CHAPTER 10

MANAGEMENT OF WORKING CAPITAL

Working capital is defined as the excess of current assets over current liabilities. Current assets are those assets, which will be converted into cash within the current accounting period or within the next year as a result of the ordinary operations of the business. They are cash or near cash resources. These include:

- Cash and Bank balances
- Receivables
- Inventory
  - Raw materials, stores and spares
  - Work-in-progress
  - Finished goods
- Prepaid expenses
- Short-term advances
- Temporary investments

The value represented by these assets circulates among several items. Cash is used to buy raw-materials, to pay wages and to meet other manufacturing expenses. Finished goods are produced. These are held as inventories. When these are sold, accounts receivables are created. The collection of accounts receivable brings cash into the firm. The cycle starts again.

Current liabilities are the debts of the firms that have to be paid during the current accounting period or within a year. These include:

- Creditors for goods purchased
- Outstanding expenses i.e. expenses due but not paid
- Short-term borrowings
- Advances received against sales
- Taxes and dividends payable
- Other liabilities maturing within a year

Working capital is also known as circulating capital, fluctuating capital and revolving capital. The magnitude and composition keep on changing continuously in the course of business.

Objectives of Working Capital Management

The basic objectives of working capital management are as follows:

- By optimizing the investments in current assets and by reducing the level of current liabilities, the company reduces the locking up of funds in working capital thereby; it can improve the return on capital employed in the business.
- The second important objectives of working capital management is that the company should always be in a position to meet its current obligations which should properly be supported by the current assets available with the firm. But maintaining excess funds in working capital means locking of funds without return.
- The firm should manage its current assets in such a way that the marginal return on investment in these assets is not less than the cost of capital employed to finance the current assets.

Gross and Net Working Capital

Generally the working capital has its significance in two perspectives- 'Gross working capital' and 'Net working capital'; the term 'Gross working capital' refers to the firm's investment in current assets. The term 'Net working capital' refers to the excess of current assets over current liabilities. These gross working capital and net working capital are called Balance Sheet approach of working capital.

Permanent & Temporary Working Capital

Considering time as the basis of classification, there are two types of working capital viz. 'Permanent' and 'Temporary'. Permanent working capital represents the assets required on continuing basis over the entire year, whereas temporary working capital represents additional assets required at different times during the operation of the year. A firm will finance its seasonal and cyclical fluctuations in business operations through short term debt financing. For example, in peak seasons, more raw materials to be purchased, more manufacturing expenses to be incurred, more funds will be locked in debtor's balances etc. In such times excess requirements of working capital would be financed from short-term financing sources.

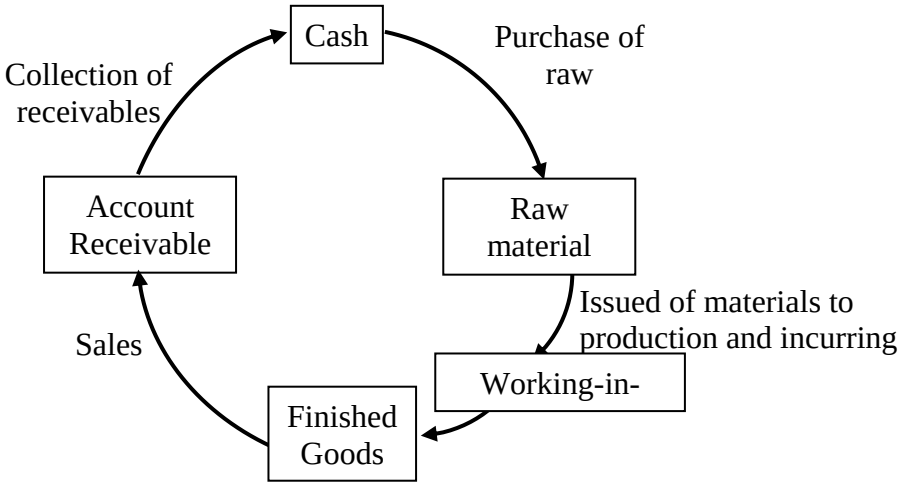
Operating Cycle Concept

A new concept, which is gaining more and more importance in recent years, is the 'Operating Cycle Concept' of Working Capital. The operating cycle refers to the average time elapses between the acquisition of raw materials and the final cash realization.

Thus, operating cycle consists of four stages:

- The raw materials and stores inventory stage
- The work-in-progress stage
- *The finished goods inventory stage*
- *The receivable stage*

The operating cycle of working capital is shown in following figure:



OPERATING CYCLE

Importance of Operating Concept

The application of operating cycle concept is mainly useful to ascertain the requirement of cash working capital to meet the operating expenses of a going concern. This concept is based on the continuity of the flow of values in a business operation. This is an important concept because the longer the operating cycle, the more working capital funds the firm needs. Management must ensure that this cycle does not become too long. This concept more precisely measures the working capital fund requirements, traces its changes and determines the optimum level of working capital requirements.

Gross and Net Operating Cycle

In a manufacturing firm, the operating cycle for element of cost, say direct material, start with the purchase of materials. Materials are not consumed immediately. There involves 'Raw materials conversion period (RMCP);

Once materials are issued to production, it again involves time gap between issue of materials and production of finished goods this time gap is called as 'Work-in-progress conversion period (WIPCP);

The enterprise due to competitive reason and other reason extend credit facilities to customers. This time gap between sale and realization of cash is known as 'Book Debt conversion period (BDCP);

Business enterprise receives credit in the purchase of raw materials from the suppliers. This period is called as 'Payments deferral period (PDP); This payment deferral period reduces the length of operating cycle of business firm.

Now the length of operating cycle of manufacturing firm in 'Direct material' can be calculated with the help of following formulae:

Gross Operating Cycle	=	RMCP + WIPCP + FGCP + BDCP
Net Operating Cycle	=	Gross Operating Cycle – PDP
Or	=	RMCP + WIPCP + FGCP + BDCP – PDP

Practical utility of Operating Cycle Concept

The net operating cycle represents the net time gap between investment of cash and its recovery of sales revenue. If depreciation is excluded from expenses in the computation of operating cycle, the net operating cycle also represents the cash conversion cycle. It is the net time interval between cash collections from sale of product and cash payments for resources acquired by the firm.

Methods for Estimating Working Capital Requirements

There are three methods for estimating the working capital requirements of a firm: (i) percentage of sales method (ii) Regression analysis method (iii) Operating cycle method.

Percentage of Sales Method

It is a traditional and simple method of determining the level of working capital and its components. In this method, working capital is determined on the basis of past experience. If, over the years, the relationship between sales and working capital is found to be stable, then this relationship may be taken as a base for determine the working capital for future.

Illustration: The Balance sheet of Bhaskar Ltd. as on 31st March, 2001 is as follows:

Balance sheet of Bhaskar ltd. as on 31st March, 2001

Liabilities	**₹**	**Assets**	**₹**
Share Capital	10,00,000	Land & Building	3,00,000
Reserves & Surplus	8,00,000	Plant & Machinery	10,00,000
Term Loans	8,00,000	Inventories	10,00,000
Sundry Creditors	6,00,000	Receivables	11,00,000
Provisions for taxation	3,00,000	Cash and Bank	1,00,000
	35,00,000		35,00,000

The company's turnover for 2000-2001 was ₹60 lakhs. It anticipates a sales turnover of ₹90 lakhs in 2001-2002. Estimate the working capital requirement for 2001-2002.

This method is simple, easy to understand and useful for projecting relatively short-term changes in working capital. However, this method cannot be recommended for universal application because the assumption of linear relationship between sales and working capital may not hold good in all cases.

Regression Analysis Method

It is a useful statistical technique applied for forecasting working capital requirements. It helps in making working capital requirement projection after establishing the average relationship between sales and working capital and its various components in the past years. The method of least squares is used in this regard.

