory. In case the order is placed at this level the new goods will arrive before the firm runs out of goods to sell. In order to determine the reorder level two things are needed a) lead time b) Consumption rate

Lead time : It is the time taken in receiving the delivery after the order has been placed.

Consumption rate : It is the quantity required per day. Reorder level = maximum consumption x maximum lead time. Lead time is otherwise known as Reorder period. For ex. Lead time = 6 days. Here 2 is the minimum Lead time, 6 is the maximum lead time.

Illustrations

1) Calculate the EOQ from the following information :

Estimated annual consumption 9000 units cost of an order Rs. 5 carrying cost per unit = Re1.

Solution :
$$EOQ = \frac{\sqrt{2CC}}{I}$$

$$= \sqrt{\frac{2 \times 9000 \times 5}{1}} = 300 \text{ units}$$

Illustration 2

From the following details draw a plan of ABC schedule :

Items	Units	Unit cost
1	7000	6
2	24000	3
3	1500	12
4	600	30
5	60000	2
6	11500	10

Solution

Items	Units	Unit Cost Rs.	Total cost Rs.	Ranking
1	7000	6	42000	4
2	24000	3	72000	3
3	1500	12	18000	6
4	600	30	19200	5
5	60000	2	120000	1
6	11500	10	115000	2

Illustration 3

From the following details calculate reorder level

Normal consumption 100 units per day

Minimum consumption 50 per day

Lead time : 8 to 12 days

Solution

$$\begin{aligned} \text{Reorder level} &= \text{Maximum consumption} \times \text{Maximum lead time} \\ &= 150 \text{ units} \times 2 \\ &= 1800 \text{ units} \end{aligned}$$

Normal consumption = Maximum consumption + minimum consumption

$$\begin{aligned} 100 &= \frac{X + 50}{2} \\ X &= 150 \end{aligned}$$

Management of Accounts receivables

One of the important components of current asset is "Receivables". Modern business is based on credit hence accounts receivable take a significant role.

Receivables

Receivables are asset accounts representing amounts owed to the firm as a result of sales of goods services in the ordinary course of business. They are otherwise known as "Books receivables", or "Book debts"

Receivable management

When the business want to push up sales, they extend credit, as a result there may be blockening of funds. In order to raise additional capital the business involves extra interest more accounts receivables lead to more chance of bad debts. Thus management of accounts receivables involves the process of making decisions relating to investment of funds which will in maximising the overall return on the investment of the firm.

Purpose of receivables

- 1) Accounts receivables are created because of credit sales. More credit provided to customers more will be sales.
- 2) Increase in sales results higher profit of the firm not only due to volume, but also due to higher margin of profit charged on credit sales
- 3) Sometimes a firm may have to offer more credit sales to complete with the competitors.

Cost of maintaining receivables.

- 1) When credit sales are effected the resources (funds) will be blocked. The firm has to arrange for further funds either from external sources or internal sources. External sources involve interest payments and for internal sources there is an opportunity cost of the firm.
- 2) In order to maintain books and records for receivables, staff should be appointed which involves huge salary
- 3) While credit sales are effected we have to take adequate steps to collect money from parties which may involve certain expenditure towards collection.
- 4) Sometimes even after taking adequate steps to collect receivables, the firm may not succeed. Therefore, bad debts arise which has to be written off in future.

Factors determining the amount of volume of receivables

The size of the receivables are determined by so many factors

- 1) The amount of receivables are decided by the volume of sales. Generally in the industry, if the volume of sales is large, receivables will also be large.
- 2) Credit policies of the company directly influence the amount of Trade credit. Credit policies include terms and conditions of sales, length of the credit period, trade discount if any. If the credit policy is liberal there will be higher level of receivables. Lenient credit policy will result in greater default in payments by parties.
- 3) The quantity of receivables are also decided by cash discount. Many firms offer cash discount to their parties to encourage them to pay the dues before the expiry of credit period. Eventhough cash discount results in loss to the firm, but it reduces the amount of receivables and the extra funds available can be used for alternative profitable investment.

Study of credit policy

Credit policy of the company should be neither be too liberal nor too stringent. In order to determine the nature of credit policy the organisation may calculate debtors velocity or debt collection period.

This is already shown in "Ratio analysis" chapter. However one illustration will make the concept clear.

Illustration	Credit sales for the year 1992	=Rs. 90000
	Accounts receivable on 1.1.92	= Rs. 10500
	Accounts receivable on 31.12.92	= Rs. 7500

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Solution

Debt collection period can be calculated by any of the following methods

$$\begin{aligned}
 & \text{i) } \frac{\text{Months or days in a period}}{\text{Accounts receivable turnover}} \\
 & \text{Accounts receivables Turnover} = \frac{\text{Credit sales}}{\text{Average accounts receivable}} \\
 & \text{Accounts receivables turnover} = \frac{90000}{9000} = 10 \\
 & \text{Debt collection period} = \frac{12 \text{ months}}{10} = 1.2 \text{ months} \\
 & = \frac{\text{Average accounts receivable}}{\text{Average monthly credit sales}} = \frac{9000}{7500} = 1.2 \text{ months}
 \end{aligned}$$

Average accounts receivable X months (or days) in a year

$$\frac{\text{Credit sales}}{\text{Average accounts receivable}} \times 12 = \text{months}$$

$$\frac{9000}{90000} \times 12 = 1.2 \text{ month}$$

An increase in the debt collection period shows that the companies credit policy is lenient and vice versa. But in case of changing sales patterns, the above method gives misleading results.

Lesson 16

FUND FLOW ANALYSIS

In business concerns funds flow from different sources and similarly funds are invested in various sources of investment. It is condineous process. Though funds flow process the financial management can assess the soundness and the solvency of a firm., The traditional statements balance sheet and profit and loss account of a business tell little about its flow of funds, ie financing and investing activities over the related period. Hence the need of another statement to account for periodical increase or decrease of the funds of an enterprise. This statement is called fund flow statement.

Meaning of funds

Funds keep on moving in a business. The term fund refers to money values in whatever form it may exist. Here 'fund' means all financial resources in the form of men, materials, money, machinery etc. But in a popular sense the term fund means working capital i.e. the excess of current assets over current liabilities. When the funds move inwards or outwards, they cause a flow or rotation of funds. However, the term fund has been defined in a number of ways.

1. In a narrow sense, fund means cash
2. In a broad sense, it refers to money values in whatever from it may exist. Here fund means all the financial resources
3. In a popular sense, fund means working capital. Working capital is the excess of current assets over current liabilities. Working capital has two characteristics.
 - i) Gross working capital
 - ii) Net working capital

1) Gross working capital

It refers to the amount invested in current assets such as cash, Bank balance, stock, debtors, bills receivable, short term investments prepaid expenses etc. are the example of Gross working capital

Net working capital

If refers to the excess of current assets over current liabilities

Networking capital

Current assets – current liabilities

Creditors, Bill payable, Bank overdraft, outstanding expenses are the example of current liabilities

Meaning of Flow of Fund

The term flow means movement or change and includes both 'in flow' and 'out flow'. Thus flow of fund means change in fund or change in working capital. The flow of fund refers to transfer of economic values from one asset to another. from one equity to another, from an asset

to an equity or vice versa or a combination of any of these. Flow of funds otherwise known as change in funds 'or' changes in working capital. Flow of fund means any increase or decrease in the working capital, of business. Fund flow statement essentially study the movements to and from working capital area.

The term funds flow indicates the inflow and outflow of funds during a particular accounting period, generally a year. The flow exhibits the movement of funds in both the directions inside the business and outside the business. When the term fund is used in the sense of working capital funds flow will mean inflow and outflow of working capital. The flow of funds occurs when a transaction changes on one hand a noncurrent account, and on the other a current account and vice versa. That is funds move from non-current to current transactions. Therefore, it can be said that only the following transactions may cause the flow of fund.

1. Transaction between current assets and fixed assets
2. Transactions between current assets and capital and long term liabilities
3. Transactions between current liabilities and fixed assets
4. Transaction between current liabilities and capital and long term liabilities

A change in one current account result in a change in another current account does not affect funds. Likewise, a change in one non-current account result in a change in another non current account does not affect funds.

Current and non-current accounts

Current accounts can either be current assets or current liabilities. Current assets are those assets which in the ordinary course of business can be or will be converted into cash with a short period of normally one accounting year. Current liabilities which are intended to be paid in the ordinary course of business within a short period of normally one accounting year out of the current assets or the income of the business within a short period of normally one accounting year out of the current assets or the income of the business. Following is the list of current and non-current accounts.

Current Liabilities

1. Bills payable
2. Sundry creditors / Accounts payable
3. Outstanding expenses
4. Dividends payable
5. Bank overdraft
6. Short term loans advance and deposits
7. Provision against current assets
8. Provision for taxation
9. Proposed dividend

Non Current or Permanent Liabilities

1. Equity share capital
2. Preference share capital
3. Debentures
4. Long term loans
5. Share premium

Current Assets

1. Cash in hand
2. Cash at bank
3. Bills receivable
4. Sundry debtors / accounts receivable
5. Short term loans and advances
6. Temporary and marketable investments
7. Inventories
 - (i) Raw material
 - (ii) Work in progress
 - (iii) Stores and spares
 - (iv) Finished goods

Non Current or Permanent Assets

1. Good will
2. Land
3. Building
4. Plant and Machinery
5. Furniture and fittings

6. Share forfeited	6. Trade marks
7. Profit and loss ac. (credit balance)	7. Patent rights
8. Capital reserve	8. Long term investment
9. Capital redemption reserve	9. Profit and Loss a/c (Debit Balance)
10. Provision for depreciation against fixed assets	10. Discount on the issue of share
11. Appropriation of profits	11. Preliminary expenses
i) General reserves	12. Other Deferred expenses
ii) Provision for taxation	
iii) Proposed dividend	
iv) Insurance fund	

Following are some of the examples of transactions which affect the flow, of funds.

1. Issue of shares
 Cash a/c Dr. (Current assets)
 To share capital (Noncurrent liability)
 Ans : In flow of funds
2. Sold building for cash
 Cash a/c. Dr. (Current asset)
 To Building a/c. (Non-current asset)
 Ans. In flow of funds
3. Purchase machine for cash
 Machine a/c Dr. (Non-current asset)
 To cash a/c (Current asset)
4. Cash paid to creditors
 Creditors a/c. Dr. (Current liability)
 To cash a/c (Current asset)
 Ans: No flow of funds
5. Purchased goods on credit
 Purchases a/c Dr. (Current asset)
 To creditors a/c (Current liability)
 Ans : No flow of funds

Funds Flow Statement

A fund flow statement is a report on the movement of funds explaining wherefrom working capital originates and where the same goes during an accounting period. It is statement which implies the sources from which funds come into business and the way in which those funds are utilized. The statement consists of two part.

1. Sources of funds and
2. Application of funds. The difference between the two shows the net change in the working capital during the period. The transactions which increase the working capital are sources of funds and the transactions which decrease working capital are application of funds.

In the words of Anthony "the funds flow statement describes the sources from which additional funds were derived and the use to which these sources were put".

In the words of Foulke " A statement of sources and Application of funds is a technical device designed to analyse the changes in the financial condition of a business enterprises between two date".

As funds flow statement is also termed as a "Statement of sources and application of funds", "Summary of financial operations", "Funds Generated and Expended", "Where Got and where gone statement", "Statement of changes in working capital", "Inflow – Outflow of fund statement", "Fund movement statement" etc.

Importance of Funds Flow Statement

Funds flow Statement is a useful tool in the financial manager's analytical kit. The basic purpose of this statement is to indicate where funds came from and where it was used during the certain period. Following are the use of this statement which show its importance also.

1. Funds flow statement determines the financial consequence of business operations. It shows how the funds were obtained and used in the past. Financial manger can take corrective actions.
2. The management can formulate its financial policies, dividend, reserve etc. on the basis of the statement.
3. It serves as a control device, when comparing with budgeted figures. The financial manager can take remedial steps, if there is any deviation.
4. It points out the sound and weak financial position of the enterprise.
5. It points out the causes for changes in working capital
6. It enables the bankers, creditors or financial institutions in assessing the degree of risk involved in granting credit to the business.
7. The management can rearrange the firm's financing more effectively on the basis of the statement
8. Various uses of funds can be known and after comparing them with the uses of previous years. Improvement or downfall in the firm can be assessed.
9. The statement compared with the budget concerned will show to what extent the resources of the firm were used according to plan and what extent the utilisation was unplanned.
10. It tells whether sources of funds are increasing or decreasing or constant
11. It explains the financial consequences of business operation. Funds flow statement provides a ready answer to so many conflicting situation, such as
 - a) Why the liquid position of the business becoming more and more unbalanced in spite of business making more and more profits?
 - b) How was it possible to distribute dividends in excess of current earnings or in the presence of a net loss for the period?
 - c) How the business could have good liquid position in spite of business making losses or acquisition of fixed assets?
12. The statement helps to know the following information
 - a) Aggregate amount of goodwill of the firm
 - b) Means and ways of repayment of borrowed loan
 - c) Changes in profit of the business
 - d) The overall credit worthiness of the enterprises
13. It acts as an instrument for allocation of resources. It helps the management to allocate the scarce resources for meeting the productive requirements of the business.

Limitation of Funds Flow Statements

1. The statement lacks originality because it is only rearrangement of data appearing in account books

2. It indicates only the past position and not future
3. It indicates funds flow in a summary form and it does not show various changes which take place continuously
4. When both the aspects of a transaction are non-current, even then they are not included in this statements
5. It is not an ideal tool for financial analysis
6. It cannot be considered as a substitute of an income statement or a balance sheet
7. As it is based on historical figures, it can not be prepared with accuracy
8. It reveals change of funds between two periods
9. Changes in cash are more important for financial management than the working capital

Preparation of Funds Flow Statement

The preparation of funds flow statement consists of two parts

- 1) Statement of changes in working capital and
- 2) Fund flow statement or statement of sources and application of funds

1) Statement of changes in working capital

Working capital represents the excess of current assets over current liabilities. The working capital changes due to various transactions. The working capital position at the beginning of a period is changed to a different position at the end of that period. A Statement of working capital is prepared to depict the changes in working capital. This statement is prepared with current assets and current liabilities as appearing in the balance sheets. The statement shows the change in individual items of current assets and current liabilities and their effect of working capital. The total increase and the total decrease at the end is compared and the difference of total increase and total decrease shows the net increase in the working capital. A form of the statement is given below.

Statement or schedule of changes in working capital			
Particulars	Amount of previous year	of Amount year increase (Dr) Rs.	Effect on working capital decrease (Cr) Rs.
Current assets			
Cash in hand			
Cash at bank			
Bills receivables			
Sundry debtors			
Temporary investments			
Stock / inventories			
Prepaid expenses			
Accrued incomes etc			
Total current			
Assets or (A)			
Current Liabilities			
Bills payables			
Sundry creditors			
Outstanding expenses			

Bank overdraft			
Short-term advances			
Dividends payable etc			
Total current	_____	_____	
Liabilities or (B)	_____	_____	
Working capital (A-B)			
Net increase / Decrease in			
working capital			
Total	_____	_____	_____
Steps			

1. The amount of every item of current asset of the current year is compared with its amount of previous year. If the amount of current asset of the current year is more than its amount of previous year, the excess is recorded in debit column.
2. If the amount of current asset of the current year is less than its amount of the previous year, the deficiency is recorded in credit column
3. Make sure that all the accounts relating to current assets appearing in the two balance sheet are gone through and differences are properly recorded
4. If the amount of each current liability of current year is more than its amount of previous year, the excess is recorded in credit column.
5. If the amount of current liabilities of current year is less than its amount of previous year, the deficit is recorded in debit column.
6. Find out the totals of all debit amounts and all credit amounts.
7. The above totals are compared in the end and the difference shows decrease or increase in the working capital
8. If the working capital at the end of the current year is more than the working capital at the previous year the excess is called "Increase in working capital". If the previous year's working capital is more than the current year's working capital, the excess is called decrease in working capital

The following rules may be noted

- a) Increase in a current asset item increases working capital
- b) Decrease in current asset item decreases working capital
- c) Increase in current liability item decreases working capital
- d) Decrease in current liability item increase working capital

The increase or decrease in the working capital should be equal to that shown in the statement of sources and Applications of Funds

b) Fund Flow Statement

This statement is prepared with the help of the remaining items in the balance sheets of the two periods – all non-current assets and non-current liabilities and other information given in the problem, It is prepared on the basis of the changes in fixed assets, long-term liabilities and share capital ascertained on the basis of values of these items shown in the balance sheets. Those business transactions, which cause an increase in the working capital, are considered as source of fund and those business transactions causing a decrease in working capital are known as uses of funds.