The relationship between Sales (X) and Working capital (Y) is given by the equation:

$Y = a + bx$

The value of 'a' and 'b' are obtained by the solution of simultaneous linear equations given below:

$\Sigma y = na + b\Sigma x$

$\Sigma xy = a\Sigma x + b\sum x^2$

Where, a *= Fixed Components* b *= Variable component*

x *= Sales* y *= Inventory* n *= Number of observations.*

Illustration: The sales and current assets figures (₹ in lakhs) for Dinesh Ltd. for a period of five years are given below:

Year	Sales	Current Assets
1997	320	220
1998	440	270
1999	520	315
2000	570	435
2001	690	450

Estimate the working capital requirements for the year 2002, if the anticipated sales are ₹870 lakhs.

Operating Cycle Method - The following methods are used in operating cycle approach:

Total Operating Cycle Duration Approach

Working capital requirement is estimated using the following formula;

$$\left[Estimated\ \text{cost}\ of\ goods\ sold \times \frac{Operating\ \ Cycle}{360} \right] + Desired\ Cash\ balance$$

Illustration: S.S. Organics Ltd. expects its cost of goods for 2001-2002 to be ₹600 lakhs. The expected operating cycle is 90 days. It wants to keep a minimum cash balance of ₹1 lakh. What is the expected working capital requirement (Assume 360 days in a year).

Individual component approach

Detailed estimation is made using the individual components of the operating cycle.

Illustration: The Board of Directors of Ruby Ltd. requests you to prepare a statement showing the working capital requirements forecast for a level of activity of 1,56,000 units of production. The following information is available for your calculation.

	(₹ per unit)
Raw Material	90
Direct Labour	40
Overheads	75
	205
Profit	60
Selling price per unit	265

1. Raw materials are in stock on average one month
2. Materials are in process, on average 2 weeks
3. Finished goods are in stock, on average one month
4. Credit allowed by suppliers – one month
5. Time lag in payment from debtors – 2 months
6. Lag in payment of wages – 1 ½ weeks
7. Lag in payment of overheads – one month

20% of the output is sold against cash. Cash in hand and at Bank is expected to be ₹60,000. It is to be assumed that production is carried on evenly throughout the year. Wages and overheads accrue similarly and a time period of 4 weeks is equivalent to a month.

MANAGEMENT OF RECEIVABLES

To achieve growth in sales and to meet competition in the industry, a firm may resort to credit sales. A retail trader will do his business mainly on cash basis whereas a manufacturing concern will have heavy balance in receivables. Firms offer credit to customers to attract more business, and the increased turnover will result in increased profit to the firm. The market in which the firm is doing business is the ultimate determinant in credit sales and receivables balances.

Cost of Extending Credit

The costs involved in extention of credit to the customers are as follows:

Carrying Cost

This cost includes the interest on capital blocked in the receivables balances, the administration costs associated with the credit decision making and controlling of debtors balances, cost of keeping the records of credit sales and payments, cost of collection of payments from customers, opportunity cost of capital that can be employed else where than in receivables balances.

Default Risk

There are also costs associated with the risk of default – a certain portion of receivables will never pay, and will become 'bad debts' which has to be written off the profit of the firm.

Administration costs of receivables Management

The costs relating to the administration of receivables is as follows:

- Screening the potential customers for granting credit.
- Accounting, recording and processing costs of debtors balances.
- Expenditure incurred for credit control ckecks.
- Cost incurred for sending invoices and statements of accounts to individual customers
- Chasing up slow paying debtors.
- Costs incurred for classification of quaries.
- Recording receipts of cash and processing on individual customer records.
- Use of office space, processing equipment and remuneration of sales force involved in debtors collection etc.

Cost – benefit Analysis of Credit Sales

When the sales on credit terms are extended to the customers, the firm will consider the level of default risk attached to it. With every sale there is some risk that the customers will not be able to pay, but with large companies the risk is minimal and with small and illiquid companies the risk of non-payment might be high.

Cash Discount

Cash discounts are offered by the seller to the customer to encourage early payment. This is to encourage payment before the end of the credit period – Cash discounts are cost to the seller and benefit to the buyer. The buyer may decide to pay early and take advantage of cash discount or can wait until the end of the credit period without availing cash discount.

TREASURY MANAGEMENT

Treasury Management: Meaning

Tight money, escalating interest rates and economic volatility have called for a specialized skills called Treasury Management.

Treasury management is defined as 'the corporate handling of all financial matters, the generation of external and internal funds for business, the management of currencies and cash flows and the complex strategies, policies and procedures of corporate finance'.

The treasury management mainly deals with working capital management and financial risk management. The former constitutes cash management and later decides the asset-liability mix. Financial risk management includes forex and interest rate management, a part from managing equity and commodity prices.

Functions of Treasury Department

The important functions of a modern Treasury Department of a multinational Company are as follows:

- Setting up of corporate financial objectives
  - Financial aim and strategies
  - Financial and treasury policies
  - Financial and treasury systems
- Liquidity Management
  - Working capital Management
  - Money transmission management
  - Banking relationship and arrangements
  - Money management
- Funding Management
  - Funding policies and procedures
  - Sources of funds
  - Types of funds

- Current Management
  - Exposure policies and procedures
  - Exchange dealing, including futures and options
  - International monetary economics and exchange regulations
- Corporate Finance
  - Equity capital management
  - Business acquisition and Sales
  - Project finance and Joint ventures
- Other related subjects
  - Corporate taxation
  - Risk management and insurance
  - Pension fund investment management

Reasons for Holding Cash Balances

The reasons for holding cash balances in a firm are given below:

- Cash balance is required to meet the day to day transactions of business. Firms hold cash for making necessary payments for goods and services they acquire.
- Firms hold cash to meet uncertainties, emergencies, running out of cash and fluctuations in cash balances. The holding of cash on these reasons are on precaution.
- Some times firm hold high cash balances over the precautionary level of cash balance to take advantage of speculative investment opportunities, to exploit discounts for prompt payments, to improve credit rating etc. Cash surplus companies can acquire the cash starved companies at least cost of acquisition. The company with excessive cash surplus can take steps to improve production and sales ultimately the profitability of the company improves.
- Holding cash balances in the bank will be security for the banker and also it will earn interest. Easy access to the cash can be had in case of urgent need of cash.

Purchase of readily marketable securities to earn return on investment and to maintain the liquidity position of the company. The company should be very much cautious in keeping money in this type of securities.

Costs of Holding and Shortage of Cash

Cash is a non-earning asset, therefore, the Finance Manager should take care to minimise the assets in the form of cash. Surplus balance of cash can be suitably be invested in liquid, short-term and long-term investments as per the policy of the company. The cost of holding cash is the loss of interest that if cash is invested profitably elsewhere. The cost of surplus is the cost of interest/opportunities foregone. The cost of shortage of cash is measured in the cost of raising finance or ultimately in the cost of bankruptcy or restructuring. The cash shortages can result in sub-optimal investment decisions and sub-optimal financing decisions.

Cash Management Models

The following methods are useful in management of cash.

Baumol's Model

Baumol (1952) suggested that cash may be managed in the same way as any other inventory and that the inventory model could reasonably reflect the cost- Volume relationship as well as the cash flows. In this way, the economic order quantity could be applied to cash management.

It provides a useful conceptual foundation for the cash management problem. In the model, the carrying cost of holding cash-namely the interest foregone on marketable securities is balanced against the fixed cost of transferring marketable securities to cash, or vice-versa. The Baumol model finds a correct balance by combining holding caost and transaction costs so as to minimise the total cost of holding cash. As in the EOQ model, the Baumol Model assumes that the rate of cash usuage is constant and known with certainty. The optimal level of C is found to be:

$$C = \sqrt{\frac{2BT}{1}}$$

Where C = Optimal transaction size
B = Fixed cost per transaction
T = Estimated cash payments during the period
I = Interest on marketable securities p.a.

Illustration: Tarus Ltd. has an estimated cash payments of ₹8,00,000 for a one month period and the payments are expected to be steady over the period. The fixed cost per transaction is ₹250 and the interest rate on marketable securities is 12% p.a. Calculate the optimal transaction size.

Baumol's Model is based on the assumption that the size and timing of cash flows are known with certainty. Consequently, it has limited use in times of uncertainty and for firms whose cash flows are discontinuous or bumpy. In addition it can be difficult to calculate the full transaction cost. *Nevertheless it does offer a conceptual framework and can be used with caution as a bench mark.*

Limitation of the Model

- The model can be applied only when the payments position can be reasonably assessed.
- Degree of uncertainty is high in predicting the cash flow transactions.
- The model merely suggest only the optimal balance under a set of assumptions. But in actual situation it may not hold good.

Miller-Orr-Model

The Miller-Orr Model (1966) specifies the following two control limits:
h = Upper control limit
o = Lower control limit
z = The return point for cash balances

This is represented in following figure:

The Miller-Orr model, as shown in above figure will work as follows:

- When cash balance touched the upper control limit (h) securities are bought to the extent of Rs. (h-z)
- Then the new cash balance is z
- When cash balance touches lower control limit (o), marketable securities to the extent of Rs. (z-o) will be sold.
- Then the new cash balance again return to point z.

Assumptions

- The major assumption with this model is that there is no underlying trend in cash balance over time.
- The optimal values of h and z depend not only on the fixed and opportunity costs but also on the degree of likely fluctuations in cash balances.

The Miller-Orr model can be used in times of uncertainty and random cash flows. It is based on the principle that control limits can be set which when reached trigger off a transaction. The control limits care based on the day-to-day variability in cash flows and the fixed costs of buying and selling Government securities. The formula for calculation of the spread between the control limit is:

$$3\left(\frac{3/4 \times Transaction\ cost \times Variance\ of\ cash\ flows}{Interest\ rate}\right)^{1/3}$$

The higher the variability in cash flows and transaction cost, the wider and higher the control limits will be. Conversely, the higher the interest rate, the lower and closer they will become. Within the control limits, the cash balance fluctuates unpredictably. When it hits an upper or lower limit, action is taken by buying or selling securities to restore the balance to its normal level within the control points. The return point is calculated using the formula:

$$Return\ point = Lower\ limit + \frac{Spread}{3}$$

In applying the Miller-Orr model one must set the lower limit for the cash balance. This could be zero or some minimum safety margin above zero.

PROBLEMS

Q.10.1] Black Limited has furnished the following cost sheet:

	₹/Per Unit
Raw Material	98
Direct Labour	53
Factory Overhead (Includes depreciation of ₹ 15 per unit at budgeted level of activity)	88
Total Cost	
Profit	239
Selling Price	43
	282

Additional Information:

(i)	Average raw material in stock	3 weeks
(ii)	Average work-in-progress (% of completion with respect to Material- 75% Labour & Overhead - 70%)	2 weeks
(iii)	Finished goods in stock	4 weeks
(iv)	Credit allowed to debtors	$2^1/_2$ weeks
(v)	Credit allowed by creditors	$3^1/_2$ weeks
(vi)	Time lag in payments of labour	2 weeks
(vii)	Time lag in payments of factory overheads	$1^1/_2$ weeks
(viii)	Company sells, 25% of the output against cash	
(ix)	Cash in hand and bank is desired to be maintained	₹2,25,000
(x)	Provision for contingencies is required @ 4% of working capital requirement including that provision.	

You may assume that production is carried on evenly throughout the year and labour and factory overheads accrue similarly.

You are required to prepare a statement showing estimate of working capital needed to finance a budgeted activity level of 1,04,000 units of production. Finished stock, debtors and overhead are taken at cash cost. **(May - 2014)**

Q.10.2] STN Ltd. is a readymade garment manufacturing company. Its production cycle indicates that materials are introduced in the beginning of the production phase; wages and overhead accrue evenly throughout the period of cycle. The following figures for the 12 months ending 31st December 2011 are given. **[May, 2012]**

Production of shirts	54,000 units
Selling price per unit	₹ 200
Duration of the production cycle	1 month
Raw material inventory held	2 month's consumption
Finished goods stock held for	1 month

Credit allowed to debtors is 1.5 months and credit allowed by creditors is 1 month. Wages are paid in the next month following the month of accrual.

In the work-in-progress 50% of wages and overheads are supposed to be conversion costs.

The ratios of cost to sales price are-raw materials 60% direct wages 10% and overheads 20%. Cash is to be held to the extent of 40% of current liabilities and safety margin of 15% will be maintained.

Calculate amount of working capital required for the company on a cash cost basis.

Q.10.3] Calculate the amount of working capital required for XYZ Ltd. from the following information:

Elements of Cost	Per unit (₹)
Raw Material	80.00
Direct Labour	30.00
Overheads	60.00
Total Cost	170.00
Profit	30.00
Sales	200.00

Raw materials are held in stock on an average for one month. Work-in progress (completion stage 50 per cent), on an average half a month. Finished goods are in stock on an average for one month. Credit allowed by suppliers is one month and credit allowed by suppliers is one month and credit allowed to debtors is two months. Time lag in payment of wages is $1^1/_2$ weeks. Time lag in payment of overheads is one month. One fourth of the sales are made on cash basis.

Cash in hand and at bank is expected to be ₹50,000.

You are required to prepare statement showing the working capital needed to finance a level of activity of 52,000 units of production. Assume that production is carried on evenly throughout the year and wages and overhead accrue similarly. For the calculation purpose 4 weeks may be taken as equivalent to a month and 52 weeks in a year. **[IPCC-MAY-2019]**

Q.10.4] The management of MNP Company Ltd. is planning to expand its business and consult you to prepare an estimated working capital statement. The records of the company reveals the following annual information: **[May,2011]**

	₹
Sales – Domestic at one month's credit	24,00,000
Export at three month's credit (sales price 10% below domestic price)	10,80,000
Materials used (suppliers extend two months credit)	9,00,000
Lag in payment of wages – ½ month	7,20,000
Lag in payment of manufacturing expenses (cash) – 1 month	10,80,000
Lag in payment of Adm. Expenses – 1 month	2,40,000
Sales promotion expenses payable quarterly in advance	1,50,000
Income tax payable in four instalments of which one falls in the next financial year	2,25,000

Rate of gross profit is 20%.

Ignore work-in-progress and depreciation.

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

The management is also of the opinion to make 12% margin for contingencies on computed figure.

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

Q.10.5] MN Ltd. is commencing a new project for manufacture of electric toys. The following cost information has been ascertained for annual production of 60,000 units at full capacity:

		Amount per unit
		`
Raw materials		20
Direct labour		15
Manufacturing overheads:		
	Rs.	
Variable	15	
Fixed	10	25
Selling and distribution overheads :		
	Rs.	
Variable	3	
Fixed	1	4

Total cost	64
Profit	16
Selling price	80

In the first year of operations expected production and sales are 40,000 units and 35,000 units respectively. To assess the need of Working capital, the following additional information is available:

(i) Stock of Raw materials ..... 3 months consumption.

(ii) Credit allowable for debtors ..... $1\frac{1}{2}$ months.

(iii) Credit allowable by creditors ..... 4 months.

(iv) Lag in payment of wages ..... 1 month.

(v) Lag in payment of overheads ..... $\frac{1}{2}$ month.

(vi) Cash in hand and bank is expected to `60,000.

(vii) Provision for contingencies is required @10% of Working capital requirement including that provision.

You are required to prepare a projected statement of Working capital requirement for the first year of operations. Debtors are taken at cost. **[Nov, 2008]**

Q.10.6] Ess Ltd. Sells goods at a gross profit of 25% considering depreciation as part of the cost of production. Its annual figures are as follows:

	`
Sales at two months credit	18,00,000
Materials consumed (suppliers extend two months' credit)	4,50,000
Wages paid (monthly in arrear)	3,60,000
Manufacturing expenses outstanding at the end of the year (cash expenses are paid one month in arrear)	40,000
Total Administrative Expenses, paid as above	1,20,000
Sales promotion expenses, paid quarterly in advance	60,000

The company keeps one month's stock each of raw materials and finished goods, and believes in keeping `1,00,000 in cash. Assuming a 15% safety margin, ascertain working capital requirement of the company on cash costs basis. Ignore work-in-progress.