**Specimen of funds flow statements or statement of sources and application of funds
(T form)**

Sources of Funds(inflow)	Application of Funds (outflow)
1. Funds from operation	1. Funds lost in operation
2. Issue of share capital	2. Redemption of preference share capital
3. Issue of debentures	3. Redemption of Debentures,
4. Increase of long term loans	4. Repayment of long term loan
5. Sale of fixed assets	5. Purchase of fixed assets
6. Dividend received	6. Dividend paid
7. Sale of long term investment	7. Income tax paid
8. Net decrease in working capital	8. Interim dividend paid
	9. Purchase of long term investment
	10. Net increase in working capital

Specimen of Funds flow statement (Report form)

Source of Funds:

Funds from operation	
Issue of share capital	
Issue of debentures	
Increase in long term loan	
Sale of fixed assets	
Dividend received	
Sale of investments	
Decrease in working capital	-----
Total	-----
Applications or uses of funds	
Funds lost in operation	
Redemption of preference shares capital	
Redemption of debentures	
Repayment of long-term loans	
Purchases of fixed assets	
Dividend paid	
Income tax paid	
Interim dividend paid	
Purchase of long term investments	
Net increase in working capital	-----
Total	-----

Calculation of funds from operation or Trading Profit

Sales are the major source of cash inflow and cost of goods sold and expenses are the main outflow of cash. The differences of these two i.e. sales -(cost) of goods sold & expenses is net profit i.e. net income from operations. Thus the net effect of operations will be a source of funds if inflow from sales exceeds the flow for expenses and cost of goods sold and vice versa.

In funds from operations, there are many non fund, or non operating items which may have been either debited or credited to profit and loss account examples : Appropriation of

retained earnings such as transfer to reservers, depreciation, loss on sale of fixed assets etc. There are two methods to find out the amount of funds from operation.

1. Statement form and
2. Account form

i) Statement form

It can be prepared as under
Calculations of funds from operations

Closing balance of P & L a/c or

Retained Earnings (as given in the balance sheet)

ADD :

Non operating items which have been
already debited to P & L a/c.

i) Depreciation and depletion

ii) Amortization of fictitious and Intangible assets such as

- a) Good will
- b) Patents
- c) Trade marks
- d) Preliminary expenses
- e) Discount on issue of shares etc

iii) Appropriation of retained earnings, such as

- a) Transfer to general reserve
- b) Dividend equalisation fund
- c) Transfer to Sinking fund
- d) Contingency Reserve etc

iv) Loss on sale of any non-current (fixed) assets such as:

- a) Loss on sale of land and building
- b) Loss on sale of machinery
- c) Loss on sale of furniture
- d) Loss on sale of long term investment etc.

v) Dividends including

- a) Interim Dividend
- b) Proposed dividend

vi) Provision of taxation (If it not taken as current liabilities)

vii) Any other non-fund / non operating items which have been debited to P & L a/c

Total

Less : Non-fund or Non-operating items which have already been credited to P & L a/c

i) Profit or gain from the sale of fixed assets such as

- a) Profit on sale of land and building
- b) Profit on sale of plant and machinery
- c) Profit on sale of long –term investment etc

ii) Appreciation (Increase) in the value of fixed assets

- iii) Dividend received
- iv) Excess provision written off
- v) Any other non-operation item which has been credited to P & PL a/c.
- vi) Opening balance of P & L a/c or Retained earnings
- Total (B)

Funds : From operation (A) – (B)

Funds from operations can also be calculated by preparing adjusted profit and Loss account as follows :

Adjusted Profit and Loss Account

To Depreciation	By opening balance of P & L a/c.
To goodwill, patents Trade marks	By Transfer from excess provision
Preliminary expenses etc., written off	By appreciation in the value of fixed assets
To appropriation of Retained Earnings, such as	
Transfer to General Reserve Dividend	By dividend received
Equilisation fund. Sinking fund etc.	By profit on sale of fixed assets
To Loss on sale of fixed assets	By funds from operations
	(Balancing figure)
To Dividend received (including interm dividend)	
To proposed dividend	
To provision for taxation	
To Premium on Redemption	
To Discount on issue of shares written off	
To Closing balance if P & L a/c	
To Funds lost in operation	-----
(Balancing figure)	-----

Procedure for knowing whether a transaction results in the flow of funds or not

1. Analyse the transaction and find out the two accounts involved
2. Make journal entry of the transaction
3. Determine whether the accounts involved in the transaction are current or non-current
4. If both the account involved are current i.e. either current assets or current liabilities it does not result in the flow of funds
5. If both the account involved are non-current, ie either permanent assets or permanent liabilities it still does not result in the flow of funds
6. If the accounts involved are such that one as a current account while the other is a non-current account, then it results in the flow of funds

Flow of Funds

Current	Assets	No	Current	Liabilities
Yes	Yes		Yes	Yes
Non-current assets		No	Non-Current	Liabilities

Examples

(A) Transactions which involve only the current accounts and hence do not result in the flow of funds

1. Cash collected from debtors
2. Bills receivable realised
3. Cash paid to creditors
4. Payment or discharge of bills payable
5. Issued bills payable to trade creditors
6. Received acceptances from customer
7. Raising of short-term loans
8. Sale of temporary or marketable investments
9. Goods purchased for cash or credit

(B) Transactions which involve only non-current accounts and hence do not result in the flow of funds

1. Purchase of one new machine in exchange of two old machines
2. Purchase of Building or Furniture in exchange of fund
3. Conversion of debentures into shares
4. Redemption of preference shares in exchange of debentures
5. Transfers to General Reserves etc
6. Payment of bonus in the form of shares
7. Purchases of fixed assets in exchange of shares, debentures, funds or long-term loan
8. Writing off of fictitious assets
9. Writing off of accumulated losses or discount on issue of shares etc

(C) Transactions which involve both current and non-current accounts and hence result in the flow of funds

1. Issue of shares for cash
2. Issue of debentures for cash
3. Raising of long-term loans
4. Sales of fixed assets on cash or credit
5. Sales of trade investment
6. Redemption of preference shares
7. Redemption of debentures
8. Purchase of fixed assets on cash or credit
9. Purchase of long term / trade investments
10. Payment of bonus in cash
11. Repayment of long-term loans
12. Issue of shares against purchase of stock-in-trade

Differences between funds flow statement and income statement

Funds flow statement	Income statement
1. It highlights the sources and applications of funds of a business	1. It depicts the income and expenses of a business concern.
2. Revenue and capital natures are considered to prepare funds flow statement	2. Revenue items are considered to prepare income statements
3. It is prepared from Income statement	3. It is not prepared from funds flow statement
4. There is no prescribed statement	

5. It is complementary to income statement	4. It is prepared in a prescribed format
6. Schedule of changes in working capital is to be prepared.	5. It is not complementary
	6. Schedule of changes in working capital is not prepared.

Difference between funds flow statement and schedule of change in working capital

Funds flow statements	Schedule of changes in working capital
1. Changes in fixed assets and long term liabilities are considered	1. Changes in current assets and current liabilities are considered
2. Funds from operation is considered	2. Funds from operation is not considered
3. Amount calculated from this statement is not transferred to schedule of changes in working capital	3. Net increase of decrease in working capital is transferred to funds flow statement
4. Sources and applications of funds are shown	4. Changes in working capital are shown
5. It may be prepared in 'T' form also.	5. It may be prepared in a statement form only

Difference between a funds flow statement and a balance sheet

Funds flow statement	Balance sheet
1. This statements is divided into sources and application of funds	1. Balance sheet shows the assets and liabilities of a particular point of time
2. It is a statement of changes in financial position between two periods. Hence it is dynamic in nature	2. It is a statement of financial position as on a particular date. Hence it is static in nature
3. It is used as one of the tools of analysis of financial statement	3. It is one among the financial statements of a business
4. Schedule of changes is to be prepared before the preparation of this statement	4. Trading, Profit and Loss account are to be prepared before the preparation of a Balance Sheet
5. Managerial decisions can be taken from funds flow statement	5. Managerial decisions cannot be taken from the Balance Sheet
6. It incorporates items causing charges in working capital	6. It includes the balance of real and personal accounts and shows the total resources
7. The preparation of this statement is a post Balance Sheet exercise	7. It is the end product of all accounting operations for a particular period of time

Difference between funds flow statement and receipt and payments account

Funds flow statement	Receipts and payments a/c
1. It contains movements of cash plus all factors affecting working capital	1. It contains the summary of only cash transactions.
2. It presents an summary of changes i.e. net changes in working capital	2. It presents all sources of cash and disbursement of cash during the year are shown
3. It makes use of all factors affecting working capital i.e. net current assets	3. It takes notice of only those factors which affect cash

Difference between funds flow statement and a cash flow statement*

Funds flow statement	Cash flow statement
1. Schedule of changes in working capital is prepared.	1. Schedule of changes in working capital is not prepared
2. It relates to changes in working capital	2. It relates to change in cash
3. It is based on accrual basis	3. It is based on cash basis of accounting
4. It is more useful for medium term and long term analysis	4. It is more useful for short term analysis
5. It does not begin with opening balance of cash	5. It begins with opening balance of cash
6. It does not end with closing balance of cash	6. It ends with closing balance of cash
7. Sources and application of funds are considered	7. Inflow and outflow of funds are considered.

Some practical hints

Given below are some matters which require special attention while preparing a statement of sources and application of funds i.e., Funds Flow Statement.

1. Trading Profit / Fund from operations

Sales are the major source of cash inflow and at the same time cost of goods sold and expenses are the main outflow of cash. The difference of these two sales (cost of goods sold & Expenses) is net profit i.e. net income from operations. However, the profit so calculated is seldom equal to the Funds from operations because there are many items which are debited or credited in the profit and loss account but which do not affect working capital

2. Investments**a) Temporary investments**

When the surplus funds are temporarily invested in marketable securities, they are treated as current assets. Hence, it is shown in the statement of changes in working capital.

b) Long term, permanent or non-current investment

If investments are of non current nature, a separate investment should be prepared to find out the cost of investment to be purchased or sold during the year and the profit or loss on sale of investments, if any. The purchase of investment is an application of funds. The proceeds realized from sale of such investments are a source of funds. If there is a loss on sale of investments, it should be added back while finding funds from operations. When there is a profit on sale of investments, it should be deducted from funds from operations.

2. Provision for taxation

There are two ways of dealing with provision for taxation as – a current liability and as an appropriation of profits.

a) As a current liability

When it is treated as a current liability, provision for taxation will appear in the statement of changes in working capital. No further treatment is required while preparing the funds flow statement

b) As an appropriation of profit

When it is appropriation of profit, provision for taxation will have to be added back while finding funds from operation. It will appear in the debitside of the adjusted profit and loss account. The taxes paid shall be an application of funds and will appear in funds flow statement.

Note : Students are advised to treat provision for taxation as an appropriation of profits when it is given in adjustment. Otherwise it may be taken as current liability.

3. Proposed dividend

a) As a current liability

When proposed dividend is treated as a current liability, it will be shown the statement of changes in working capital.

b) As an appropriation of profits

When proposed dividend is treated as an appropriation of profits, it is added back with funds from operations. The dividends paid during the year have to be shown on the application side of funds flow statement.

Note :

The proposed dividend can be treated as an appropriation if it is given in adjustment. Otherwise it may be treated as current liability

4. Interim dividend

It should be added back or debited in the adjusted profit and loss account while calculating funds from operations. It is also an application of funds and has to appear on the application side of funds flow statements.

5 Provision for doubtful debts

It is treated as non-current liability. A separate account for the provision will be prepared. The balancing figure representing the provision made during the current year should be added back to the net profits or deducted from net loss to find out funds from operations.

Is depreciation a source of funds

Depreciation means decrease in value of an asset. It is taken as an operating income while calculating funds from operations

There cannot be any definite answer for the question. "Is depreciation a source of funds? The reason is that there are differences of opinion on this point. It is certain that depreciation does not amount to a source of funds. However under certain circumstances, depreciation helps a business concern to affect savings in payment of tax and dividends, it also helps to withhold a part of the funds generated through normal trading operations. In this sense, it can be regarded as an indirect source of funds.

The depreciation can be taken as a source of funds because of three reasons

- Depreciation finds its way into current assets through changing of overheads
- Depreciation does not generate funds but it definitely saves funds
- Depreciation reduces taxable funds

Statement of changes in working capital

Illustration 1

The following are the summarized Balance sheets of Ram Ltd., as at 31st December 1997 and 1998

Liabilities	Balance sheet		Assets	1998	
	1997	1998		1997	1998
	Rs.	Rs.		Rs.	Rs.
Capital			Fixed Assets	95,000	1,20,000
Equity shares	1,00,000	1,00,000	Investments	--	10,000
Preference Shares	--	50,000	Current Assets		

General reserve	30,000	40,000	Stock	40,000	60,000
Profit and Loss a/c	25,000	70,000	Debtors	20,000	40,000
Current liabilities			Bills Receivables	5,000	2,000
Creditors	20,000	10,000	Prepaid expenses	5,000	18,000
Bills payable	--	2,000	Cash	20,000	10,000
Overdraft	3,000	--	Advances	10,000	40,000
Taxation	7,000	12,000			
Proposed dividend	10,000	16,000			
	1,95,000	3,00,000		1,95,000	3,00,000

You are required to prepare a statement showing the changes in working capital

Statement showing changes in working capital

Particulars	1997 Rs.	1998 Rs.	Effect on working Capital	
			Increase Rs. Dr.	Decrease Rs. Cr.
Current Assets :				
Stock	40,000	60,000	20,000	--
Debtors	20,000	40,000	20,000	--
Bills Receivable	5,000	2,000	--	3,000
Prepaid Expenses	5,000	18,000	13,000	--
Cash	20,000	10,000	--	10,000
Advances	10,000	40,000	30,000	--
Total (A)	1,00,000	1,70,000		
Current Liabilities Creditors	20,000	10,000	10,000	--
Bills payable	--	2,000	--	2,000
Over draft	3,000	--	3,000	--
Provision for taxation	7,000	12,000	--	5,000
Proposed dividend	10,000	16,000		
Total (B)	40,000	40,000		
Working capital (A) - (B)	60,000	1,30,000		
Net increase in working capital	70,000	--	--	70,000
	1,30,000	1,30,000	96,000	96,000

Illustration 2

Prepare a statement of changes in working capital from the following Balance Sheet of Ram Seth Company.

Balance sheet as on 31st December					
Liabilities	1994	1995	Assets	1994	1995
	Rs.	Rs.		Rs.	Rs.
Equity Capital	5,00,000	5,00,000	Fixed Assets	6,00,000	7,00,000
Debentures	3,70,000	4,50,000	Long-term	2,00,000	1,00,000
Tax payable	77,000	43,000	Investments		
Creditors	96,000	1,92,000	Work-in-progress	80,000	90,000
Interest payable	37,000	45,000	Stock	1,50,000	2,25,000
Dividend payable	50,000	35,000	Debtors	70,000	1,40,000
			Cash	30,000	10,000
	-----	-----		-----	-----
	11,30,000	12,65,000		11,30,000	12,65,000
	-----	-----		-----	-----

Solution

Particulars	1994	1995	Effect on working capital	
			Increase	Decrease
	Rs.	Rs.	Rs.	Rs.
Current Assets :				
Cash	30,000	10,000	--	20,000
Debtors	70,000	1,40,000	70,000	---
Stock	1,50,000	2,25,000	75,000	---
Work-in-progress	80,000	90,000	10,000	---
	-----	-----		
Total (A)	3,30,000	4,65,000		
	-----	-----		
Current liabilities				
Tax payable	77,000	43,000	34,000	---
Creditors	96,000	1,92,000	---	96,000
Interest payable	37,000	45,000	---	8,000
Dividend payable	50,000	35,000	15,000	---
	-----	-----		
Total (B)	2,60,000	3,15,000		
	-----	-----		
Working capital (A-B)	70,000	1,50,000		
Net increase in working capital	80,000	---	---	80,000
	-----	-----		
	1,50,000	1,50,000	2,04,000	2,04,000
	-----	-----	-----	-----

Calculation of Funds from operation**Illustration 3**

A company's reported current profit is Rs. 70,000 after incorporating the following

Loss on sales of equipments	10,000
Premium on Redemption Debentures	1,500

Discount on issue of Debentures	2,000
Depreciation on machinery and building	20,000
Depletion of natural resources	10,000
Amortization of goodwill	30,000
Interim dividend	25,000
Gain from sale of non-current assets	40,000
Excess provision for taxation	22,000
Dividend income on investment	4,000
Transfer to General Reserve	5,000
Preliminary expenses	1,000
Profit on revaluation of Investment	2,500

Derive the inflow of funds from the operations

Solution

Adjusted profit and loss account

	Rs.		Rs.
To loss on sales of equipment	10,000	By Profit on Revaluation of investment	2,500
Discount on issue of debentures	2,000	By Gain from sale of non-current assets	40,000
Depreciation on machinery and building	20,000	By Dividend income in investment	4,000
Depletion of natural resources	10,000	By Operating fund (Balancing Figure)	1,50,000
Amorization of goodwill	30,000		
Excess provision for taxation	22,000		
Transfer to general reserve	5,000		
Preliminary expenses	1,000		
Premium on redemption of debentures	1,500		
Interim dividend	25,000		
Closing balance (Reported profit)	70,000		
	1,96,500		1,96,500

Illustration 4

From the following balance sheets and additional information given, you are required to calculate funds from operations for the year ended 1994

Liabilities	1993	1994	Assets	1993	1994
	Rs.	Rs.		Rs.	Rs.
Share capital	1,00,000	1,50,000	Land and building	1,00,000	95,000
General Reserve	30,000	30,000	Plant and machinery	80,000	90,000
Profit and Loss a/c	20,000	22,000	Stock	70,000	1,10,000
6% Debentures	80,000	80,000	Debtors	20,000	25,000
Creditors	65,000	58,000	Investments	—	10,000
Provision for tax	5,000	10,000	Cash	10,000	10,000
			Goodwill	20,000	10,000
	3,00,000	3,50,000		3,00,000	3,50,000

Addition Information

1. During 1994, dividends of Rs. 15,000 were paid
2. Depreciation written off on plant and machinery amounted to RS. 6000 and no depreciation has been charged on land and building.
3. Provision for tax made during the year Rs. 5000
4. Profit on sale of machinery Rs. 2000

Solution

Adjusted profit and loss a/c			
To Depreciation	6,000	By Opening balance	20,000
To Dividends	15,000	By Profit on sale machinery	2,000
To Provision for tax	5,000	By Funds form operations	36,000
		(balancing figure	
To Good Will	10,000		
To Closing balance	22,000		
	58,000		58,000
	58,000		58,000

Hints :

1. Provision for tax has been treated as a non-current liability
2. Goodwill written off during the years
(Rs. 20,000 – Rs. 10,000 = Rs. 10,000)

Comprehensive Illustration**Illustration 5**

From the following two balance sheets as on 31st December 994 and 1995. You are required to prepared statement showing flow of funds.