Q.10.6] Following annual figures relate to XYZ Co.:

	`
Sales (at two months credit)	36,00,000
Materials consumed (Suppliers extend two months' credit)	9,00,000
Wages paid (monthly in arrear)	7,20,000
Manufacturing expenses outstanding at the end of the year (Cash expenses are paid one month in arrear)	80,000
Total administrative expenses, paid as above	2,40,000
Sales promotion expenses, paid quarterly in advance	1,20,000

The company sells its products on, gross profit of 25% counting depreciation as part of the cost of production. It keeps one-month stock each of raw materials and finished goods, and cash balance of `1,00,000.

Assuming a 20% safety margin, work out the working capital requirements of the company on cash cost basis. Ignore work-in-progress.

Q.10.7] Bita Limited manufactures a product used in the steel industry. The following information regarding the company is given for your consideration:

(i) Expected level of production 9,000 units per annum.

(ii) Raw materials are expected to remain in store for an average of two months before issue to production.

(iii) Work-in-progress (50 percent complete as to conversion cost) will approximate to ½ month's production.

(iv) Finished goods remain in warehouse on an average for one month.

(v) Credit allowed by suppliers is one month.
(vi) Two month's credit is normally allowed to debtors.
(vii) A minimum cash balance of ₹67,500 is expected to be maintained.
(viii) Cash sales are 75 percent less than the credit sales.
(ix) Safety margin of 20 percent to cover unforeseen contingencies.
(x) The production pattern is assumed to be even during the year.
(xi) The cost structure for Bita Limited's product is as follows:

	₹
Raw Materials	80 per unit
Direct labour	20 per unit
Overheads (including depreciation ₹20)	80 per unit
Total Cost	180 per unit
Profit	20 per unit
Selling Price	200 per unit

You are reqired to estimate the working capital requirement of Bita limited.

[CA-INTER-FME-MAY-2019]

Q.10.8] Following is the balance sheet of XYZ Ltd. Calculate the amount of maximum permissible bank finance by all the three methods for working capital as per Tandon Committee norms. You are required to assume the level of core current assets to be `30 lakhs.

You are also requried to calculate the current ratios under each method and compare the same with the current ratios as recommended by the Committee, assuming that the bank has granted MPBF

Balance Sheet of XYZ Ltd.
As on 31st March, 2000

(` in lakhs)

Liabilities	Rs.	Assets			
Equity Shares Rs. 10 each	200	Fixed Assets			500
Retained earnings	200	Current Assets			
11% Debentures	300	Inventory:			
Public deposits	100	Raw materials	100		
Trade Creditors	80	W.I.P.	150		
Bills payable	100	Finished goods	75	225	
		Debtors		100	
		Cash/ Bank		55	480
	980				980

Q.10.9] Day Ltd., a newly formed company has applied to the Private Bank for the first time for financing it's Working Capital Requirements. The following informations are available about the projections for the current year:

Estimated Level of Activity	Completed Units of Production 31200 plus unit of work in progress 12000
Raw Material Cost	₹ 40 per unit
Direct Wages Cost	₹ 15 per unit
Overhead	₹ 40 per unit (inclusive of Depreciation ₹10 per unit)
Selling Price	₹ 130 per unit
Raw Material in Stock	Average 30 days consumption
Work in Progress Stock	Material 100% and Conversion Cost 50%
Finished Goods Stock	24000 Units
Credit Allowed by the supplier	30 days
Credit Allowed to Purchasers	60 days
Direct Wages (Lag in payment)	15 days
Expected Cash Balance	₹ 2,00,000

Assume that production is carried on evenly throughout the year (360 days) and wages and overheads accrue similarly. All sales are on the credit basis. You are required to calculate the Net Working Capital Requirement on Cash Cost Basis. **[CA-INTER-FME-MAY-2018]**

Q.10.10] The following information is provided by the DPS Limited for the year ending 31st March 2013. **[May, 2013], [May, 2015]**

Raw material storage period	55 days
Work in progress conversion period	18 days
Finished Goods storage period	22 days
Debt collection period	45 days
Creditor's payment period	60 days
Annual Operating cost (including Depreciation of ₹ 2, 10,000)	₹ 21, 00,000

[1 year = 360 days]

You are required to calculate:

(i) Operating Cycle period
(ii) Number of Operating Cycle in a year
(iii) Amount of working capital required for the company on a cash cost basis.
(iv) The company is a market leader in its product, there is virtually no competitor in the market. Based on a market research it is planning to discontinue sales on credit and deliver products based on pre-payments. Thereby, it can reduce its working capital requirement substantially. What would be the reduction in working capital requirement due to such decision?

Q.10.11] The following information has been extracted from the books of ABS Limited:

	1st April, 2017 (₹)	31st March, 2018 (₹)
Raw Material	1,00,000	70,000
Works-in-progress	1,40,000	2,00,000
Finished goods	2,30,000	2,70,000

Other information for the year:

	₹
Average receivables	2,10,000
Average payables	3,14,000
Purchases	15,70,000
Wages and overheads	17,50,000
Selling expenses	3,20,000
Sales	42,00,000

All purchases and sales are on credit basis. Company is willing to know:
(i) Net operating cycle period
(ii) Amount of working capital requirements (Assume 360 days in a year) **[CA-IPCC-NOV-2018]**

Q.10.12] MN Ltd. has a current turnover of ₹ 30,00,000 p.a. Cost of Sale is 80% of turnover and Bad Debts are 2% of turnover, Cost of Sales includes 70% variable cost and 30% Fixed Cost, while company's required rate of return is 15%. MN Ltd. currently allows 15 days credit to its customer, but it is considering increase this to 45 days credit in order to increase turnover.

It has been estimated that this change in policy will increase turnover by 20%, while Bad Debts will increase by 1%. It is not expected that the policy change will result in an increase in fixed cost and creditors and stock will be unchanged.

Should MN Ltd . introduce the proposed policy? (Assume 360 days year)

[CA-INTER-FME-NOV-2018]

Q.10.13] A trader whose current sales are ₹4,20,000 per annum and an average collection period of 30 days, wants to pursue a more liberal policy to improve sales. A study made by a management consultant reveals the following information:

Credit Policy	Increase in Collection Period	Increase Sales	Present default in anticipated
I	10 days	₹21,000	1.5%

II	30 days	₹52,500	3%
II	45 days	₹63,000	4%

The selling price per unit is ₹3. Average cost per unit is ₹2.25 and variable cost per unit is ₹2. The current bad-debts loss is 1%. Required return on additional investment is 20%. Assume a 360 days year.
Which of the above policies would you recommend for adoption? **[May-2016]**

Q.10.14] The marketing Manager of XY Ltd. is giving a proposal to the Board of Directors of the company that an increase in credit period allowed to customers from the present one month to two months will bring a 25% increase in sales volume in the next year. **[May,2011]**
The following operational data of the company for the current year are taken from the records of the company:

	₹
Selling price	21 p.u.
Variable cost	14 p.u.
Total cost	18 p.u.
Sales value	18,90,000

The Board, by forwarding the above proposal and data requests you to give your expert opinion on the adoption of the new credit policy in next year subject to a condition that the company's required rate of return on investments is 40%,

Q.10.15] PTX Limited is considering a change in its present credit policy. Currently it is evaluating two polices. The company is required to give a Return of 20% on the Investment in new Accounts Receivables. The Company's Variable Costs are 70% of the Selling Price. Information regarding present and proposed policies are as follows: **[Nov, 2013]**

	Present Policy	**Policy Option 1**	**Policy Option 2**
Annual Credit Sales	₹ 30,00,000	₹ 42,00,000	₹ 45,00,000
Debtors Turnover Ratio	4 times	3 times	2.4 times
Loss due to Bad Debts	3% of Sales	5% of Sales	6% of Sales

Note: Return on Investment in new Accounts Receivable is based on Cost of Investment in Debtors.
Which Option would you recommend?