Assets	1994	1995
	Rs.	Rs.
Cash	30,000	47,000
Debtors	1,20,000	1,15,000
Stock-in-trade	80,000	90,000
Land	50,000	66,000
	2,80,000	3,18,000
	2,80,000	3,18,000
Capital and Liabilities		
Share capital	2,00,000	2,50,000
Trade Creditors	70,000	45,000
Retained Earnings	10,000	23,000
	2,80,000	3,18,000
	2,80,000	3,18,000

Schedule of changes in working capital for the year ended 31/12/1995

Items	1994 Rs.	1995 Rs.	Effect of changes in Working capital	
			Increase Rs.	Decrease Rs.
Current Assets				
Cash	30,000	47,000	17,000	
Debtors	1,20,000	1,15,000	---	5,000
Stock-in-trade	80,000			
Total (A)	2,30,000	2,52,000		
Current liabilities				
Trade creditors	70,000	45,000	25,000	
Total (B)	70,000	45,000		
Working capital (A) – (B)	1,16,000	2,07,000		
Net increase in working capital	47,000	---	---	47,000
	2,07,000	2,07,000	52,000	52,000

Statement of sources and application of funds for the year ended 31/12/1995

Sources	Rs.	Applications	Rs.
Issue of share capital	50,000	Purchase of land	16,000
Funds from operations	13,000	Net increase in working capital	47,000
	63,000		63,000

Working Notes

1. Funds from operations

Retained Earnings in 1995	23,000
Less : Balance of Retained Earnings in 1994	10,000
Funds from operations	13,000

Purchase of land

Opening balance	50,000
Closing balance	66,000
Purchased during the year	16,000

Illustration 6

The following are the summarized balance sheet of X Ltd. As on 31st December 1997 and 31st December 1998

Liabilities	1994	1995	Assets	1994	1995
	Rs.	Rs.		Rs.	Rs.
Equity share capital	5,00,000	7,00,000	Plant & Machinery (at cost)	4,00,000	6,45,000
Debentures Profit Loss a/c.	3,00,000	2,00,000	Land & building	3,60,000	5,00,000
General Reserve	30,000	50,000	Debtors	50,000	80,000
Sundry Creditors	1,00,000	1,50,000	B/R	40,000	60,000
B/P	40,000	10,000	Stock	2,00,000	1,00,000
Bank overdraft	30,000	40,000	Prepaid Expenses	50,000	20,000
Proposed Dividend	60,000	35,000	Cash at bank	60,000	20,000
Provision for taxation	35,000	45,000	Goodwill	10,000	---
Provision for doubtful debts	5,000	10,000	Preliminary Expenses	20,000	8,000
			Discount on Issue of shares	10,000	7,000
	12,00,000	14,40,000		12,00,000	14,40,000

Additional information

1. During the year a part of machinery costing Rs. 70,000 (accumulated depreciation Rs. 5000) was sold Rs. For Rs. 10,000
2. Interim dividend paid during the year Rs. 5,000
3. Income tax paid during the year Rs. 30,000

You are required to prepare

- i) Schedule of changes in working capital 1998
- ii) Funds flow statement

Schedule of changes in working capital

Items	1997 Rs.	1998 Rs.	Changes in Working capital	
			Increase Rs.	Decrease Rs.
Current Assets :				
Debtors	50,000	80,000	30,000	
BIR	40,000	60,000	20,000	
Stores	2,00,000	1,00,000	--	1,00,000
Prepaid Expenses	50,000	20,000	--	30,000
Cash at Bank	60,000	20,000	--	40,000
Total (A)	4,00,000	2,80,000		

Current Liabilities				
Provision for doubtful debts	5,000	10,000	--	5,000
Sundry creditors	1,00,000	1,50,000	--	50,000
B/P	40,000	10,000	30,000	--
Bank overdraft	30,000	40,000	--	10,000
	-----	-----		
Total (B)	1,75,000	2,10,000		
	-----	-----		
Working capital (A)-(B)	2,25,000	70,000		
Net decrease in working capital	--	1,55,000	1,55,000	
	-----	-----	-----	-----
	2,25,000	2,25,000	2,35,000	2,35,000
	-----	-----	-----	-----

Funds flow statement for the year ended 31-12-1998

Sources	Rs.	Applications	Rs.
Issue of share capital	2,00,000	Redemption of debenture	1,00,000
Sale of machinery	10,000	Proposed dividend	60,000
Funds from operation	2,85,000	Income tax paid	30,000
Net decrease in working capital	1,55,000	Interim dividend paid	5,000
		Purchase of land & building	1,40,000
		Purchase of plant machinery	3,15,000
	-----		-----
	6,50,000		6,50,000
	-----		-----

Workings

1. Calculation of funds from operations : Adjusted Profit & Loss a/c.

To Depreciation of machinery	5,000	By Balance b/d. (opening balance)	1,00,000
To General reserve	20,000	By funds form operation	2,85,000
		Balancing figure	
To Loss on sale of machinery	55,000		
To Goodwill written of	10,000		
To Preliminary expenses (20,000 – 8,000)	12,000		
To Discount on issue of share (10,000-7,000)	3,000		
To Provision for taxation	40,000		
To Proposed for dividend	35,000		
To Interim dividend	5,000		
To Balance c/d (Closing balance)	2,00,000		
	-----		-----
	3,85,000		3,85,000
	-----		-----

Provision for taxation a/c			
To cash (paid)	30,000	By Balance b/d (Opening balance)	35,000
To balance c/d	45,000	By P & L a/c	40,000
	75,000		75,000
Plant & Machinery a/c			
To balance b/d (Op. Balance)	4,00,000	By depreciation	5,000
To Cash (Purchase)	3,15,000	By cash (sales)	10,000
(Balancing figure)		By P & L a/c. (Loss on sale)	55,000
		By balance c/d	6,45,000
	-----		-----
	7,15,000		7,15,000
	-----		-----

Illustration : 7

Following are the summarized balance sheets of XYZ Ltd., for the year ended December 1996 and 1997

Liabilities	1996	1997	Assets	1996	1997
	Rs.	Rs.		Rs.	Rs.
Creditors	40,000	44,000	Cash	10,000	7,000
Mrs W/s Loan	25,000	—	Debtors	30,000	50,000
Loan from Indian bank	40,000	50,000	Stock	35,000	25,000
Capital	1,25,000	1,53,000	Machinery	80,000	55,000
			Land	40,000	50,000
			Building	35,000	60,000
	-----	-----		-----	-----
	2,30,000	2,47,000		2,30,000	2,47,000
	-----	-----		-----	-----

During the year machine costing Rs. 10,000 (accumulated depreciation Rs. 30,000) was sold for Rs. 5000. The provision for depreciation against machinery as on 31-12-1985 was Rs. 25,000 and 31.12.1986 Rs. 40,000 Net profit for the year 1986 amounted to RS. 45,000. You are required to prepare funds flow statement.

Statement showing changes in working capital

Items	1996	1997	Changes in Working capital	
			Increase	Decrease
	Rs.	Rs.	Rs.	Rs.
Cash	10,000	7,000	—	3,000
Debtors	30,000	50,000	20,000	—
Stock	35,000	25,000	—	10,000
	-----	-----		
Total (A)	75,000	82,000		
	-----	-----		

Creditors	40,000	44,000		
Total (B)	40,000	44,000	---	4,000
Working capital (A) – (B)	35,000	38,000		
Net increase in working capital	3,000	---	--	3,000
	38,000	38,000	20,000	20,000

Funds flow statement

Sources	Rs.	Applications	Rs.
Sales of machinery	5,000	Purchase of land	10,000
Loan from Indian Bank	10,000	Purchase of buildings	25,000
Funds from Operation	65,000	Repayment of Mrs. W's loan	17,000
		Increase in working Capital	25,000
			3,000
	80,000		80,000
To balance b/d	1,05,000	Machinery a/c	
By P & L a/c	2,000	By cash	5,000
		By Depreciation	3,000
		By Balance c/d	95,000
	1,05,000		1,05,000

Provision for depreciation on machinery a/c

To Machinery	3,000	By balance b/d	25,000
To Balance c/d	40,000	By P & L a/c	18,000
	43,000		43,000
Capital A/c			
To Drawings	17,000	By Balance B/d	1,25,000
(Balancing figure)			
To Balance c/d	1,53,000	By Profit	45,000
	1,70,000		1,70,000

Calculation of funds from operation

Net profit	45,000
Add : Depreciation	18,000
Loss on sale of Machinery	2,000
	65,000

Illustration 8

The following are the summaries of the balance sheets of Parveen Ltd., as at 31st December 1998 and 1999

Liabilities	1998	1999	Assets	1998	1999
	Rs.	Rs.		Rs.	Rs.
Share capital	2,00,000	2,50,000	Land & building	2,00,000	1,90,000
General Reserve	50,000	60,000	Plant	1,50,000	1,74,000
Profit & Loss a/c	30,500	30,600	Stock	1,00,000	74,000
Bank Loan (Short-term)	70,000	---	Debtors	80,000	64,200
Creditors	1,50,000	1,35,200	Cash	500	600
Provision for taxation	30,000	35,000	Bank	---	8,000
	5,30,500	5,10,800		5,30,500	5,10,800

Additional Information

- Depreciation was written off of plant Rs. 14,000 in 1999
- Dividend of Rs. 20,000 was paid during 1999
- Income tax provision made during the year was Rs. 25,000
- A piece of land has been sold during the year at cost

You are required to prepared a statement showing sources and application of funds for the year 1999 and a schedule of changes in working capital.

Current liabilities'

Creditors	11,000	9,000	2,000	
Total (B)	11,000	9,000		
Working capital (A)-(B)	18,000	31,000		
Net increase in working capital	13,000	---	--	13,000
	31,000	31,000	13,000	13,000

Profit and Loss a/c

	Rs.		Rs.
To Reserve & Surplus	5,000	By Machinery a/c (profit on sale)	500
To Goodwill written off	3,000	Profit on Redemption of debenture	100
To Dividend (2500+1000)	3,500	Funds from operations	12,900
To Depreciation on machinery	2,000		
	13,500		13,500

Machinery Account			
To Balance b/d	25,000	By Bank	6,500
To Share capital	3,000	By P & L a/c (Depn)	2,000
To Profit & Loss a/c (profit on sale)	500	By Balance c/d	20,000
	28,500		28,500
Good will a/c			
To Balance b/d	6,000	By P & L a/c (written off)	3,000
To Share capital	2,000	By Balance c/d	5,000
	8,000		8,000
Debenture a/c			
To bank	4,900	By Balance b/d	5,000
To P & L a/c (profit on Redemption)	100		
	5,000		5,000
Share capital a/c			
Balance c/d	36,000	By Balance b/d	30,000
		By Machinery	3,000
		By Stock	1,000
		By Good will	2,000
	36,000		36,000

Exercises

1. Compare fund flow statement with a balance sheet
2. When does flow of funds take place?
3. In depreciation a sources of fund?
4. What is fund flow statement? Examine its uses and significance for management?
5. What are the causes for change in the working capital?
6. Find out the changes in the working capital from the balance sheet data given below.
- 7.

	Dec. 31 st 1994 (Rs)	Dec. 31 st 1994 (Rs.)
Capital and liabilities		
Share capital	3,00,000	3,75,000
Trade creditors	1,06,000	70,000
Profit & Loss a/c	14,000	31,000
	4,20,000	4,76,000
Assets		
Machinery	70,000	1,00,000
Stock – in trade	1,21,000	1,36,000
Debtors	1,81,000	1,70,000
Cash	48,000	70,000
	4,20,000	4,76,000

(Ans : Increase in W.C. Rs. 62000)

7. Calculate funds from operation from the following profit and loss account of M/s. Anand and Co.,

Profit & Loss a/c.			
To salaries	10,000	By Gross Profit	2,00,000
To Rent	3,000	By Profit on sale of machine	5,000
To Commission	2,000	By Refund of tax	3,000
To Discount allowed	1,000	By Dividend received	2,000
To Provision for depreciation	14,000		
To Transfer to general Reserve	20,000		
To Provision for tax	10,000		
To Loss on sale of investments	5,000		
To Discount on issue of debenture	2,000		
To Preliminary expenses	3,000		
To Selling expenses	2,000		
To Net profit	1,20,000		
	-----		-----
	2,10,000		2,10,000
	-----		-----

(Ans : Funds from operation : Rs. 64,000)

8) Following are the condensed balance Sheet of ABC Company

Liabilities	1997	1998	Assets	1997	1998
	Rs.	Rs.		Rs.	Rs.
Equity capital	50,000	53,000	Cash	20,000	25,000
Long-term debt	14,000	13,000	Accounts Receivable	24,000	27,000
Retained earnings	28,000	37,000	Inventories	31,000	32,000
Accumulated depreciation	21,000	25,000	Other current assets	8,000	7,000
Sundry creditors	20,000	21,000	Fixed assets	50,000	58,000
	-----	-----		-----	-----
	1,33,000	1,49,000		1,33,000	1,49,000
	-----	-----		-----	-----

Additional information

1. Fixed assets costing Rs. 12,000 were purchased during 1998 for cash
2. Fixed assets (Original cost Rs. 4000, accumulated depreciation Rs. 1500) were sold at book value
3. Depreciation for the year 1998 amounted to rs. 5500 which has been debited to profit & Loss a/c
4. During 1998, dividends paid Rs. 3000

You are required to prepared a statement of sources and application of funds

(Ans. Increase in working capital Rs. 7000. Funds from operations, rs. 17,500. Total of sources and applications Rs. 23000 and Rs. 16,000 respectively)

9) From the following balance sheet of JK Ltd., and other particulars, prepare

- a) A statement of changes in working capital
- b) A funds flow statement for the year ended 31.12.1999

Balance Sheet					
Liabilities	1998	1999	Assets	1998	1999
	Rs.	Rs.		Rs.	Rs.
Equity share capital	1,00,000	1,50,000	Land & Building	60,000	60,000
8.1. Redemible preference shares	50,000	25,000	Plant & Machinery	80,000	90,000
General reserves	10,000	15,000	Investments	20,000	10,000
Profit & Loss a/c	12,000	20,000	Stock	25,000	40,000
Sundry Creditors	8,000	12,000	Debtors	10,000	30,000
O/s Liabilities	2,000	3,000	Cash	14,000	35,000
Provision for bad debts	2,000	4,000			
Provision for depreciation on plants & Machinery	10,000	15,000			
Proposed dividend	10,000	15,000			
Provision for taxation	5,000	8,000			
	2,09,000	2,65,000		2,09,000	2,65,000

Value of which was Rs. 27,000 (accumulated depreciation Rs. 12,000) was sold for Rs. 5000
(Ans: Increase in working capital Rs. 51,000 Funds from operation Rs. 68,500)

10) The following are the summarized Balance Sheets, Anand Ltd., as on 31.12.1997 & 1998

Balance Sheet					
Liabilities	1997	1998	Asset	1997	1998
	Rs.	Rs.		Rs.	Rs.
Share capital	1,00,000	20,000	Bank	40,000	50,000
P & L a/c	55,000	20,000	Cash	50,000	30,000
Gen. Reserve	10,000	15,000	B/R	15,000	10,000
Creditors	25,000	10,000	Stock	20,000	40,000
B/P	10,000	15,000	Sundry advan	10,000	5,000
Bank o/d	40,000	20,000	Land & Buildings	50,000	50,000
Provision for taxation	20,000	20,000	Plant & Machinery	65,000	85,000
			Goodwill	---	25,000
			Preliminary expen.	10,000	5,000
	2,60,000	3,00,000		2,60,000	3,00,000

Additional Information:

- The assets of another co-were purchased for Rs. 1,00,000 payable in fully paid shares of the company. These assets consisted of Land & Building Rs. 10,000 Plants & Machinery. Rs. 30,000. Goodwill Rs.25,000 and stock Rs.35,000. In addition Land Building and Plant & Machinery were purchased for Rs. 10,000 Rs. 5,000 respectively.
 - Income Tax paid during the year Rs. 5,000 .
 - In Interim dividend of Rs. 30,000 was paid.
 - The net profit for the year before tax Rs. 50,000
- (Ans: Increase in w.e. Rs. 30,000 Funds from operation Rs. 45,000)

Lesson 17**Cash Flow Statement**

Cash plays a very important role in the entire economic life of a business. In day to day activities a firm needs cash to make payment for wages, salaries and other expenses. Hence, it is very essential to maintain adequate balance of cash. As such, cash flow analysis considers the changes in the cash position of a business enterprise. In fact, what blood is to a human body, cash is to a business enterprise.