Q.10.16] HT Ltd. has sales of ₹960 lakhs. Selling price per unit is ₹80 and variable operating cost is 75% of selling price and average cost per unit is ₹70. The cost of funds is 12%. Average collection period is 75 days, bad debt losses are 4% of sales and collection expenses are ₹15.60 lakhs. Company is considering whether collection policies should be made strict. Due to regorous collection procedures, sales are expected to decline to ₹920 lakhs. Average collection period will reduce to 60 days and bad debts will reduce to 2.5% of sales. Annual collection expenses will increase to ₹22.50 lakhs.
Required: Should the company carry out the proposal?
(Assume 360 days in a year and investment in debtors are calculated on total cost) **[IPCC-MAY-2019]**

Q.10.17] Slow payers are regular customers of Goods Dealers Ltd. Calcutta and have approached the sellers for extension of a credit facility for enabling them to purchase goods from Goods Dealers Ltd. On an analysis of past performance and on the basis of information supplied, the following pattern of payment schedule emerges in regard to Slow Payers:

Schedule	**Pattern**
At the end of 30 days	15% of the bill.
At the end of 60 days	34% of the bill.
At the end of 90 days	30% of the bill.
At the end of 100 days	20% of the bill.
Non – Recovery	1% of the bill.

Slow Payers want to enter into a firm commitment for purchase of goods of `15 lakhs in 2005, deliveries to be made in equal quantities on the first day of each quarter in the calendar year. The price per unit of commodity is `150 on which a profit of `5 per unit is expected to be made. It is anticipated by Goods Dealers Ltd., that taking up of this contract would mean an extra recurring expenditure of `5,000 per annum. If the opportunity cost of funds in the hands of Goods Dealers is 24% per annum, would you as the finance manager of the seller recommend the grant of credit to Slow Payers? Workings should form part of your answer. Assume year of 360 days.

Q.10.18] The current credit sales of a firm is ₹ 15 lakhs and the firm still has an unutilized capacity. In order to boost its sales, the firm is willing to relax its credit policy.

The firm proposes a new credit policy of 2/10 net 60 days as against the present policy of 1/10 net 45 days. The firm expects an increase in the sales by 12%. However, it is also expected that bad debts will go upto 2% of sales from 1.5%.

The contribution to sales ratio of the firm is 28%. The firm's tax rate is 30% and firm requires an after tax return of 15% on its investment.

Should the firm change the credit policy? **[IPCC–NOV–2017]**

Q.10.19] A new customer has approached a firm to establish new business connection. The customer require 1.5 month of credit. If the proposal is accepted, the sales of the firm will go up by ₹2,40,000 per annum. The new customer is being considered as a member of 10% risk of non-payment group.

The cost of sales amounts to 80% of sales. The tax rate is 30% and the desired rate of return is 40% (after tax). Should the firm accept the offer? Give your opinion on the basis of calculations.

[May-2015]

Q.10.20] A company is considering to engage a factor. The following information is a vailable:

- The current average collection period for the company's debtors is 90 days and ½% of debtors default. The factor has agreed to pay money due after 60 days and will take the responsibility of any loss on account of bad debts.
- The annual charge for factoring is 2% of turnover. Administration cost saving is likely to be ₹1,00,000 per annum.
- Annual credit sales are ₹1,20,00,000. Variable cost is 80% of sales price. The company's cost of borrowing is 15% per annum. Assume 360 days in a year.

Should the company enter into a factoring agreement? **[CA-IPCC – MAY - 2018]**

Q.10.21]The turnover of PQR Ltd. is `120 lakhs of which 75 per cent is on credit. the variable cost ratio is 80 per cent. The credit terms are 2/10, net 30. On the current level of sales, the bad debts are 1 per cent. The company spends `1,20,000 per annum on administering its credit sales. The cost includes salaries of staff who handle credit checking, collection etc. These are avoidable costs. The past experience indicates that 60 per cent of the customers avail of the cash discount, the remaining customers pay on an average 60 days after the date of sale.

The Book debts (receivable) of the company are presently being financed in the ratio of 1:1 by a mix of bank borrowings and owned funds which cost per annum 15 per cent and 14 per cent respectively.

A factoring firm has offered to buy the firm's receivables. The main elements of such deal structured by the factor are:

(i) Factor reserve, 12 per cent
(ii) Guaranteed payment, 25 days
(iii) Interest charges, 15 per cent, and
(iv) Commission 4 per cent of the value of receivables.

Assume 360 days in a year. What advise would you give to PQR Ltd, - whether to continue with the in house management of receivables or accept the factoring firm's offer? **[May, 2007]**

Q.10.22] A firm has a total sales of ₹200 lakhs of which 80% is on credit. It is offering credit terms of 2/40, net 120. Of the total, 50% of customers avail of discount and the balance pay in 120 days. Past experience indicates that bad debt losses are around 1% of credit sales. The firm spends about ₹2,40,000 per annum to administer its credit sales. These are avoidable as a factor is prepared to buy

the firm's receivables. He will charge 2% commission. He will pay advance against receivables to the firm at an interest rate of 18% after withholding 10% as reserve.

(i) What is the effective cost of factoring? Consider year as 360 days.

(ii) If bank finance for working capital is available at 14% interest, should the firm avail of factoring service? **(Nov-2015)**

Q.10.23] Prepare monthly cash budget for six months beginning from April 2006 on the basis of the following information :–

(i) Estimated monthly sales are as follows:–

	`		`
January	1,00,000	June	80,000
February	1,20,000	July	1,00,000
March	1,40,000	August	80,000
April	80,000	September	60,000
May	60,000	October	1,00,000

(ii) Wages and salaries are estimated to be payable as follows :–

	`		`
April	9,000	July	10,000
May	8,000	August	9,000
June	10,000	September	9,000

(iii) Of the sales, 80% is on credit and 20% for cash. 75% of the credit sales are Collected within one month and the balance in two months. There are no bad debt losses.

(iv) Purchases amount to 80% of sales and are made and paid for in the month preceding the sales.

(v) The firm has 10% debentures of `1,20,000. Interest on these has to be paid quarterly in January, April and so on.

(vi) The firm is to make an advance payment of tax of `5,000 in July, 2006.

(vii) The firm had a cash balance of `20,000 on April 1, 2006, which is the minimum desired level of cash balance. Any cash surplus / deficit above / below this level is made up by temporary investments / liquidation of temporary investments or temporary borrowing at the end of each month (interest on these to be ignored).

Q.10.24] The following details are forecasted by a company for the purpose of effective utilization and management of cash:

(i) Estimated sales and manufacturing costs:

Year and month 2010	Sales `	Materials `	Wages `	Overheads `
April	4,20,000	2,00,000	1,60,000	45,000
May	4,50,000	2,10,000	1,60,000	40,000
June	5,00,000	2,60,000	1,65,000	38,000
July	4,90,000	2,82,000	1,65,000	37,500
August	5,40,000	2,80,000	1,65,000	60,800
September	6,10,000	3,10,000	1,70,000	52,000

(ii) Credit terms:

- Sales – 20 percent sales are on cash, 50 percent of the credit sales are collected next month and the balance in the following month.
- Credit allowed by suppliers is 2 months.
- Delay in payment of wages is ½ (one-half) month and of overheads is 1 (one) month.

(iii) Interest on 12 percent debentures of `5,00,000 is to be paid half-yearly in June and December.

(iv) Dividends on investments amounting to `25,000 are expected to be received in June, 2010.

(v) A new machinery will be installed in June, 2010 at a cost of `4,00,000 which is payable in 20 monthly instalments from July, 2010 onwards.

(vi) Advance income-tax to be paid in August, 2010 is `15,000.

(vii) Cash balance on 1st June, 2010 is expected to be `45,000 and the company wants to keep it at the end of every month around this figure, the excess cash (in multiple of thousand rupees) being put in fixed deposit.

You are required to prepare monthly Cash budget on the basis of above information for four months beginning from June, 2010. **[May 2010]**

Q.10.25]A firm maintains a separate account for cash disbursement. Total disbursement are Rs.1,05,000 per month or `12,60,000 per year. Administrative and transaction cost of transferring cash to disbursement account is `20 per transfer size. Marketable securities yield is 8% per annum. Determine the optimum cash Transaction size according to J. Baumal model.

Q.10.26] A firm maintains a separate account for cash disbursement. Total disbursements are `2,62,500 per month. Administrative and transaction cost of transferring cash to disbursement account is `25 per transfer. Marketable securities yield is 7.5% per annum.