Cash Flow statement is a statement like Fund Flow Statement A Cash Flow Statement concentrate to transactions that have a direct impact on cash. It deals with the inflow and outflow of cash between two Balance Sheet dates: That is, it explains the changes in cash position between the two period. Cash Flow means inflow and outflow of cash during the accounting period. From the beginning of the year upto the end of the year cash is received from various sources and spent on various heads. Incoming and outgoing of cash is termed as cash flow. The term cash here stands for cash and bank balances. When management is interested to know about movement of cash and the availability of cash, the cash flow analysis provides this information. Cash flow statement is a statement of recording systematically all inflows and outflows of cash of the accounting period. Thus it shows the sources (inflow) of cash receipts and the purposes for which payment (outflows) are made. It is like a receipts and payments account in a summary form.

Uses of Cash Flow Statement

A cash Flow Statement is of primary importance to the financial management. It is an essential tool of short term financial analysis. Its main uses are as follows.

1. Cash Flow Statement facilitates to prepare sound financial policies. It also helps to evaluate the current cash position.
2. A projected cash flow statement can be prepared in order to know the future cash position of a concern so as to enable a firm to plan and co-ordinate its financial operations properly.
3. It helps in taking loan from Banks and other financial institutions. The repayment capacity of the firm can be understood by going through the cash Flow statement.
4. It helps the management in taking short-term financial decisions.
5. Cash is the soul and heart of the business. Cash as pivot of all business activities. Everyone is cash minded. The aim of business is to gather cash. Business is the source while cash is an end. Therefore, it is very useful.
6. The statement explains the causes for poor cash position in spite of substantial profit in a firm by throwing light on various applications of cash made by the firm.
7. The extent of success or failure of cash planning can be known by comparing the projected cash flow statement with the actual cash flow statement and necessary remedial measures can be taken.

Limitations of Cash Flow Statement

Cash Flow Statement is a useful tool of financial analysis. However, it suffers from its own limitations, which are as follows.

1. A cash flow statement only reveals the inflow and outflow of cash. The cash balance disclosed by this statement may not depict the true liquid position. There are controversies over a number of items like cheques stamps, postal orders etc., to be included in cash.

2. A cash Flow Statement cannot be equated with the income statement. An income statement takes into account both cash and non-cash items. Therefore, net cash flow does not necessarily mean net income of the business.
3. Cash Flow Statement cannot replace the Income Statement or the Funds Flow Statement. Each of them has a separate function to perform.
4. Working capital being a wider concept of funds, a funds flow statement presents a more complete picture than cash flow statement.

Preparation of cash Flow Statement

Cash flow statement shows the impact of various transactions on cash position of a firm. It is prepared with the help of financial statement i.e. balance sheet and profit and loss account and some additional information. A cash flow statement starts with the opening balance of cash and balance at bank, all in the inflows of cash are added to the opening balance and the outflows of cash are deducted from the total. The balance, i.e., opening balance of cash and bank balance plus inflows of cash minus outflows of cash is reconciled with the closing balance of cash. The preparation of cash flow statement involves the determination of.

- a) Inflows of cash
- b) Outflows of cash.

The change in the cash position from one period to another as computed by taking into account "Sources" and "Applications" of cash.

Sources of cash:

Sources of cash can be both internal as well as external.

I. Internal Sources:

Cash from operations is the main internal source. The Net Profit shown by the Profit and Loss Account will have to be adjusted for non-cash items for finding out cash from operations. Some of these items are as follows.

i) Depreciation

Depreciation does not result in outflow of cash, and therefore net profit will have to be increased by the amount, of depreciation or development rebate charged, in order to find out the real cash generated from operations.

ii) Amortization of intangible assets:

Goodwill, preliminary expenses etc., when written off against profits, reduce the net profits without affecting the cash balance. The amounts written off should, therefore, be added back to profits to find out the cash from operations.

iii) Loss on sale fixed assets:

It does not result in outflow of cash and therefore should be added back to profits.

iv) Gains from sale of Fixed assets:

Since sale of fixed assets is taken as a separate source of cash, it should be deducted from net profits.

v) Creation of reserves.

If profit for the year has been arrived at after charging transfers to reserves. Such transfers should be added back to profits. If cash operations show a net loss, such net loss after making adjustments for non-cash items will be shown as an application of cash.

Thus, cash, from operation as computed on the pattern of computation of 'Funds' from operations."

Flow of cash under non-current items.

Non-current items mean fixed items. Under this heading it is proposed to consider the flow of cash an account of non-current items like fixed assets and fixed liabilities.

A) Inflow of Cash:

i) Increase in Share Capital

Share capital(Equity or preference) issued for cash constitute inflow of cash. The actual amount received is taken into account i.e., after adding premium or reducing discount. Shares issued for consideration other than cash are not accounted for.

ii) Issue of Debentures:

The net cash received on issue of debentures is inflow of cash. If debentures are issued for consideration other than cash, it will not be considered as inflow of cash.

iii) Raising long term loans.

Long -term loans received from Financial institutions are sources of cash inflow.

iv) Sale of Fixed assets, investments etc.,

Cash received by selling non-current assets during the accounting period is inflow of cash.

B) Outflow of cash

Applications of cash may take any of the following forms.

i) Redemption of debentures

When debentures are redeemed in cash, there is an outflow of cash. The cash position is decreased.

ii) Repayment of Preference Shares.

When the Redeemable Preference shares are paid in cash, it is outflow of cash.

iii) Purchase of fixed assets: .

Cash is utilised for additional assets or replacement of existing fixed assets, such as plant, machinery, furniture etc., it is outflow of cash.

iv) Repayment of long-term loans:

The repayment of long-term loans results in decrease in cash.

v) Loss on operations:

Loss suffered on account of business operations will result in outflow of .cash.

Flow of cash due to operations or cash operating profit.

Cash from trading operations during the year is a very important source of cash inflows.

The net effect of various transactions in a business during a particular period is either net profit or net loss. Usually, net profit results in inflow of cash.

How to calculate cash from operations or cash operating profit?

There are three methods of determining cash from operations.

a) From cash Sales:

Cash from operations can be calculated by deducting cash purchases and cash operating expenses from cash sales. Here cash from operations cash sales - (Cash purchases +cash operating Expenses)

Cash sales are calculated by deducting credit sales or increase in receivables from the total sales. From the cash sales, the cash purchases and cash operating expenses are to be deducted. In the absence of any information, all expenses may be assumed to be cash expenses. In case outstanding and prepaid expenses are known, any decrease in outstanding expenses or

increases in prepaid expenses should be deducted from the corresponding figure. Thus, cash from operations under this method can be tabulated as follows.

Sales

Less:	Credit sales. or Increase in accounts receivables.
	Cash sales
Less: .	Cash purchases (Purchases - Credit purchases or increase in payables)
Less:	Cash operating expenses (after adjusting prepaid and outstanding expenses) Cash from Trading operations

B) From Net Profit or Net Loss.

According to this method, cash from operation is ascertained on the basis of net profit /loss when the amount of sales is not known. Here, net profit or net loss is adjusted for non-cash and non-operating expenses and incomes as follows.

	Amount
	Net Profit (as given)
Add:	Non-cash and non-operating items Which have already been debited to P & L . alc. Depreciation Transfer to Reserves Transfer to provisions Goodwill written off Preliminary expenses written off . Other intangible assets written off Loss on sale or disposal of fixed 'assets Increase in Accounts Payable Increase in outstanding expenses Decrease, in prepaid expenses
	<u>xxx</u>
	xxx
Less:	Non-cash and non-operating expenses items which have. already been credited to P & L alc. Income from Investments Increase in Accounts Receivables Decrease in outstanding expenses Increase in Prepaid expenses . Cash from operations
	<u>xxx</u>
	xxx

C) Cash Operating Profit

Cash operating profit is also calculated with the help of net profit or net loss. The difference in this method as compared to the above method is that increase or decrease in account payable and accounts receivable is not adjusted while finding cash from operations and it is directly shown in the cash flow statement as an inflow or outflow of cash as the case may be.

	Amount
	Net Profit (as given) or closing Balance of Profit and Loss a/C.
Add:	Non-cash and non-operating items which have already been debited to P.& L a/c.

	Depreciation
	Transfers to Reserves and Provisions
	Writing off intangible assets
	Outstanding expenses (current year)
	Prepaid expenses (Previous year)
	Loss on sale of fixed assets
	Dividend paid etc
Less:	Non-cash and non-operating items which have already been credited to P & L a/c.
	Profit on sale or disposal of fixed assets
	Non-trading receipts such as dividend rent, etc.,
	Re-transfers from provisions (excess)
	Outstanding income (current year)
	Pre-received income (Previous year)
	Opening balance of P & L a/c.
	Cash operating Profit.

Flow of cash due to operations.

The computation of cash from business operation can be studied under the two different situations.

- a) When all transactions are cash transactions.
- b) When all transactions are not cash transactions.

a) When all transactions are cash transactions.

Under this method, the net profit shown by the profit and Loss account will be taken as the amount of cash from operation.

	Cash from Operations : Net Profit		
Example.	Profit and Loss Account		
To Purchases	15,000	By	50,000
To Wages	10,000		
To Rent	500		
To Stationery	2,500		
To Net Profit	<u>22,000</u>		-----
	50,000		50,000

In the above. example, all transactions are cash transactions i.e. all purchases and expenses have been paid for in cash and all sales have been realised in cash, the cash from operations will be Rs. 22,000. Le., the net profit as shown by the profit and loss account.

b) When all the transactions are not cash transactions.

Credit transactions are common in actual practice. The business, sells goods in cash as well as in credit. Thus it is often found that a part of sales are credit sales; some purchases are credit purchases, a few expenses are always outstanding to some extent; or all incomes are not immediately realised. Under such circumstances, the net profit made by the firm cannot generate equivalent amount of cash. Therefore, adjustments will have to be made for each of these items in order to find out cash from business operations.

Cash from operations:

Net Profit + Decrease in Current assets.
 + Increase in Current liabilities.
 Or
 - Increase in current assets
 - Decrease in current liabilities

Increase in a current asset and Decrease in a current liability results in Decrease in cash
 And

Decrease in a current asset and Increase in a current liability results in Increase in cash.

Cash flow statement is prepared in anyone of the following two way.

1. Report Form

Cash Flow Statement for the year ended 31 st December. . . .

Opening Balances:

Cash

Bank

Add: Sources of cash

Issue of shares

Issue of debentures

Raising of long-term loans

Sale of fixed Assets

Short-term borrowings

Collection from debtors

Non-trading receipts such as
 dividend received income tax refund etc.

Cash from operations

Total

Less: Application of cash ;

Redemption of Preference shares

Repayment of Debentures

Purchase of fixed Assets

Repayment of Long-term loans ,

Payment of dividend taxes etc.

Cash lost in operations

Total

Cash balance at the end Cash & Bank.

2)T form or an account form of an cash flow Statement

Opening Balances	Rs.	Application of Cash
Cash .		Redemption of Preference Shares
Bank		Redemption of Debentures

Add: Sources of cash		Repayment of long-term loans	
Issue of shares		Purchases of fixed assets	
Raising of long-term loans		Payment of dividend, & taxes,	
Sales. of fixed assets			
Short-term borrowings		Cash lost in operations	
Collection from debtors		Closing balances	
Dividend Received		Cash	
Refund of tax		Bank	
Cash from operations	-----		-----
	-----		-----

Illustration: 1

From the following information calculate cash inflows from trading operations:

P & L a/c on 1-1-1996	5,50,000
P & L a/c on 31-12-1996	8,00,000
Transfer to reserve	50,000
Dividend Paid	2,00,000
Income tax provision made	1,50,000
Discount on shares written off	10,000
Outstanding expenses on 31-12-96	25,000
Accrued income on 31-12-96	8,000
Income received in advance on 1-1-96	5,000
Profit on sale of machinery	2,000
Loss on sale of -furniture	1,000
Income on investments	4,000
Depreciation provided	50,000

	Adjusted P & L a/c		
To Transfer to reserve	50,000	By balance b/d	5,50,000
To Dividend	2,00,000	By Profit on sale of machinery	2,000
To Income tax	1,50,000	By income on investment	4,000
To Depreciation	50,000	By funds from operations	7,05,000
To Discount on issue of shares	10,000	(Balancing figure)	
To Loss on sale (Furniture)	1,000		
To Balance c/d	8,00,000		
	-----		-----
	12,61,000		12,61,000
	-----		-----

Illustration 2

From the following Profit and Loss account, you are required to compute cash from operation.

	P & L ale for the year ended 31-12-1999		
To Salaries	5,000	By Gross profit	25,000
To Rent	1,000	By profit on sale of land	5,000
To Depreciation	2,000	By Income tax refund	3,000

To Loss on sale of plant	1,000	
To Goodwill written off	4,000	
To Proposed dividend	5,000	
To Provision for taxation	5,000	
To Net profit	10,000	
	-----	-----
	33,000	33,000
	-----	-----

Note:

Here, we can directly calculate cash from operations because there is no increase or decrease in current assets and current liabilities.

Calculation of cash from operations.

Net Profit		10,000
Add: Depreciation	2,000	
Loss on sale of plant	1,000	
Goodwill written off	4,000	
Proposed dividend	5,000	
Provision for taxation	5,000	17,000
	-----	-----
		27,000
Less: Profit on sale of land	5,000	
Income tax refund	3,000	8,000
	-----	-----
Cash from operations		19,000

Illustration 3

The Balance Sheets of a firm as on 31st December 1999 and 2000 are given below.

Liabilities	1999	2000	Asset	1999	2000
	Rs.	Rs.		Rs.	Rs.
Share Capital	1,00,000	1,60,000	Fixed Assets		
Retained Earnings	70,250	85,300	at cost	1,52,000	2,00,000
Accumulated			Inventory	93,400	89,200
Depreciation	60,000	40,000	Debtors	30,800	21,100
12% Debentures	50,000	--	Expenses		
Sundry Creditors	28,000	48,000	prepaid	3,950	3,000
			Bank	28,100	20,000
	-----	-----		-----	-----
	3,08,250	3,33,300		3,08,250	3,33,300
	-----	-----		-----	-----

The following additional information for 2000 are also given.

1. Net profit Rs. 27,050
2. Depreciation charged Rs. 10,000
3. Cash dividend declared during the period Rs. 12,000.
4. An addition to the building was made during the year at a cost of Rs. 78,000 and fully depreciated equipment costing Rs. 30,000 was discarded as no salvage being realised.

Prepare a cash Flow Statement.

Solution

Cash. Flow Statement for the year ended . 31st December 2000.

Opening balance of cash at bank	28,100	Outflow of cash	
Add: Cash inflow.		Redemption of Debentures	50,000
Issue of shares	60,000	Payment of dividend	12,000
Decrease in Inventory	4,200	Addition / Purchase of	
Decrease in debtors	9,750	buildings	78,000
Increase in creditors	20,000	Expenses prepaid	3,000
Operating Profit	41,000		-----
			1,43,000
		Closing balance of	
		cash at bank	20,000
	-----		-----
	1,63,000		1,63,000
Cash inflow from operating Profit			27,050
Net Profit			
Add: Non-fund items already debited			
to P & L a/c			
Sundry expenses prepaid		3,950	
Provision for depreciation		10,000	13,950
		-----	-----
			41,000

Fixed Assets a/c

To Balance b/d	1,52,000	By accumulated	
To Bank	78,000	Depreciation	30,000
		By balance c/d	2,00,000
	-----		-----
	2,30,000		2,30,000
		Accumulated Depreciation a/c	
To Fixed Assets	30,000	By Balance b/d	60,000
To Balance c/d	40,000	By Profit and Loss a/c	10,000
	-----		-----
	70,000		70,000

Illustration 4

The following are the summarized Balance Sheets of company as on 31st December 1999 and 2000

Liabilities	1999	2000	Assets	1999	2000
	Rs.	Rs.		Rs.	Rs.
Share capital	2,00,000	2,50,000	Land & Buildings	2,00,000	1,90,000
General Reserve	50,000	60,000	Machinery	1,50,000	1,69,000
Profit & Loss A/c	30,500	30,000	Stock	1,00,000	74,000
Bank Loan (long term)	70,000	--	Sundry	80,000	64,200
Sundry Creditors	1,50,000	1,32,200	Cash	500	600

Provision for taxation	30,000	35,000	Bank	--	8,000
			Goodwill	--	5,000
	<u>5,30,500</u>	<u>5,10,800</u>		<u>5,30,500</u>	<u>5,10,800</u>

Additional Information

During the year ender 31st December 2000

- i) Dividend of Rs. 23,000 was paid
- ii) The following assets of another company were purchased for a consideration of Rs. 50,000 paid for in shares
Stock Rs. 20,000 and (b) Machinery Rs. 25,000
- iii) Machinery was further purchased for Rs. 8000
- iv) Depreciation written off : Machinery Rs. 12,000
- v) Income tax provided during the year Rs. 33,000
- vi) Loss on sale of machinery Rs. 200 was written off to General Reserve.

Solution :

Cash flow statement for the year ended 31st December 2000

	Rs.	Rs.
Cash balance as on 1 st Jan 2000		500
Add : Sources:		
Sale of machinery		1,800
Cash from operations		
Funds from operations	88,300	
Add : Decrease in stock	46,000	
Decrease in debtors	15,800	
	<u>1,50,100</u>	
Less : Decrease in creditors	<u>14,800</u>	<u>1,35,300</u>
Application of cash		1,37,600
Payment of dividend	23,000	
Purchase of Machinery	8,000	
Tax paid	28,000	
Mortgage loan repaid	70,000	12,900
		<u>8,600</u>
Closing balance as on 31 st December 2000		
Cash in hand	600	
Cash at bank	<u>8000</u>	

Workings

	Adjusted profit & Loss a/c	
To Dividend	23,000	By balance b/d 30,500
To depreciation		By Funds from operation
Buildings	10,000	(Balancing figure) 88,300

Machinery	12,000		22,000
To Provision for tax	33,000		
To General Reserve	10,200		
To Balance c/d	30,600		
	-----		-----
	1,18,800		1,18,800
	-----		-----
	Machinery a/c		
To Balance b/d	1,50,000	By Depreciation	12,000
To Share capital	25,000	By General Reserve	200
To Bank	8,000	By Bank	1,800
		By balance c/d	1,69,000
	-----		-----
	1,83,000		1,83,000
	-----		-----
	General Reserve a/c		
To Machinery	200	By balance b/d	50,000
To balance c/d	60,000	By Profit & Loss	10,200
	-----		-----
	60,200		60,200
	-----		-----
	Provision for Taxation a/c		
To Bank	28,000	By Balance b/d	30,000
To Balance c/d	35,000	By Profit & Loss a/c	33,000
	-----		-----
	63,000		63,000
	-----		-----
Decrease in stock : Stock on 31.12.1999			1,00,000
Less : Stock on 31.12.2000			54,000

(Deduct Rs.20,000 which is purchased against issue of shares)			46,000

Illustration : 5

Balance sheets of Ram and Shyam as on 1st January 2000 and 31st December 2000 were as follows

	1-1-2000	31.12.2000
Assets :	Rs.	Rs.
Cash	10,000	7,000
Debtors	30,000	50,000
Stock	35,000	25,000
Machinery	80,000	55,000
Land	40,000	50,000
Buildings	<u>35,000</u>	<u>60,000</u>
	<u>2,30,000</u>	<u>2,47,000</u>

Liabilities:

Creditors	40,000	44,000
Mrs. Ram's loan	25,000	---
Loan from party	40,000	50,000
Capital	<u>1,25,000</u>	<u>1,53,000</u>
	2,30,000	2,47,000

During the year a machine costing Rs. 10000 (accumulated depreciation Rs. 3000) was sold for Rs. 5000/ The balance of provision for depreciation against machinery as on 1st January 2000 was Rs. 25,000 and on 31st December 2000 Rs. 40,000. Net profit for the year 2000 amounted to Rs. 45,000.

Prepare cash flow statement

Solution**Cash Flow Statement for the year ended 31st December 2000.**

Inflow of Cash	Rs.	Outflow of cash	Rs.
Cash balance (1-1-2000)	10,000	Purchase of land	10,000
Sale of Machine	5,000	Purchase of building	25,000
Loan from party	10,000	Repayment of	
Cash from operations	59,000	Mrs. Ram's loan	25,000
		Drawings	17,000

			77,000
		Cash balance (31-12-2000)	7000

	84,000		84,000
Machinery a/c			
To balance b/c		By Machinery	
(80000 + 25000)	1,05,000	Disposal a/c	10,000
		By balance c/d	95,000
		[55,000 + 40,000]	-----
	1,05,000		1,05,000
	-----		-----
Provision of Depreciation a/c			
To Machinery		By balance c/d	25,000
Disposal a/c	3000	By P & L a/c	
To balance c/d	40000	(Building figure)	18,000
	-----		-----
	43,000		43,000
		Machine disposal a/c	
To machinery a/c	10,000	By Provision for depreciation a/c	3000
		By Cash (Sales)	5000
		By P & L a/c	2000
	-----		-----
	10,000		10,000
	-----		-----

Cash from operation : Net profit for the year	45,000
Add : Non-cash charges Depreciation	18,000
Loss on sale of machine	2,000

Add : Decrease in stock (35000 – 25000)	65,000
	10,000
Increase in Creditors (44000 – 40000)	4,000

	79,000
Less : Increase in debtors (50000-30000)	20,000

	59,000

Calculation of Drawings : Capital (1-1-2000)	1,25,000
Add : Net Profit for 2000	45,000

	1,70,000
Less : Capital (31 st Dec. 2000)	1,53,000

Drawings during 2000	17,000

Illustration : 6

Prepared a cash flow statement of a corporation from the following information. Balance sheet as on 1st January and 31st December 2000.

	1 st Jan	31 st Dec
Assets :	Rs.	Rs.
Cash and Bank	40,000	44,400
Accounts Receivable	10,000	20,100
Inventories	15,000	15,000
Land	4,000	4,000
Business Premises	20,000	16,000
Plant & Equipment	15,000	17,000
Accumulated Depreciation	5,000	2,800
Patents & Trade Marks	1,000	900
	-----	-----
	1,00,000	1,15,200
Liabilities		
Current liabilities	30,000	32,000
Bonds payable	22,000	22,000
Bonds payable discounts	(2,000)	(1,800)
Capital stock	35,000	43,500
Retained earnings	15,000	19,500
	-----	-----
	1,00,000	1,15,200

Additional Information

1. Income for the period was Rs. 10,000
2. A building that costs Rs. 4000 and which had a book value of Rs. 1000 was sold for Rs. 1400
3. The depreciation charges for the period was Rs. 800
4. There was a Rs. 5000 issue of capital stock
5. Cash dividend of Rs. 2000 and a stock dividend for Rs. 3500 were declared

Solution**Cash Flow Statement for the year ended 31st Dec. 2000**

Cash Inflows	Rs.	Cash Outflows	Rs.
Cash and bank		Payment of cash dividend	2,000
Balance on 1-1-2000	40,000	Increase in Accounts Receivables	10,700
Add : Cash Inflows		(20,700-1, 10,000)	2,000
Increase in current liabilities	2,000	Equipment	
(32000 – 30000)		Balance of cash and bank on	
Issue of capital	5,000	31.12.2000	44,400
Sale of Building	1,400		
Cash operating profit	10,700		
	-----		-----
	59,100		59,100

Working :

	Business Premises a/c		
To balance b/d.	20,000	By cash (Sale)	1,400
To adjusted P & L a/c	400	By accumulated depreciation a/c	3,000
(Profit on sale)		By balance c/d	16,000
	-----		-----
	20,400		20,400
	Plant and Equipment a/c		
To balance b/d	15,000	By balance c/d	17,000
To cash purchase (Balancing figure)	2,000		
	-----		-----
	17,000		17,000
	Accumulated Depreciation a/c		
To Business Premises a/c	3,000	By balance b/d	5,000
By adjusted P & L a/c	800		
To balance c/d	2,800		
	-----		-----
	5,800		5,800
Patents & Trade Marks			
To balance b/d	1,000	By adjusted P & L a/c	100
		(Balancing figure)	
		By Balance c/d	900
	-----		-----
	1,000		1,000

Bonds payable Discount a/c			
To balance b/d	2,000	By adjusted P & L a/c	200
		By balance c/d	1,800
	-----		-----
	2,000		2,000
Adjusted Profit and Loss a/c			
To Depreciation a/c	800	By balance b/d	15,000
To patent written off	100	By profit on sale of	
To Discount written off	200	building	400
To Dividend		By cash operation profit	10,700
Cash	2,000		
Stock	3,500		
To Balance c/d	19,500		
	-----		-----
	26,100		26,100

Illustration : 7

The following schedule shows the balance sheets in condensed from a company. You are required to prepare cash flow statement

	1.1.2000	31.12.2000
Assets	Rs.	Rs.
Cash and Bank balances	45,000	45,000
Sundry Debtors	33,500	21,500
Temporary Investments	55,000	37,000
Prepaid Expenses	500	1,000
Stock-in-trade	41,000	53,000
Land and Buildings	75,000	75,000
Machinery	26,000	35,000
	-----	-----
	2,76,000	2,67,500
Liabilities		
Sundry Creditors	51,500	48,000
Outstanding Expenses	6,500	6,000
8.1 Debentures	45,000	35,000
Depreciation fund	20,000	22,000
Reserve for contingencies	30,000	30,000
P & L a/c	8,000	11,500
Capital	1,15,000	1,15,000
	-----	-----
	2,76,000	2,67,500

The following information is also available

1. 10% dividend was paid in cash
2. New machinery for RS. 15,000 was purchased but old machinery costing Rs. 6,000 was sold for Rs. 2000. Accumulated depreciation was Rs. 3000
3. Rs. 10,000 8% debentures were redeemed Rs. 96 for a debentures of Rs. 100
4. Rs. 18,000 investment were sold at book value.

**Cash Flow Statement for the year ended
31st Dec. 2000**

Sources	Rs.	Application	Rs.
Cash and Bank Balance (January 2000)	45,000	Payment of Dividend	11,500
Sale of machinery	2,000	Redemption of Debentures (96 X 100)	9,600
Sale of investments	18,000	Purchase of Machinery	15,000
Decrease in Sundry Debtors	12,000	Increase in Stock	12,000
Operating Profit	27,100	Decrease in Sundry Creditors	3,500
		Prepaid Expenses	1,000
		O/s Expenses	6,500
		Cash and bank	45,000
		Balance (Dec. 2000)	45,000
	1,04,100		1,04,100

Workings :

Machinery a/c			
To balance b/d	26,000	By cash (sale)	2,000
To Cash (Purchase)	15,000	By Depreciation fund	3,000
		By adjusted P & L a/c	1,000
		By balance c/d	<u>35,000</u>
	41,000		41,000
Depreciation Fund a/c			
Machinery (Depreciation On sold machine)	3,000	By Balance b/d	20,000
To balance b/d	22,000	By adjusted P & L a/c (Balancing figure)	5,000
To Cash (Purchase)			
	25,000		25,000
Adjusted Profit and Loss a/c			
To Loss on machinery sold	1,000	by Balance b/d	8,000
To depreciation fund	5,000	By Profit on Redemption of Debentures	
To dividend paid	11,500	(10000 – 9600)	400
To Prepaid expenses	500	By operation Profit	
To O/S expenses (Dec. 2000)	6,000	(Balancing figure)	27,100
To Balance c/d	11,500		
	35,500		35,500

Illustration : 8

The financial position of M/s. XY on 1st January and 31st December 2000 was follows:

	1-1-2000	31-12-2000
Assets	Rs.	Rs.
Cash	4,000	3,600
Debtors	35,000	38,000
Stock	25,000	22,000
Land	20,000	30,000
Buildings	50,000	55,000
Machinery	80,000	86,000
Delivery Van	--	25,000
	-----	-----
	2,14,000	2,59,000
	-----	-----
Liabilities		
Current Liabilities for Gods	36,000	40,600
Mrs. A's Loan	--	20,000
Loan from bank	30,000	25,000
Hire Purchase Vendor	--	20,000
Capital	1,48,000	1,54,000
	-----	-----
	2,14,000	2,59,600
	-----	-----

The delivery van was purchased in December 2000 on Hire Purchases basis a payment of Rs. 5,000 was made immediately and the balance of the amount is to be paid in 20 monthly instalments of Rs. 1000 each together with interest @ 12 p.a. During the year the partners withdrew Rs. 26,000 for domestic expenditure. The provision for depreciation against machinery as on 1st January 2000 was Rs. 27,000 and on 31st December 2000 Rs. 36,000

Solution**Cash Flow Statement for the Year ended 31st December 2000**

Inflow of Cash	Rs.	Outflow of Cash	Rs.
Cash Balance (1-1-2000)	4,000	Purchase of land	5,000
Loan from Mrs. A.	20,000	Payment for Delivery van	5,000
Cash from operation	45,600	Machinery purchased	15,000
		Buildings purchased	5,000
		Land acquired	10,000
		Partner's withdrawal	26,000
		Cash balance (31-12-2000)	3,600
	-----		-----
	69,600		69,600
	-----		-----

Fund Flow Statement
For the year ended 31st December 2000

Sources	Rs.	Application	Rs.
Funds from operation	41,000	Repayment of Bank loan	5,000
Loan from Mrs. A	20,000	Payment for Delivery van payable within a year (Delivery van)	5,000
Decrease in working Capital	17,000	Machinery purchased	12,000
		Land acquired	15,000
		Buildings purchased	10,000
		Partners Drawings	5,000
	-----		-----
	78,000		78,000
Workings			
Cash from operations:			Rs.
Funds from operations			41,000
Add : Decrease in stock			3,000
Increase in creditors			4,600

			48,000
Less : Increase in Debtors			3,000

			45,600

Funds from operation			
Capital as on 31-12-2000			1,54,000
Add : Drawings during the year			26,000

			1,80,000
Less : Capital as on 1-1-2000			1,48,000

Add : Depreciation for the year (36,000 – 27,000)			32,000
			9,000

			41,000

Schedule of Changes in working capital

Particulars	1 st Jan 2000		Effect of Changes Working Capital	
	Rs.	Rs.	Increase	Decrease
Particulars	Rs.	Rs.	Rs.	Rs.
Current Assets :				
Cash	4,000	3,600	---	400
Debtors	35,000	38,000	3000	---
Stock	25,000	22,000	---	3,000
Total (A)	-----	-----		
	64,000	63,600		
	-----	-----		

Current Liabilities

Liabilities for goods	36,000	40,600	--	4,600
Hire Vendor (Payable within a year)	--	12,000	---	12,000
Total (B)	36,000	52,600		
Working capital	28,000	11,000		
Decrease in Working capital	--	17,000	17,000	
	28,000	28,000	20,000	20,000

Machinery A/c

To Balance b/d	80,000	By Depreciation	
To Bank (Purchase)	15,000	(36,000 – 27,000)	9,000
		By Balance c/d.	86,000
	-----		-----
	95,000		95,000
	-----		-----

Exercises :

1. What is a Cash Flow Statement ?
2. Distinguish between funds flow and cash flow statement?
3. Explain the procedure of preparing a cash flow statement.
4. What is the purpose of preparing a cash flow statement ?
5. What are the objects of cash flow statement?
6. How can you determine cash from operations?
7. What are the different forms of sources and applications of cash ?
8. Calculate cash from operations from the following figures
 - a) Profit for 1998 is Rs. 10,000 after providing for depreciation Rs. 2000
 - b) The current assets of the business for the year ending 31-12-97 and 31-12-98 are as under

	31-12-1997	31-1-1998
	Rs.	Rs.
Sundry Debtors	10,000	12,000
Provision for doubtful debts	1,000	1,200
Bills Receivable	4,000	3,000
Bills payable	5,000	6,000
Sundry Creditors	8,000	9,000
Inventories	5,000	8,000
Short term investments	10,000	12,000
Outstanding expenses	1,000	1,500
Prepaid expenses	2,000	1,000
Accrued income	3,000	4,000
Income received in advance	2,000	1,000

(Ans : Cash from operations. Rs. 7700)