Determine the optimum cash balance according to William J Baumol model. **[June 2009]**

Q.10.27] The Dolce Company purchases raw materials on terms of 2/10, net 30. A review of the company's records by the owner, Mr. Gupta, revealed that payments are usually made 15 days after purchases are received. When asked why the firm did not take advantage of its discounts, the accountant, Mr. Ram, replied that it cost only 2 per cent for these funds, whereas a bank loan would cost the company 12 per cent.

(a) What mistake is Ram making?

(b) What is the real cost of not taking advantage of the discount?

(c) If the firm could not borrow from the bank and was forced to resort to the use of trade credit funds, what suggestion might be made to Ram that would reduce the annual interest cost?

Q.10.28] Suppose ABC Ltd. has been offered credit terms from its major supplier of 2/10, net 45. Hence the company has the choice of paying ₹10 per ₹100 or to invest ₹98 for an additional 35 days and eventually pay the supplier ₹100 per ₹100. The decision as to whether the discount should be accepted depends on the opportunity cost of investing ₹98 for 35 days. What should the company do?

MULTIPLE CHOICE QUESTIONS

1] The credit terms may be expressed as "3/15 net 60". This means that a 3% discount will be granted if the customer pays within 15 days, if he does not avail the offer he must make payment within 60 days.
(A) I agree with the statement **(B)** I do not agree with the statement
(C) I cannot say.

2] The term 'net 50' implies that the customer will make payment.
(A) Exactly on 50th day **(B)** Before 50th day
(C) Not later than 50th day **(D)** None of the above.

3] Trade credit is a source of:
(A) Long-term finance **(B)** Medium term finance
(C) Spontaneous source of finance **(B)** None of the above.

4] The term float is used in
(A) Inventory Management **(B)** Receivable Management
(C) Cash Management **(D)** Marketable securities.

5] William J Baumol's model of Cash Management determines optimum cash level where the carrying cost and transaction cost are:
(A) Maximum **(B)** Minimum
(C) Medium **(D)** None of the above.

6] In Miller – ORR Model of Cash Management:
(A) The lower, upper limit, and return point of Cash Balances are set out
(B) Only upper limit and return point are decided
(C) Only lower limit and return point are decided
(D) None of the above are decided.

7] Working Capital is defined as
(A) Excess of current assets over current liabilities
(B) Excess of current liabilities over current assets
(C) Excess of Fixed Assets over long-term liabilities
(D) None of the above.

8] Working Capital is also known as "Circulating Capital, fluctuating capital and revolving capital". The aforesaid statement is;
(A) Correct **(B)** Incorrect **(C)** Cannot say.

9] The basic objectives of working Capital Management are:
(A) Optimum utilization of resources for profitability
(B) To meet day-to-day current obligations
(C) Ensuring marginal return on current assets is always more than cost of capital
(D) Select any one of the above statement.

10] The term Gross working capital is known as:
(A) The investment in current liabilities **(B)** The investment in long-term liability
(C) The investment in current assets **(D)** None of the above.

11] The term net working capital refers to the difference between the current assets minus current liabilities.
(A) The statement is correct **(B)** The statement is incorrect **(C)** I cannot say.

12] The term " Core current assets' was coined by
(A) Chore committee **(B)** Tandon committee
(C) Jilani Committee **(D)** None of the above.

13] The concept operating cycle refers to the average time which elapses between the acquisition of raw materials and the final cash realization. This statement is
(A) Correct **(B)** Incorrect **(C)** Partially True **(D)** I cannot say.

14] As a matter of self-imposed financial discipline can there be a situation of zero working capital now-a-days in some of the professionally managed organizations.
(A) Yes **(B)** No **(C)** Impossible **(D)** Cannot say.

15] Over trading arises when a business expands beyond the level of funds available. The statement is
(A) Incorrect **(B)** Correct **(C)** Partially correct **(D)** I cannot say.

16] A Conservative Working Capital strategy calls for high levels of current assets in relation to sales.
(A) I agree **(B)** Do not agree **(C)** I cannot say.

17. The term working Capital leverage refer to the impact of level of working capital on company's profitability. This measures the responsiveness of ROCE for changes in current assets.
(A) I agree **(B)** Do not agree
(C) The Statement is partially true.

18] The term spontaneous source of finance refers to the finance which naturally arise in the course of business operations. The statement is
(A) Correct **(B)** Incorrect
(C) Partially Correct **(D)** I cannot say.

19] Under hedging approach to financing of working capital requirements of a firm, each asset in the balance sheet assets side would be offset with a financing instrument of the same approximate maturity. This statement is
(A) Incorrect **(B)** Correct
(C) Partially correct **(D)** I cannot say.

20] Trade credit is a
(A) Negotiated source of finance **(B)** Hybrid source of finance
(C) Spontaneous source of finance **(D)** None of the above.

21] Factoring is a method of financing whereby a firm sells its trade debts at a discount to a financial institution. The statement is
(A) Correct **(B)** Incorrect
(C) Partially correct **(D)** I cannot say.

22] A factoring arrangement can be both with recourse as well as without recourse:
(A) True **(B)** False
(C) Partially correct **(D)** Cannot say.

23] The Bank financing of working capital will generally be in the following form. Cash credit, Overdraft, bills discounting, bills acceptance, line of credit; Letter of credit and bank guarantee.
(A) I agree **(B)** I do not agree
(C) I cannot say.

24] When the items of inventory are classified according to value of usage, the technique is known as:
(A) XYZ Analysis **(B)** ABC Analysis
(C) DEF Analysis **(D)** None of the above.

25] When a firm advises its customers to mail their payments to special Post office collection centers, the system is known as.
(A) Concentration banking **(B)** Lock Box system
(C) Playing the float **(D)** None of the above.

THEORY QUESTION & ANSWERS MANAGEMENT OF WORKING CAPITAL

T.10.1] What Factors will you consider while determining the working capital requirement?

Answer]

1. **Nature of Business**
   The shorter the manufacturing process, the lower is the requirements for the working capital because inventories have to be maintained at a low level. This is why highly capital intensive industries require a large amount of working capital to run their sophisticated and long production process. Similarly, a trading concern requires lower working capital than a manufacturing concern.
2. **Liquidity**
   Current assets are considered to be more liquid than fixed assets. Even among the current assets, some items are considered to be much more liquid than others. In a descending order of liquidity the current asset items can be stated as cash and bank balance, marketable securities, sundry debtors, raw material inventory, finished goods inventory and work-in process inventory. But, of these items, inventories are considered to be less liquid as they have to pass through the different stages of the operating cycle before becoming accounts receivable and eventually back to cash. The ultimate test of liquidity is the ability of a company to meet its current liabilities.
3. **Availability of Cash**
   Even the most profitable companies may have faced at some time or the other problems of cash shortage. Hence, companies keep some minimum cash balance. It should be noted that larger the proportion of current assets held in the form of cash and bank balances, the better is the liquidity position of the company but at the cost of sacrificing profitability as idle cash fetches no return.
   However, the great uncertainty surrounding future cash flows, lack of synchronization between cash inflows and cash outflows, the liquidity mix in terms of cash and bank balances and marketable securities, the attitude of management towards risk are some of the important factors that are likely to influence the proportion of cash in the total current assets of a company.
4. **Inventory Policy**
   Too high level of inventory and too low a level of inventory are not conducive to the financial health of a company. The former can create problems of liquidity while the latter can affect profitability due to stoppage of work for want of raw materials and / or loss of a customer for want of finished goods in the inventory in adequate quantity.
5. **Credit Policy**
   In a competitive market environment, the output of a company is usually sold on credit basis. A company, which allows liberal credit to its customers, may have higher sales but consequently will have large amount of funds tied up in debtors. Similarly, a company which offers strict credit terms, may require lesser amount of working capital than the one where debt collection system is not so efficient or where the credit terms are liberal.
   The credibility of a company in the market also has an effect on the working capital requirements. Reputed and established concerns can purchase raw material on credit and enjoy many other services also like door delivery, after sales service etc. this would mean that they can easily have large current liabilities; therefore the required working capital may not be very high.
6. **Production Policies**
   The production schedule has great influence on the level of inventories. In some cases raw materials can be procured only in a particular season and have to be stocked for the production of the whole year. In many others, the production cycle is limited to a part of the year and raw materials have to be accumulated throughout the year. In all such cases the need for working capital will vary according to the production plans.

7. **Abnormal Factors**
   Recessionary conditions necessitate a higher amount of finished goods remaining in stock. Similarly, inflationary conditions necessitate more funds for working capital to maintain the same amount of current assets.
8. **Growth and Expansion**
   The growth in volume and growth in working capital go hand in hand. However, the change may not be proportionate.
9. **Level of Taxes**
   The amount of advance tax to be paid depends on the tax laws. Thus need for working capital varies with tax rates and advance tax provisions.
10. **Operating Efficiency**
    Efficient utilization of capital reduces the amount required to be invested in working capital.

T.10.2] What is treasury Management? What are the functions of this department?

Answer]

Treasury management has been defined by the Association of corporate Treasures as "the efficient management of liquidity and financial risk in business".

1. **Cash management**
   - **a.** The efficient collection and payment of cash both inside the group and to third parties is a function of treasury department. The degree of involvement with the detail of receivables and payables is a matter of policy.
   - **b.** The treasury has to advise subsidiaries and divisions on policy (collection / payment periods, discounts, etc.)
   - **c.** Treasury will manage surplus funds in an investment portfolio.
2. **Currency management**
   - **a.** The treasury department manages the foreign currency risk exposure of the company.
   - **b.** Treasury advises on the currency to be used when invoicing overseas sales.
   - **c.** The treasury manages net exchange exposures in accordance with company policy. If risks are to be minimized then forward-contract scan be used.
3. **Funding management**
   - **a.** Treasury department is responsible for planning and sourcing the company's short, medium and long-term cash needs.
   - **b.** Treasury department participates in the decision on capital structure and forecast future interest and foreign currency rates.
4. **Banking**
   - **a.** Treasury department carries out negotiations with bankers and acts as the initial point of contact with them.
   - **b.** Treasury maintains good relationship with the bankers for the benefit of the company.
5. **Corporate Finance**
   - **a.** Treasury department is involved with both acquisition and divestment activities within the group.
   - **b.** It often has responsibility for investor relations.

T.10.3] Write short note on Risk-Return tradeoff in Financing current assets?

Answer]

The investment in raw materials, stock-in-process, finished goods and other current assets varies during the year. Usually, current assets are financed by a combination of long-term and short-term sources of finance. Long-term sources of finance usually support the fixed assets and sometimes also provide the margin money for working capital. Short-term sources support the current assets.

Now, the firm has to analyze following risk-return considerations before deciding to go for short term or long term financing –

- **i.** Short term financing is usually less expensive than the long term financing.
- **ii.** Lenders are risk-averse. We know that risk increases with increase in duration of loan. Hence, lenders prefer short term loans. The only way to persuade them to give loans for higher periods

is to offer higher interest rates. This will not only increase the cost but will also increase the risk – levels.

iii. Being cheaper, short term loans yield higher returns to the shareholders.

iv. It is easier to pay back short term loans when they are not needed for sometime. In case of need, they can again be availed. However, this flexibility is not there in case of long term loans.

v. Short term loans entail the risk of renewing them again and again.

vi. There may be times when the firm is unable to arrange for short term loans. This would disrupt the operating activities. This may force the firm to borrow at most uncomfortable terms.

Hence, the financing of current assets involves a trade-Off between risk and return. A firm with aggressive and risky financing policy would prefer short term financing. Long term financing policy is considered to be conservative since it is less risky and less profitable.

T.10.4] Explain "Commercial Paper".

Answer]

Commercial Papers (CP) are short-term usance promissory notes with a fixed maturity period, issued mostly by the leading, reputed, well-established, large corporations who have a very high credit rating. It can be issued by body corporates whether financial companies or non-financial companies. Hence, It is also know as corporate Paper. It is issued at a discount on the face value.

1. FEATURES OF COMMERCIAL PAPER

a. It is a short-term money market instrument.

b. It is a usance promissory note.

c. It has a fixed maturity period of 3 – 6 months.

d. It evidences an usecured corporate debt of short-term maturity.

e. It is issued at a discount to face value but it can also be issued in interest bearing form.

f. It is issued in denominations of Rs.5 lakhs.

g. The issuer promises to pay the buyer some fixed amount on some future period.

h. The issure pledges no assets. only his liquidity and established earning power, to guarantee that promise.

i. It can be issued directly by a company to investors or through banks or merchant bankers.

2. ADVANGTAGES OF COMMERCIAL PAPER

a. It hardly involves any documentation between the issuer and investor.

b. Maturities can be tailored to match the cash flow of the company.

c. A company can diversify its sources of finance at somewhat cheaper cost.

d. The borrower companies become better known in the financial world and are hence placed in a more favourable position for raising such long term capital as they may require

e. Returns higher than the banking system are provided.

f. Securitization of loans is facilitated.

3. ELIGIBILITY CRITERIA FOR ISSUER PRESCRIBED BY RBI

a. Net worth of the company is Rs.5 crores or more.

b. The fund based working capital limit is Rs.5 crores or more.

c. The company is required to obtain the necessary credit rating from the rating agencies like CRISIL, ICRA, etc.

d. The borrower account of the company is classified as standard asset by financing banking company/ companies.

e. The minimum current asset ratio should be 1.33:1.

f. Companies other than those in public sector should be listed on one or more stock exchanges.

g. All issue expense shall be borne by the company issuing CP.

4. ISSUE PROCEDURE

a. Company proposing to issue commercial paper shall submit its application to RBI for working capital facilities together with a certificate from credit rating agency.

b. RBI communicates the amount of commercial paper to be issued to the leader bank.

c. The issuing company shall thereafter make arrangements for privately placing the issue and ensure that the issue is complete within two weeks from the date of approval of RBI.

d. The issuing company shall inform the RBI about the amount of actual issue of commercial paper within 3 days of completion of issue.

T.10.5] Write short notes on: a) Hardcore Working Capital, b) Working Capital Cycle.

Ans. a) Hardcore Working Capital – Hard core working capital or core current assets may be defined as that part of the current assets which represents the very minimum level of raw materials, process stock, finished goods, stores, accounts receivable and cash which are in circulation to ensure continuity of production. Thus the core current assets represent a fixed element just like the fixed assets of the company. Such current assets are basically in the nature of circulating assets but are blocked for long term. For example, funds invested in core inventories, comprising process stock plus minimum raw materials, finished goods and stores, are tied on a long-term basis arising out of technological and business considerations, quite like the investment in fixed assets, like machinery and buildings. In relation to inventory, the base stock would be treated as "hard core".

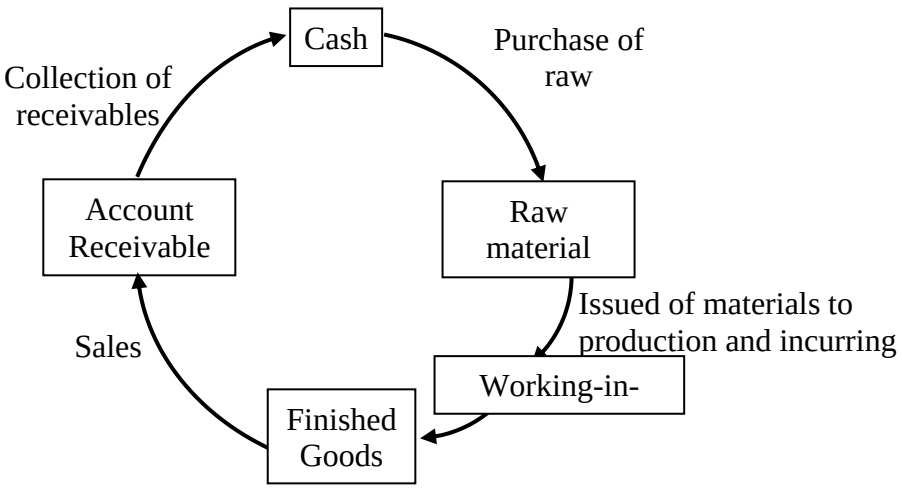
Determination of hard core working capital in different industries would require a careful analysis of the items of inventory, receivables, work-in-progress and cash.

b) Working Capital Cycle – Every business undertaking requires funds for two purposes – investment in fixed assets and investment in current assets. Funds required to invest in stock, debtors and other current assets keep on changing shape and volume. For example, a company has some cash in the beginning. This cash may be paid to the suppliers of raw materials, to meet labour costs and other overheads. These three combined would generate work-in-progress which will be converted into finished goods on the completion of the production process. On sale, these finished goods get converted into debtors and, when debtors pay, the firm will again have cash. This cash will again be used for financing raw materials, work-in-progress, etc. Thus, there is a complete cycle when cash gets converted into raw materials, work-in-progress, finished goods, debtors and finally again cash. This time period is known as the working capital cycle of the firm. In other words, working capital cycle indicates the length of time between a company's paying the materials entering into stock and receiving the cash from sale of finished goods. It can be determined by adding the number of days required for each stage in the cycle. For example, a company holds raw materials on an average for 60 days, it gets credit from the supplier for 15 days, production need 15 days, finished goods are held for 30 days and 30 days credit is extended to debtors. The total of all these, 120 days i.e., 60-15+15+30+30 days is the total working capital cycle.