9. The comparative Balance Sheet of Mr. Anand is as follows

Liabilities	1994	1995	Assets	1994	1995
	Rs.	Rs.		Rs.	Rs.
Capital	1,50,000	1,75,000	Land and Buildings	1,10,000	1,50,000
Loan from Bank	1,60,000	1,00,000	Machinery	2,00,000	1,40,000
Creditors	85,000	93,000	Stock	50,000	45,000
Outstanding Expenses	5,000	7,000	Debtors	70,000	80,000
Bills payable	50,000	40,000	Cash	15,000	22,000
Loan from I.F.C.	---	25,000	Prepaid Expenses	5,000	3,000
	-----	-----		-----	-----
	4,50,000	4,40,000		4,50,000	4,40,000
	-----	-----		-----	-----

Additional Information

1. Net profit for the year 1995 amounted to Rs. 60,000
2. During the year a machine costing Rs. 25,000 (accumulated depreciation Rs. 10,000) was sold for Rs. 13,000. The provision for depreciation against machinery as on 31-12-1994 was Rs. 50,000 and on 31-12-1995 was Rs. 85,000

You are required to prepare a cash flow statement (Ans. Cash Operation Profit Rs. 1,19,000)

10. The Comparative Balance Sheets of Mr. Mohan for the two years are as follows

Liabilities	1999	2000	Assets	1999	2000
	Rs.	Rs.		Rs.	Rs.
Loan from wife	--	20,000	Cash	11,000	15,000
Bills payable	12,000	8,000	Debtors	40,000	35,000
Creditors	25,000	52,000	Stock	25,000	30,000
Loan from Bank	43,000	60,000	Machinery	20,000	14,000
Capital	66,000	34,000	Land & Building	50,000	80,000
	-----	-----		-----	-----
	1,46,000	1,74,000		1,46,000	1,74,000
	-----	-----		-----	-----

Additional Information

1. Net loss for the year 2000 amounted to Rs. 13,000
- ii) During the year a machine costing Rs. 5000 (accumulated depreciation Rs. 2000) was sold for Rs. 2500. The provision for depreciation against machinery as on 31-12-1999 was Rs. 6000 and on 31-12-2000 Rs. 7000

From the above information, prepare a cash Flow Statement

(Ans : Cash from operations : Rs. 13,500 Total of cash Flow Statement Rs. 64,000 Amount of drawings Rs. 19,000)

11. Following are the comparative Balance Sheets of Gova Co., as on 31st December 1999 and 2000

Liabilities	1999	2000	Assets	1999	2000
	Rs.	Rs.		Rs.	Rs.
Share capital	70,000	74,000	Cash	9,000	7,800
Debentures	12,000	6,000	Trade Debtors	14,900	17,700

Creditors	10,360	11,840	Stock	49,200	42,700
Provision for Doubtful debts	700	800	Land	20,000	30,000
P & L a/c	10,040	10,560	Good will	10,000	5,000
	-----	-----		-----	-----
	1,03,100	1,03,200		1,03,100	1,03,200
	-----	-----		-----	-----

Additional Information

- Dividends was paid totalling Rs. 3,500
- Land was purchased for Rs. 10,000 amount provided for the mortization of good will totalled Rs. 5,000
- Debentures loan was repaid Rs. 6000

Prepare cash flow statement

(Ans : Sources from operations : Rs. 15,620 Total Sources Rs. 21,100 Total use Rs. 22,300)

13. The summarized Balance Sheets of XYZ Ltd., as at 31st December 1999 and 2000 are given below.

Liabilities	1999 Rs.	2000 Rs.	Assets	(Figures in Thousands)	
				1999 Rs.	2000 Rs.
Share capital	450	450	Fixed assets	400	320
General Reserve	300	310	Investments	50	60
P & L a/c	56	68	Stock	240	210
Creditors	168	134	Debtors	210	455
Provision for taxation	75	10	Bank	149	197
Mortgage loan	---	270			
	-----	-----		-----	-----
	1,049	1,242		1,049	1,242
	-----	-----		-----	-----

Additional information

- Investment costing Rs. 8,000 were sold during the year 2,000 for Rs. 8,500
- Provision for taxation made during the year was Rs. 9,000
- During the year part of the fixed assets costing Rs. 10,000 was sold for Rs. 12,000 and profit was included in P & L a/c
- Dividend paid during the year amounted to Rs. 40,000

You are required to prepare a statemet of Sources and uses of cash

(Ans. Cash outflow by operations :

Rs. 1,10,500. Total of Statement of Sources and uses of cash Rs. 4,39,500. Profit from opertions Rs. 1,38,500)

Lesson 18 Dividend Policy

Dividend – Meaning

The term dividend refers to that part of the profits of the company which is distributed amongst its shareholders. It may, therefore, be defined as the return that a shareholder get from the company, out of its profits, on his shareholdings, According to the Institute of Chartered Accountants of India, dividend is “a distribution to shareholders out of profits or reserves available for this purpose”.

Dividend Policy – Meaning

The term dividend policy refers to the policy concerning quantum of profits to be distributed as dividend. The concept of dividend policy implies that companies through their Board of Directors evolve a pattern of dividend payments which has a bearing of future action, of course, in practice many companies do not have a dividend policy in this sense. They rather take each dividend decision independent of every other such division. This is not a sound practice but the financial manager cannot do much about it since he works only in an advisory capacity and the power to recommend / declare dividends vests completely in the Board of Directors of the company.

Nature of dividend decision

The dividend decision of the firm is of crucial importance for the financial manager since it determines the amount of profit to be distributed among share holders and the amount of profit to be retained in the business for financing its long-term growth. There is a reciprocal relationships between the cash dividends and retained earnings, Larger dividends results in less retained earnings, less dividends result in larger retained earnings. While taking dividend decision, the management will obviously take into account the effect of the decision on the maximisation of shareholder's wealth.

Conflicting theories

There are conflicting theories regarding the impact of dividend decision on the valuation of a firm. According to one school of thought dividend decision does not affect the shareholder's wealth and so also the valuation of the firm. While according to another school of thought, dividend decision materially affects the share holder's wealth and also the valuation of the firm.

GORDON'S MODEL

One very popular model explicitly relating the market value of the firm to dividend policy is developed by Myron Gordon, Gordon's model is based on the following assumptions.

1. The firm is an all-equity firm
2. Non external financing is available consequently retained earnings would be used to finance any expansion
3. The internal rate of return of the firm is constant
4. The appropriate discount rate k for the firm remains constant
5. The firm and its stream earnings are perpetual
6. The corporate taxes do not exits
7. The retention ration 'b' once decided upon is constant. Thus the growth rate $g=br$, is constant forever.
8. $k > br = g$ If the conditions is not fulfilled, we cannot get a meaningful, value for the share.

$$P = \frac{E(1-b)}{k-br} + \frac{D}{k-g}$$

Price of shares

E =	Earnings per share
b =	Retained earning
k =	cost of equity capital
br =	g = growth rate

Illustration

The following information is available for Keltron Steel Ltd.

A	B	C
r = .30	r = .20	r = .15
k = .20	k = .20	k = .20
E = 5	E = 5	E = 5

Calculate the market value of shares according to Gordon's model when retention ratio is 40% and 60%

Solution

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

A	B	C
E = .5	E = 5	E = .5
b = .40	b = .40	b = .40
k = .20	k = .20	k = .20
r = .30	r = .20	r = .15

Retention Ratio 40%

br = .40 X .30	br = .40 X .20	br = .40 X .15
= .12	= .08	= .06
P = $\frac{5(1-.40)}{.20-.12}$	$\frac{5(1-.40)}{.20-.08}$	$\frac{5(1-.40)}{.20-.16}$
= $\frac{3}{0.08} = 37.50$	= $\frac{3}{.12} = 25$	= $\frac{3}{.14} = 21$

Retention Ratio 60%

br = .60 X .30	br = .60 X .20	br = .60 X .15
= .18	= .12	= .09
P = $\frac{5(1-.60)}{.20-.18}$	$\frac{5(1-.60)}{.20-.12}$	$\frac{5(1-.60)}{.20-.09}$
= $\frac{2}{.02} = 100$	= $\frac{2}{.08} = 25$	= $\frac{2}{.11} = 18$

1. In a growth firm, where $r > k$, price per share increase as the retention ratio increase
2. In a normal firm, where $r = k$, price per share doesn't change even the retention ratio increases
3. In a decline firm where $r < k$, price per share increases when retention decreases.

Illustration

The following information is available for Anand & Co

$$r = .15 \quad .10 \quad .08$$

$$k = .10 \quad .10 \quad .10$$

$$E = \text{Rs. } 10 \quad \text{Rs. } 10 \quad \text{Rs. } 10$$

Calculate the value of shares of Anand & Co., assuming payout ratio of 40%, 60% and 90%

Solution

Growth firm	Normal firm	Declining firm
$r > k$	$r = k$	$r < k$
$r = .15$	$r = .10$	$r = .08$
$k = .10$	$k = .10$	$k = .10$
$E = \text{Rs. } 10$	$E = \text{Rs. } 10$	$E = \text{Rs. } 10$
Payout Ratio (1-b) 40% Retention Ratio b = 60%		
$g = br = .6 \times .15 = .09$	$g = br = .6 \times .10 = .06$	$g = br = .6 \times .08 = .048$
$\frac{10(1 - .6)}{P = \frac{.10 - .09}{4}}$	$\frac{10(1 - .6)}{P = \frac{.10 - .06}{4}}$	$\frac{10(1 - .6)}{P = \frac{.10 - .048}{4}}$
$= \frac{\text{Rs. } 400}{.01}$	$= \frac{\text{Rs. } 100}{.04}$	$= \frac{\text{Rs. } 77}{.052}$
Payout Ratio (1-b) 60% Retention Ratio b = 40%		
$g = br = .4 \times .15 = .06$	$g = br = .4 \times .10 = .04$	$g = br = .4 \times .08 = .032$
$\frac{10(1 - .4)}{P = \frac{.10 - .06}{6}}$	$\frac{10(1 - .4)}{P = \frac{.10 - .04}{6}}$	$\frac{10(1 - .4)}{P = \frac{.10 - .032}{9}}$
$= \frac{\text{Rs. } 1.50}{.04}$	$= \frac{\text{Rs. } 1.00}{.06}$	$= \frac{\text{Rs. } .88}{.068}$
Payout Ratio (1-b) 90% Retention Ratio b = 10%		
$g = br = .10 \times .15 = .015$	$g = br = .10 \times .10 = .01$	$g = br = .10 \times .08 = .008$
$\frac{10(1 - .1)}{P = \frac{.10 - .015}{9}}$	$\frac{10(1 - .1)}{P = \frac{.10 - .01}{9}}$	$\frac{10(1 - .1)}{P = \frac{.10 - .008}{9}}$
$= \frac{\text{Rs. } 106}{.085}$	$= \frac{\text{Rs. } 100}{.09}$	$= \frac{\text{Rs. } 98}{.092}$

It is clearly revealed that, under Gordon's model :

- i) The market value of the share, P_0 increases with the retention ratio b for firms with growth opportunities $r > k$
- ii) The market value of the share, P_0 increase with the payout ratio, $(1-b)$ for declining firms, $r < k$ and
- iii) The market value of the share is not affected by dividend policy when $r = k$

Modigliani and Miller's hypotheses of dividend policy

Modigliani and Miller have opined that price of shares of a firm is determined by its earnings capacity and investment policy and never be the pattern of income distribution. As observed by them "under conditions of perfect capital markets, rational investors, absence of tax discrimination between dividend income and capital appreciation given the firm's investment policy, its dividend policy may have no influence on the market price of the shares.

The logic put forward by Modigliani and Miller in support of their hypothesis is that whatever increase in shareholders' wealth results from dividend payments, will be exactly offset by the effect of raising additional capital. For example, if a company having investment opportunities, distributes all its earnings among the shareholders, it will have to raise the capital required from outside. This will result in increasing the number of shares, resulting in fall in the future earning per share. This will result in increasing the number of shares, resulting in fall in the future earning per share. Thus whatever a shareholder has gained as a result of increased dividends will be neutralised. Thus whatever a shareholder has gained as a result of increased dividends will be neutralised completely on account of fall in the value of shares due to decline in the expected earning per share.

Assumption of MM Hypothesis

1. The firm operates in perfect capital markets where investments behave rationally, information is freely available to all and transactions and floatation costs do not exist. No investor is large enough to affect the market price of a share
2. There are either no taxes or there are no differences in the tax rates applicable to capital gains and dividends.
3. The firm has a fixed investment policy
4. Risk of uncertainty does not exist. That is, investors are able to forecast future prices and dividends with certainty, and one discount rate is appropriate for all securities and all time periods. Thus $r = k = kt$ for all t .

Proof for MM Hypothesis

According to MM hypothesis the market value of a share in the beginning of the period is equal to the present value of dividends paid at the end of the period plus the market price of the share at the end of the period. This can be put in the form of the following equation.

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

Where P	=	Existing price of a share
K	=	Cost of equity capital
D_1	=	Dividend to be received at the year end
P_1	=	Market price of a share at the year end.

From the above equation, the following equation can be derived for determining the value of P_1

$$P_1 = P_0 (1 + K_e) - D_1$$

Computation of the number of new shares to be issued.

The investment programme of a firm, in a given period of time, can be financed either by retained earnings or by issue of new shares or both. The number of new shares to be issued can be determined by the following equation.

$$m P_1 = I - (X - nD_1) = I - X + nD_1$$

- Where m = Number of new shares to be issued
 P_1 = Price at which new issue is to be made
 I = Amount of investment required
 X = Total net profit of the firm during the period
 nD_1 = Total dividends paid during the period

Value of the firm

$$V = nP_0 \text{ or } V = \frac{n(D_1 + P_1)}{(1+k)}$$

Illustration

Omega company has a cost of equity capital of 10% the current market value of firm (V) is Rs. 20,00,000 (@Rs. 20 per share). Assume values for I (new investment) X (earnings) and D (dividend) at the end of the year as $I = \text{Rs. } 6,80,000$ $X = \text{Rs. } 1,50,000$ and $D = \text{Rs. } 1$ per share. Show that under the M an assumptions, the payment of dividend does not affect the value of the firm.

a) Value of the firm when dividends are paid

1. Market price of the share at the end of the year (P_1)

$$\begin{aligned} P_1 &= P_0(1+k) - D_1 \\ &= 20(1+0.10) - 1 \\ &= 22 - 1 = 21/-\text{Rs.} \end{aligned}$$

ii. Amount required for new financing

$$\begin{aligned} mP_1 &= I - (X - nD_1) \\ &= 6,80,000 - (1,50,000 - 1,00,000 \times 1) \\ &= 6,80,000 - 1,50,000 + 1,00,000 \\ &= 6,30,000 \end{aligned}$$

iii) Numbers of shares to be issued

$$\begin{array}{r} \text{Amount} \\ \hline 6,30,000 \\ \hline \text{Price} \\ \hline 21 \\ \hline \end{array} = \frac{6,30,000}{21} = 30,000$$

iv) Value of the firm

$$\begin{aligned} V &= \frac{n(D_1 + P_1)}{1+k} = \frac{1,00,000(1+21)}{1+0.10} \\ &= \frac{1,00,000 \times 22}{1.10} = \frac{22,00,000}{1.10} = 20,00,000 \end{aligned}$$

b) Value of the firm when dividends are not paid

$$\begin{aligned} 1) P_1 &= P_0(1+k) - D_1 \\ &= 20(1+0.10) - 0 \\ &= 22 - 0 \\ &= 22 \end{aligned}$$

III) Amount required for new finance

$$mP_1 = I - (X - nD_1)$$

$$\begin{aligned}
 &= 6,80,000 - (1,50,000 - 1,00,000 \times 0) \\
 &= 6,80,000 - 1,50,000 \\
 &= 5,30,000
 \end{aligned}$$

iii) Number of shares to be issued

$$\begin{array}{r}
 \text{Amount} \quad \quad \quad 5,30,000 \\
 \hline
 \text{Price} \quad \quad \quad 22 \\
 \hline
 \end{array} = \frac{\quad}{\quad} = 24,091$$

iv) Value of the firm

$$\begin{aligned}
 V &= \frac{n(P_1)}{1 + K} \\
 &= \frac{1,00,000 \times 22}{1 + .10} = \frac{22,00,000}{1.10} = 20,00,000
 \end{aligned}$$

Illustration

Hyderabad Paper mills Ltd. belongs to a risk class for which the appropriate capitalisation rate is 10%. The company has currently 50,000 shares selling at Rs. 100/- each. The company is contemplating to declare a dividend of Rs. 5 per shares. The company expects to have a net income of Rs. 5,00,000 and has proposed for making new investment of Rs. 10,00,000 show that under Miller's assumptions, the payment of dividend does not affect the value of the firm.

a) The value of the Hyderabad Paper Mills Ltd. When dividends are paid

Price per share at the end of the year

$$\begin{aligned}
 P_1 &= P_0 (1+k) - D_1 \\
 &= 100 (1+.10) - 5 \\
 &= 110 - 5 \\
 &= 105
 \end{aligned}$$

ii) Amount required for new finance

$$\begin{aligned}
 mP_1 &= I - X_1 + nD_1 \\
 &= 10,00,000 - 5,00,000 + 50,000 \times 5 \\
 &= 10,00,000 - 5,00,000 + 2,50,000 \\
 &= 7,50,000
 \end{aligned}$$

iii) Number of additional shares to be issued

$$= \frac{7,50,000}{105} \quad \text{or} \quad \frac{1,50,000}{21}$$

iv) Value of the firm

$$\begin{aligned}
 V &= \frac{n(D_1 + P_1)}{1 + k} \\
 &= \frac{50,000 (5 + 105)}{1 + .10} \\
 &= \frac{50,000 \times 110}{1.10} = \frac{55,00,000}{1.10} = 50,00,000
 \end{aligned}$$

b) Value of the firm when dividends are not paid

i) Price per share at the end of the year

$$\begin{aligned} P_1 &= P_0 (1 + K) \\ &= 100 (1 + .10) \\ &= 100 \times 1.10 \\ &= 110 \end{aligned}$$

ii) Amount required for new financing

$$\begin{aligned} mP_1 &= I - X \\ &= 10,00,000 - 5,00,000 \\ &= 5,00,000 \end{aligned}$$

iii) Number of new shares to be issued

$$\begin{array}{r} 5,00,000 \\ \hline 110 \end{array} = \begin{array}{r} 50,000 \\ \hline 11 \end{array}$$

iv) Value of the firm

$$\begin{aligned} n(P_1) &= 50,000 \times 110 \\ V &= \frac{55,00,000}{1 + K} \\ &= \frac{55,00,000}{1.10} = 50,00,000 \end{aligned}$$

Criticism of M M Hypothesis

MM hypothesis has come under severe criticism on account of unrealistic nature of assumptions as shown below.

i) Tax differential.

This assumption of MM hypothesis is far from reality. In practical life not only the shareholder has to pay tax but there are different rates of tax for capital gains and dividends. Capital gains are subject to a lower rate of tax as compared to dividends. The cost of internal financing will, therefore, be cheaper as compared to cost of external financing.

ii) Floatation Costs.

A firm has always to pay floatation costs in terms of underwriting fee and broker's commission whenever it wants to raise funds from outside. As a result the external financing is costlier than internal financing.

iii) Transaction costs:

The shareholder has also to pay brokerage etc., when he wants to sell the shares. Moreover, it is inconvenient to sell shares. On account of these reasons a shareholder would prefer to have dividends as compared to capital gains that he may realise on sale of shares if no dividends are paid.

iv) Discount rate:

The assumption under MM hypothesis that a single discount rate can be used for discounting cash inflows at different time periods is not correct. Uncertainty increases with the length of the time period. Investors prefer near dividends to future dividends. It means the value of shares of that company which is paying higher dividend earlier will have higher value as compared to a company which is following the policy of retention of earnings.

Determinants of Dividend Policy.

The determinants or factors affecting the dividend policy are both external as well as internal.

External Factors :

1. General state of economy:

In case of uncertain economic and business conditions, the management may like to retain the whole or a part of the firm's earnings to build-up reserves to absorb shock in the future. Similarly, in period of depression, the management may also withhold dividends payment to retain a large part of its earnings, to preserve the firm's liquidity position. In periods of prosperity the management may not be liberal in dividend payment though the earning power of the company warrants it because of availability of larger profitable investment opportunities.

2. State of Capital Market:

In case a firm has an easy access to the capital market either because it is financially strong or because favourable conditions prevail in the capital markets, it can follow a liberal dividend policy. However, if the firm has no easy access to capital market because either of weak financial position or because of unfavourable conditions in the capital market it is likely to adopt a more conservative dividend policy.

3. Legal restrictions.

A firm may also be legally restricted from declaring and paying dividends. For example, in India, the companies Act, 1956 has put several restrictions regarding payments and declaration of dividends. Some of these restrictions are as follows.

i) Dividends can only be paid out of

- a) The current profit of the company.
- b) The past accumulated profit or .
- c) Money provided by the central or state governments for the payment of dividends in pursuance of the guarantee given by the government. Payment of dividend out of capital is illegal.

ii) Companies are not entitled to pay a dividend unless

- a) they have provided for present as well as all arrears of depreciation.
- b) a certain percentage of net profits of that year, as prescribed by the central Government not exceeding 10% has been transferred to the reserves of the company.
- c) Past accumulated Profits can be used for declaration of dividends only as per the rules framed by the central Government in this behalf.

Similarly, the Indian Income Tax Act also lays down certain restrictions on payment of dividends.

4. Contractual restrictions.

Lenders of the firm generally put restrictions on dividend payments to protect their interest, in periods when the firm is experiencing liquidity or profitability problem. For example, it may be provided in a loan agreement that the firm shall not declare any dividend so long the liquidity ratio is less than 1: 1. Or the firm will not pay dividend of more than 2% . So long the firm does not clear the loan.

5. Tax Policy.

The tax policy followed by the Government also affects the dividend policy. For example, the government may give tax incentives to companies retaining larger share of their earnings. In such a case the management may be inclined to retain a larger amount of the firm's earnings.

Internal factors.**1. Desire of the shareholders.**

Since the shareholders are the owners of the company, their desire cannot be overlooked by the directors while deciding about the dividends policy. Shareholders of a firm expect two forms of return from their investment in a firm. . . .

i) Capital gains

The Shareholders expect an increase in the market value of the equity shares held by them over a period of time. Capital gain refers to the profit resulting from the sale of capital investments, i.e., the equity share in case of shareholders. For example, if a shareholder purchases the share for Rs 60 and later on sells it for Rs. 80 the amount of capital is a sum of Rs. 20.

ii) Dividends .

The shareholder also expects a regular return on his investment from the firm. In most cases, the shareholders desire to get dividends takes priority over the desire to earn capital gains because of the following reasons.

a) Reduction of uncertainty

Capital gains are a future distribution of earnings involves more uncertainty than a distribution of current earnings.

b) Indication of Strength:

The declaration and payment of cash dividend carries an information content that the firm is reasonably strong and healthy.

c) Need for current income.

Many shareholders require income from the investment to pay for their current living expenses. Such shareholders are generally reluctant to sell their shares to earn capital gain.

2. Financial needs of the company.

A good management should give more weightage to the financial needs of the company rather than the desire of the shareholders. In order to maximise the shareholders wealth, it is advisable to retain earnings in the business only when company has better profitable investment opportunities as compared to the shareholders. However, the directors must retain some earnings, whether or not profitable investment opportunity exists, to maintain the company as a sound and solvent enterprise.

3. Nature of earnings .

A firm having stable income can afford to have a higher dividend payout ratio as compared to a firm which does not have such stability in its earnings. For example, public utility companies which enjoy more or less monopoly rights can have a higher dividend payout ratio as compared to companies which work under highly competitive conditions.

4. Desire of Control

In case of a strong desire for control, the management may be reluctant to pay substantial dividends and prefer a smaller dividend payout ratio. This is particularly true in case of companies which need funds for financing profitable investment opportunities and an outside group is seeking to gain control over the company.

5. Liquidity Position

The payment of dividends results in cash outflow from the firm. A firm may have adequate earnings but it may not have sufficient cash to pay dividends. It is, therefore, important for the management to take into account the cash position and the overall liquidity position of the firm before and after payment of dividend while taking the dividend decision.

Lesson 19**Forms of Dividends:**

Dividends can be classified into different categories. The various forms of dividends are as follows.

1. Cash Dividend:

The usual practice is to pay dividends in cash. Payment of dividends in cash results in outflow of funds from the firm. The firm should, therefore, have adequate cash resources at its disposal or provide for such resources so that its liquidity position is not adversely affected on account of distribution of dividends in cash.

2. Bond Dividend.

In case the company does not have sufficient funds to pay dividend in cash it may issue bonds for the amount due to the shareholders by way of dividends. The purpose of bond dividend is postponement of payment of immediate dividend in cash. The bond holders get regular interest on their bonds besides payment of the bond money on the due date. Bond dividend is not popular in India.

3. Property dividend:

In case of such dividend the companies dividend in the form of assets other than cash. This may be in the form of certain assets which are not required by the company or in the form of company's Products. This type of dividend is also not popular in India.

4. Stock Dividend:

In case of this form of dividend, the company issues its own shares to the existing shareholders in lieu of or in addition to cash dividend. Payment of stock dividend is popularly termed as "issue of bonus shares" in India.

Stock Splits

A stock split is a method to increase the number of outstanding shares through a proportional reduction in the par value of the share. A stock split affects only the par value and the number of outstanding shares, the capitalisation of the company is not changed at all.

Reasons for Stock Split.**1. To make shares attractive**

The main purpose of a stock split is to reduce the market price of the share in order to make it attractive to investors. With the reduction in the market price of the share, the shares of the company are placed in a more popular trading range: For example, if the shares of a company are sold in the lots of 100 shares, it requires Rs. 10,000 to buy 100 shares selling for Rs. 100 per share. At five-for-one split would lower the price to Rs. 20 per share and the total cost of 100 shares to Rs.2000. The wealthy investor can still purchase shares of Rs. 10,000 by acquiring a larger number of shares (500 shares @ Rs. 20). But a small investor can also afford to buy 100 shares for Rs. 2000 for which he needed Rs. 10,000 before the split. Thus, the reduction in the market price, caused by the stock split, encourages more investor to purchase the shares thus increasing the marketability of the company's shares.

2. Indication of higher future profits.

The stock splits are used by the company management to inform the market that the company is expected to earn higher profits in future. The market price of high-growth firm's shares increases very fast. If the shares are not split periodically, they fall outside the popular trading range. Therefore, these companies resort to stock splits from time to time. The stock split, thus has an informational value that the firm would continue to be profitable in future and that the shares have been splitted to avoid future high price per share.

3. Increased dividend:

When the stock is split, sometimes a company reduce the cash dividend per share proportionality or it increase the cash dividend per share proportionately. However, the total dividends of a shareholder increase after a stock split. For example, a company may be paying a cash dividend of Rs. 3 per share before the stock split. But after a split of three-for-one, the company may pay a cash dividend of Rs. 1.50 per share. A shareholder holding 100 shares before the split will receive a total cash dividend of Rs. 300. The number of shares owned by the shareholder will increase to 300 after the split and his total cash dividend will be Rs. 450. The increased dividends may favourably affect the after - split market price of the share.

Bonus Shares

According to Oxford English Dictionary bonus means "an extra dividend to the shareholders in a joint stock company from surplus profits." This extra dividend may be paid in the form of cash or shares, when it is paid in the form of shares, the shares so issued are termed as bonus shares. Bonus shares are therefore, "share allotted by capitalisation of the reserves or surplus of a corporate enterprise.

Issue of bonus shares results in conversion of the company's profits into share capital. It is, therefore, also termed as capitalisation of company's profits. Such shares are issued to the equity shareholders in proportion to their holdings of the equity shares capital of the company. Thus, a shareholder continues to retain his proportionate ownership of the company.

When there is excess amount of profit and accumulated provisions in the company, that can be distributed among the existing shareholders in the form of shares without getting money is known as Bonus shares. This will be given in proportion to their shareholding. This type of bonus shares should be issued by the company once in three years only.

Conditions for the issue of Bonus Shares.

1. The company's articles of association permits the issue of bonus shares.
2. The company must have sufficient undistributed profits.
3. The proposal of the board of directors regarding bonus issue has been approved by the members in the annual general meeting.
4. Proper acceptance should be got from the shareholders.
5. Permission on the issue should be granted by the controller of capital issue.
6. The company should have sufficient number of unissued shares.

Sources for creating bonus shares.

Bonus shares can be issued out of the following sources.

1. Bonus shares Can be issued by utilising the amount available in the capital Redemption Reserve account.
2. Amount available in the share premium account.
3. Amount available in the General Reserve Account.
4. Profit realised through the sale of fixed assets.
5. Profit prior to incorporation
6. Credit balance of profit and loss account

Guidelines or Rules for the issue of Bonus Share

1. There should be a provision in the Articles of Association of the company for capitalisation of reserves etc., and if not, the company shall pass a resolution at its general body meeting making provision. in the Articles of Association for capitalisation.

2. Consequent to the issue of bonus shares if the subscribed and paid-up capital exceed the authorized share capital a resolution shall be passed by the company at its general body meetings for increasing the authorized capital
3. Earnings per share should be determined.
4. Dividend on bonus shares must be paid only out of company's profits.
5. The company which announces its bonus issue after the approval of the board of directors must implement the proposals within a period of six months from the, date of such approval and, shall not have the option of changing the decision.
6. 30 percent of the average profits before tax of the company for the previous three years should yield a rate of dividend on the expanded capital base of the company at 10 percent.
7. Within five years, only two bonus shares issues can be made.
8. Atleast 24 months interval should be there between two bonus shares issue.
9. The residual reserves after the proposed capitalisation shall be at least 40 per cent of the increased paid-up capital.
10. Bonus shares are not permitted unless the partly paid shares, if any existing are made fully paid up
11. The residual reserve must not be less than 40% of increased capital.
12. A company which announces its bonus issue after the approval of the board of directors must implement the proposals within a period of six months.

Working Capital

Working Capital refers to the firm's investment in current assets. Net working capital refers to the difference between current assets and current liabilities. Current assets are the assets which can be converted into cash within an accounting year and include cash, short term securities, debtors, bills receivables prepaid expenses, stock etc., current liabilities are those claims of outsiders which are expected to mature for payment within an accounting year and include creditors bills payable, bank overdraft, outstanding expenses etc., A firm needs working capital to meet the day to day expenses like purchasing of raw material storing of working in progress and finished goods etc. Payment of wages and salaries etc. The firm needs cash to purchase raw material and to pay expenses. Cash may also be held to meet the future emergencies. Sometimes, there may not be perfect matching between cash inflows and outflows. At that time, the firm may get credit facilities from the banks in the form of bank overdraft, cash credit, and advances.

Need for Working Capital.

The need for working capital to run the day-to-day business activities cannot be over emphasised. In firms, sales do not convert into cash immediately. There is always a time gap between the sale of goods and receipt of cash. Working capital is required for this period in order to sustain the sales activity.

However, the following are the circumstances under which working capital is required.

1. To continue the production and sales activities smoothly.
2. To face the changes, in the market conditions due to fashion, attraction etc.
3. To face the seasonal changes and
4. To keep the adequate stock of raw materials also working capital is needed.

Lesson - 20

Depreciation Policy

Concept of Depreciation

The concept of depreciation is closely linked to the concept of business income. In the revenue generating process the use of long-term assets tend to consume their economic potential. At some point of time these assets become useless and are disposed of and possibly replaced. The expired cost of these assets must be recovered from the revenue of the business in order to determine the income earned by the business. Depreciation may, therefore, be defined as that portion of the cost of the asset that is deducted from revenue for asset's services used in the operation of a business.

According to Pickles, " Depreciation is the permanent and continuing diminution in the quality, quantity or value of an asset.

The Institute of chartered Accountants of England and wales defines depreciation as "that part of the cost of a fixed asset to its owner which is not recoverable when the asset is finally put out of use by him. Provision against this loss of capital is an integral cost of conducting the business' during the effective commercial life of the asset and is not dependent upon the amount of profit earned".

From these definitions, it can be concluded that depreciation is a gradual decrease in the value of an asset from any cause.

Causes of Depreciation

1. Wear and tear:

Assets get worn or tom out on account of constant use as is the case with plant and machinery, furniture and fixtures used in a factory.

2. Exhaustion

An asset may get exhausted through working. This is the case with mineral mines, oil wells etc. On account of continuous extraction of mineral or oil, a stage comes when the mine or well gets completely exhausted and nothing is left.

3. Obsolescence:

Some assets are diseased before they are worn out because of changed conditions. For example, an old machine which is still workable may have to be replaced by a new machine because of the latter being more efficient and economical. Such a loss on account of new inventions or changed fashions is termed as loss on account of obsolescence.

4. Efflux of time.

Certain assets get decreased in their value with the passage of time. This is true in case of assets like leasehold properties, patents or copy-rights.

5. Accidents

An asset may meet an accident and therefore, it may get depreciated in its value.

On the basis of the above causes, it can be said that depreciation is the decrease or depletion in the value of an asset due to wear and tear, lapse of time, obsolescence, exhaustion and accident.

Basic Features of depreciation

1. Depreciation is to be charged only in respect of assets which

- i). Are expected to be used during more than one accounting period, and
- ii) have a limited useful life and

(iii) are held by an enterprise for use in the production or supply of goods and services, for rental to others, or for administrative purposes and not for the purpose of sale in the ordinary course of business.

The term depreciation is therefore used only in respect of fixed assets. This current assets may also lose their value. Loss on account of fall in their value is taken care of by valuing them for balance sheet purposes at cost or market price whichever is less.

1. Depreciation is a charge against profits. This means that true profits of the business cannot be ascertained without charging depreciation.

2. Depreciation is different from maintenance. Maintenance expenses are incurred for keeping the asset in a state of efficiency. However, any degree of maintenance cannot assure that the asset will never reach a state of scrap.

3. All fixed assets, with certain possible exceptions, ego land, equities etc., suffer depreciation although the process may be invisible or gradual.

Objectives of providing depreciation.

1. Ascertain rent of true Profits:

When an asset is purchased, it is nothing more than a payment in advance for an expense. For example, if a building is purchased for 10,000 for business purposes, the effect of such a purchase will be saving in the cost of rent in the future. But after a certain number of years, the building, will become useless. The cost of the building is, therefore, nothing except paying rent in advance for a period of years. If the rent had been paid, it would have been charged as an expense for determination of the true profits, made by the business during a particular period.

2. Presentation of true financial position.

The assets get depreciated in their values over a period of time on account of various factors. In order to present a true state of affairs of the business, the assets should be shown in the Balance sheet at their proper values.

3. Replacement of assets:

Assets used in the business need replacement after the expiry of their service life. By providing depreciation a part of the profits of the business is kept in the business which can be used for purchase of new assets when the old fixed assets become useless.

Factors affecting the amount of depreciation.

Following are the three important factors which should be considered for determining the amount of depreciation to be charged to the profit and Loss account in respect of a particular asset.

1. Cost of the asset

The cost of the asset includes the invoice price of the asset less any trade discount plus all costs essential to bring the asset to usable condition. It should be noted that financial charges, such as interest on money borrowed for the purchase of the asset, should not be included in the cost of the asset.

2. Estimated scrap value.

The term scrap value means the residual or the salvage value which is estimated to be realised on account of the sale of the asset at the end of its useful life. In determining the scrap value, the cost to be incurred in the disposal or removing of the asset should be deducted out of the total realisable value.

3. Estimated useful life.

This is also termed as economic life of the asset. This may be calculated in terms of years, months, hours, units of output or other operating measures such as kilometers in case of a taxi or truck.

Methods for providing depreciation**1. Uniform charge methods**

- a) Fixed instalment method
- b) Depletion method
- c) Machine hour rate method.

2. Declining charge or accelerated depreciation methods.

- a) Diminishing balance Method
- b) Sum of years digits method.
- c) Double declining method.

3. Other methods

- a) Group depreciation method
- b) Inventory system of depreciation
- c) Annuity method
- d) Depreciation fund method
- e) Insurance policy method.

I. Uniform Charge Methods. .

In case of these methods depreciation is charged on a uniform basis year after year. Such methods are considered appropriate only for such assets which are uniformly productive. Following three methods this category.

a) Fixed instalment method.

This is also termed as straight Line Methods. According to this method, depreciation is charged evenly every year throughout the effective life of the asset. The amount of depreciation is calculated as follows:

Depreciation = $\frac{\text{Original Cost of the Fixed Asset} - \text{Estimated Scrap Value}}{\text{Life of the asset in number of accounting periods}}$ OR

$$D = \frac{C - S}{N}$$

The depreciation to be charged each year can also be expressed as a percentage of cost. This percentage can be calculated as follows.

$$R = \frac{D}{C} \times 100$$

For example, if an asset has been purchased for Rs. 10,000 and it will have a scrap value of Rs. 1,000 at the end of its useful life of 10 years the amount of depreciation to be charged every year over the effective life of the asset will be computed as follows:

$$\text{Depreciation} = \frac{10,000 - 1,000}{10 \text{ years}}$$

= Rs. 900 each year of 90%

Merits

1. The method is simple to understand and easy to apply
2. The value of the asset can be reduced to zero or its scrap value under this method
3. The method is very suitable particularly in case of those assets which get depreciated more on account of expiry of period e.g lease hold properties, patents etc

De Merits

1. The method does not take into account the effective utilisation of the asset. The amount of depreciation is charged from year to year irrespective of the use of the asset.
2. The total charge for the use of the asset i.e. depreciation and repairs goes on increasing from year to year though the asset might have been used uniformly from year to year
3. The method tends to report an increasing rate of return on investment in the asset on account of the fact that net balance of the asset account is taken

b) Depletion method.

This is also known as productive output method. According to this method the charge for depreciation in respect of the use of an asset will be based on the following factors.

- i) Total amount paid,
- ii) Total estimated quantities of the output available.
- iii) The actual quantity taken out during the accounting years.

This method is suitable in case of mines, quarries etc., where it is possible to make an estimate of the total output likely to be available. Depreciation is calculated per unit of output, the amount of depreciation to be charged in a particular year is computed by multiplying the units of output with the rate of depreciation per unit of output.

c) Machine hour rate method.

This is also known as service Hours Method. This method takes into account the running time of the asset for the purpose of calculating the amount of depreciation. This method is particularly suitable for charging depreciation on plant and machinery, aircrafts etc. The amount of depreciation is calculated as follows.

Original cost of the asset - Scrap Value

Life of asset in hours

For example, if a machine having a scrap value of Rs. 1000 is purchased for Rs. 20,000 and it has an effective life of 10 years of 1000 hours each, the amount of depreciation per hour will be computed as follows.

$$\text{Depreciation} = \frac{\text{Original cost} - \text{Scrap Value}}{\text{Life of the asset in hours.}}$$

$$\frac{\text{Rs. } 20,000 - \text{Rs. } 1000}{10,000} = \text{Rs. } 1.90$$

2. Declining charge Depreciation Methods.

In case of these methods the amount charged for depreciation declines over the asset's expected life. These methods are suitable in those cases where.

- a) the receipts are expected to decline as the asset gets older and
- b) it is believed that the allocation of depreciation should be related to the pattern of asset's expected receipts. Following methods fall in this category.

a) Diminishing balance method.

According to this method, depreciation is charged on the book value of the asset each year. Thus, the amount of depreciation goes on decreasing every year. For example if the cost of an asset is Rs. 20,000 and the rate of depreciation as 10% then the depreciation will be calculated as follows.

Cost of the asset	20,000
1st year depreciation (10%)	2,000

Book value	18,000
2nd year depreciation (10%)	1,800

Merits:

This method puts an equal burden for use of the asset on each subsequent year. The amount of depreciation goes on decreasing for each subsequent year while the charge for repairs goes on increasing for each subsequent year.

2. This method is simple to understand and easy to follow.

Demerits:

1. The value of the asset cannot be brought down to zero under this method.
2. The determination of a suitable rate of depreciation is also difficult under this method as compared to the Fixed Instalment Method.

b) Sum of years digits or SYD Methods.

This method is on the pattern of Diminishing Balance Method. The amount of depreciation to be charged to the Profit and Loss account under this method goes on decreasing every year. The depreciation is calculated according to the following formula.

Remaining life of the asset (including: the current year)**Sum of the digits of the life of the asset in years x Original Cost**

For example, if the cost of an asset is Rs. 10,000 and it has an effective life of 5 years; the amount of depreciation to be written off each year will be computed as follows

	←	
I Year =	$\frac{4}{1+2+3+4+5} \times 10,000$	
	$\frac{4}{15} \times 10,000$	
=	$\frac{4}{15} \times 10,000 = \frac{40,000}{15}$	Rs. 3,333
II year =	$\frac{3}{15} \times 10,000$	Rs. 2,667
III year =	$\frac{2}{15} \times 10,000$	Rs. 2,000
IV year =	$\frac{1}{15} \times 10,000$	Rs. 1,333

$$\text{V Year} = \frac{\text{-- X 10.000}}{15} \quad \text{Rs. 667'}$$

c) Double declining balance method. .

This method is similar to reducing or declining balance method explained above except that the rate of depreciation is charged at the rate which is twice the straight line rate. While computing this rate, two things have to be kept in mind.

- a) No allowance is to be made for the scrap value of the asset.
- b) The total cost should not be reduced by charging the depreciation to an amount lower than the estimated scrap value of the asset.

3. Other methods

a) Group depreciation method.

Under this method all homogeneous assets generally having similar average life expectancy are grouped together in a single asset category. One summary account is established for each group and original cost of all assets in the group is charged to this account. Depreciation is charged for the group in total and not item by item.

b) Inventory system of depreciation

This method is followed in case of those assets which are of small values such as loose tools where the life the assets cannot be ascertained with certainty. eg., livestock etc. In case of these assets the depreciation is charged on the following.

Cost of the assets in working	
Condition at the beginning of the accounting year	XXX
ADD: Cost of the assets purchased during the accounting year	XXX
LESS: Cost of the assets in working condition at the end of the accounting year	XXX

Depreciation to be charged	XXX

C) Annuity Method

Under this method, the depreciation is charged on the basis that besides losing the original cost of the asset, the business also loses interest on the amount used for buying the asset. The term interest here means the interest which the business could have earned otherwise if the money used in purchasing the asset would have been invested in some other form of investment. According to this method, interest is calculated on the book value of the asset, in the beginning of each year. The amount of depreciation is uniform and is determined on the basis of annuity table.

d) Depreciation fund method. .

According to this method, the amount charged by way of depreciation is invested in certain securities carrying a particular rate of interest. The amount received on account of interest from these securities is also invested from time to time together with the annual amount charged by way of depreciation. At the end of the useful life of the asset when replacement is required, the securities are sold away and money realised on account of the sale of securities is used for purchase of a new asset.

e) Insurance Policy Method:

Under this method, an insurance policy for the required amount is taken. A fixed amount is premium is paid every year. This amount will have to be paid in the beginning of each year.

At the end of the specified period, the insurance company pays the agreed amount with which the new asset can be purchased.

Depreciation on Replacement cost.

In recent years, there has been a lot of controversy regarding charging of depreciation on historical or replacement cost. Since one of the major objectives of providing depreciation is to provide enough funds for the replacement of an asset at the end of its useful life, it will be appropriate to provide for depreciation on the replacement cost of the asset rather than on its historical cost. This is particularly true in the context of present inflationary conditions. If depreciation is charged on the basis of historical cost, there will not be enough funds to replace the asset at the end of its useful life on account of substantial increase in the price of the new asset to be purchased for replacing the old asset. Thus, the argument is that the very purpose of providing depreciation is completely defeated if the depreciation is charged on the basis of historical cost of the asset. However, the following are the practical difficulties in adopting replacement cost approach.

1. It is difficult to estimate the replacement cost well in advance. The cost can be correctly known only when the asset is replaced.
2. The new asset purchased for replacing the old asset is always of a better type in respect of its quality as well as efficiency. In case, if depreciation is charged on replacement cost, depreciation is charged for the improved asset even when such asset has not been used for generating revenue during those years.
3. Income tax authorities do not give recognition to the concept of charging depreciation on replacement cost.
4. Under the companies Act, depreciation is to be charged only on original cost of the asset. Any profit or loss account of the year in which the asset is scrapped.
5. Businessmen favour charging of depreciation on replacement cost under inflationary conditions. It is doubtful whether they would favour charging depreciation on the replacement cost of the asset in periods when the prices are falling.

On account of the above practical difficulties, it will be advisable to charge depreciation on the historical cost of the asset. However in case it is desired to provide enough funds for replacement of the asset at the end of its useful life, the following steps may be taken.

1. A "replacement reserve" may be created in the books of accounts of the business. The additional amount required for replacing the asset over and above the original cost of the asset may be estimated. It may be debited to Profit and Loss Appropriation Account and credited to Replacement Reserve Account.
2. The Replacement Reserve Account should be credited every year with interest at the current rate on the accumulated balance standing to the credit of this account.

In case, the above procedure is followed, the business will have sufficient funds to replace the old asset by a new one as and when the necessity arises.

Management of Investment Portfolio

Meaning of Investment Portfolio.

The term 'investment portfolio' refers to the various assets of an investor which are to be considered as a unit. An investment portfolio, is therefore, not merely a collection of unrelated assets but a carefully blended asset combination within a unified framework. It is necessary for investors to take all decisions as regards, their wealth position in a portfolio context.

Meaning of Investment Portfolio Management

Management, means utilisation of resources in the best possible manner Investment portfolio management, therefore, involves maintaining a proper combination of securities which comprise the investor's portfolio in a manner that they give maximum return with minimum risk. This requires framing of a proper investment policy. The term investment policy means formulation of guidelines for allocation of available funds among the various types of securities including variation in such proportion under changing conditions and decision to hold cash for future commitment.

For this purpose, an investor can conveniently be divided into two groups.

- i) Individual Investor and
- ii) Institutional investor.

Individual Investors

Individual investors have a difficult time while determining their investment portfolio. They do not usually have time to research a share or debenture in depth before making the investment decision. They have a business life, a family life, a social life and the time remaining for them is likely to be very limited. They cannot have an extensive study of materials. Hence, investment selection becomes almost, a "hit and rim" operation for individual investors.

The intelligent individual investor should ask and obtain answer to the following basic questions, before making an investment selection.

1. What is the stage of business and economy? In the light of such conditions, is it a favourable time to invest.
2. Where are we in the business cycle? Is the boom likely to top out shortly? Is a recession out hand?
3. What is the state of market?

Are we in the early stages of a bull market? Has the low point of a bear market about been reached? As the bull market about to top out?

In case the answers to the proceeding questions are favourable, there has to be an investment selections. The investor has, therefore, to find answers to the following more questions.

- a) What industries are likely to grow most rapidly? Are there any special factors which favour a particular. industry?
- b) Which company or companies within the industry are likely to do the best? which companies are to be avoided because of poor prospects?

An average investor may not be able to devote sufficient time to answer all these questions in depth. He has, therefore, to depend on one or more sources for information within his reach to arrive at investment decisions. These sources could be enquiries from a broker opinions expressed in papers or journals or enquiries from friends engaged in that business etc.

Institutional Investors.

The institutional investors have both time and resources to dig deeper than the individual investors. They can employ skilled economists, financial analysts and investment managers. They can purchase copies of registration documents of the relevant corporations or companies and read them with understanding. It case the published financial information is not clear or adequate or where the questions arise about the financial affairs of a company or about its management or management policies the institutional investor can afford time and expense of calling upon the company at its local office and putting the questions privately before making an investment decision or judgement Moreover, the institutional investor can have continuous

review and scrutiny of his investment portfolio. Whenever adverse conditions develop, he can dispose of the securities no longer worthwhile. Thus, the institutional investor has a great advantage over the average individual investor in managing his investment portfolio.

Many trading and manufacturing companies buy and sell securities as part of their optimum utilisation of their cash resources. Moreover, there are certain specific organisations which deal specifically in various types of securities such as shares, debentures, bonds, government securities etc. Investment companies, Life Insurance Corporation of India and Unit Trust of India mainly fall in this category.

Exercises

1. Explain the nature of the factors which influence the dividend policy of a firm.
2. Explain a stock split? why it is used? .
3. Critically examine the assumptions underlying the irrelevance hypothesis of Modigliani and Miller regarding dividend distribution.
4. What are the guidelines issued by the government of India to govern the issue of bonus shares by the companies?
5. How the dividend policy and rate of retention is fixed in a company?
6. Explain Gordon's Model of dividend policy.
7. The Asbestors company belongs to a risk class of which the appropriate capitalisation rate is 10%. It currently has 1,00,000 shares selling at Rs. 100 each. The firm is contemplating the declaration of a Rs.6 as dividend at the end of the current fiscal year, which has just begun. Answer the following questions based on the Modigliani and Miller model and the assumption of no taxes.
 - a) What will be the price of the shares at the end of the year, if a dividend is not declared? What will it be if it is declared?
 - b) Assuming that the firm pays dividend, has net income of Rs. 10,00,000 and makes new investments of Rs. 20,00,000 during the period, how many new shares must be issued
 - c) Is MM Model realistic with respect to valuation?

(Ans : a) i. Rs. 104 (ii) Rs. 110 (b) 15,385 shares c) MM Model un realistic

8. Following are the details regarding three companies.

A Ltd	B Ltd	C Ltd
$r = 15\%$	$r = 10\%$	$r = 8\%$
$k = 10\%$	$k = 10\%$	$k = 10\%$
$E = \text{Rs. } 10$	$E = \text{Rs. } 10$	$E = \text{Rs. } 10$

You are required to calculate the effect of dividend payment on the profits of each of the above companies under the following different situations.

- a) When no dividend is paid
 - b) When dividend is paid at Rs. 4 per share
 - c) When dividend is paid at Rs. 8 per share
 - d) When dividend is paid at Rs. 10 per share.
- (Ans. : A Ltd a) Rs. 150 (b) Rs. 130 (c) 110 (d) Rs. 100
 B Ltd. a) Rs. 100 (b) Rs. 100 (c) Rs. 100 (d) Rs. 100
 C Ltd a) Rs. 80 (b) Rs. 88 (c) Rs. 96 (d) Rs. 100