The determination of working capital cycle helps in the forecast, control and management of working capital. It indicates the total time lag and the relative significance of its constituent parts. The duration of Working Capital Cycle may vary depending on the nature of the business of the organisation. The following diagram shows the working capital cycle of a manufacturing company:

Diagram

The operating cycle of working capital is shown in following figure:



T.10.6] What is the effect of Double Shift working on the requirement of working capital?

Ans. Increase in the number of hours of production has an effect on the working capital requirements. The greatest economy in introducing double shift is the greater use of fixed assets little or marginal funds may be required for additional assets.

It is obvious that in double shift working, an increase in stocks will be required as the production rises. However, it is quite possible that the increase may not be proportionate to the rise in production since the minimum level of stock may not be very much higher. Thus it is quite likely that the level of stocks may not be required to be doubled as the production goes up two-fold.

The amount of materials in process will not change due to double shift working since work started in the first shift will be completed in the second, hence, capital tied up in materials in process will be the same as with single shift working. As such the cost of work-in-process, will not change unless the second shift's workers are paid at a higher rate. Fixed overheads will remain fixed whereas variable overheads will increase in proportion to the increased production. Semi-variable overheads will increase according to the variable element in them.

However, in examinations the students may increase the amount of stocks of raw materials proportionately unless instructions are to the contrary.

T.10.7] Suggest any five steps to reduce the Operating Cycle time.

Ans. Measures to reduce the Operating Cycle time.

a) Purchase Management: The purchase manager is responsible in ensuring availability of right type of materials in right quantity of right quality at right price on right time and at right place. Streamlining of credit from supplier and inventory policy also help the management.

b) Production Management: Longer the Manufacturing Cycle, longer will be the operating cycle and higher will be firm's Working Capital Requirements. Hence, Shortening of Manufacturing cycle is required to reduce operating cycle. Proper maintenance of plant and machinery, proper planning and coordination at all levels of activity, up gradation of technology and selection of shortest manufacturing cycle out of various alternatives are some of the measures in this regard.

c) Marketing Management: The sale and production policies should be synchronized as far as possible. Lack of matching increases the operating cycle period. production of quality products at lower costs enhances sales of the firm and reduces finished goods storage period. Effective advertisement, sales promotion activities, efficient salesmanship, use of appropriate distribution channel etc., reduce the storage period of the finished products.

d) Credit & Collection Policy : The firm should be discretionary in granting credit terms to its customers. The firm should follow a rationalized credit policy based on the credit standing of customers and other relevant factors. The firm should be prompt in making collections.

e) Monitoring of External Environment: Abrupt changes in basic conditions affect the length of operating cycle. Fluctuations in Demand, competitors, production and sale policies, Government fiscal and monitory policies, etc. should be evaluated carefully by the management to minimize their adverse impact on the length of operating cycle.

T.10.8] Write short note on "Impact of Inflation on Working Capital".

Ans. When the inflation rate is high, it will have its direct impact on the requirement of working capital as explained below:

a) Inflation will cause to show the turnover figure at higher level even if there is no increase in the quantity of sales. The higher the sales means the higher level of balances in receivables.

b) Inflation will result in increase of raw material prices and hike in payment for expenses and as a result, increase in balances of trade creditors and creditors for expenses.

c) Increase in valuation of closing stocks result in showing higher profits but without its realisation into cash causing the firm to pay higher tax, dividends and bonus. This will lead the firm is serious problems of funds shortage and firm may unable to meet its short-term and long-term obligations.

d) Increase in investments in current assets means the increase in requirement of working capital without corresponding increase in sales of profitability of the firm.

T.10.9] Explain how working capital management policies affect profitability, liquidity and structural health.

Ans. Working capital management policies have a great effect on firm's profitability, liquidity and structural health. Gross Working Capital consists of cash, receivables and inventory. If a firm has relatively high investment in these assets as compared to a firm which is transacting the same volume of sale, it will have lower profitability in comparison to latter. Therefore a firm, which has high working capital turnover, will have higher profitability. This may require the reduction of investment in working capital. However, if the working capital is reduced disproportionately, it will affect the liquidity position of the firm. Generally, the current ratio and the quick ratio indicate liquidity aspect of a firm. If current assets are reduced beyond limit, the current and quick ratios will be adversely affected leading the firm to poor liquidity. Therefore, a proper balance is maintained between profitability and liquidity. In fact, generally, a firm having high liquidity will have a lower profitability and vice-versa. Working capital management policies also have a great impact on the structural health of the organization. If different components of working capital are not properly balanced, then in spite of the fact that current and quick ratios are satisfactory, it may not in fact be as liquid as indicated by these ratios. For example, if the proportion of inventory is very high in the total current assets or greater proportion is appropriated by slow moving or obsolete inventory, then this cannot provide the cushion of liquidity. Similarly, high investment in debtors and failure to collect them in time will also adversely affect the real liquidity of the firm, thereby adversely affecting the structural health of the organization as a whole.

T.10.10] Write short notes on **a)** Playing Floats, **b)** Lock-Box System, **c)** Concentration Banking, **d)** W. J. Baumal's EOQ Model.

Ans. **a) Playing the float –** For playing the float, a firm has to accurately estimate the time when the cheque issued will be presented for encashment and thus it can utilize this float period to its advantage by issuing more cheques but keeping money in the bank account only so much as would be sufficient to honour those cheques which are actually expected to be presented on a particular date.

Different kinds of Float are:

I) Billing float – An invoice is the formal document that a seller prepares and sends to the purchaser as the payment request for goods sold or services provided. The time between the sale and the mailing of the invoice is the billing float.

II) Mail float – This is the time when a cheques is being processed by post office, messenger service or other means of delivery.

III) Cheques processing float – This is the time required for the seller to sort record and deposit the cheques after it has been received by the company.

IV) Banking processing float – This is the time from the deposit of the cheques to the crediting of funds in the sellers account.

b) Lock-Box System – Generally, the remittances from the customers are collected, processed and then deposited in the bank. In spite of all this work done at the expense of office time, the cheques are deposited only after some time. Therefore there remains a time gap between the receipt of remittance and depositing it into the bank. To remove this time gap, a firm can resort to "lock-box system". Under this arrangement, the customers are advised to mail their payment to a post office box, which is hired by the firm for collection purpose. The banks that are authorized to do so pick up the mail several times a day and credit the payments quickly and report the transactions to the head office. This eliminates the time gap of remittances receives by the firm and deposit into the bank. The main drawback of this system is the cost of its operation. Lock-box arrangements are usually not profitable if the average remittance is small. To decide whether lock box system is to be adopted or not, the additional cost duet to adoption of this system should be compared with the marginal income that can be generated from the released funds. If costs are less than income, the system is profitable otherwise if costs are more than income then the system is not profitable to the firm.

c) Concentration Banking – In concentration banking the company establishes a number of strategy collection centres in different regions instead of a single collection center at the head office. This system reduces the period between the time a consumer mails in his remittances and the time when they become 'spendable funds' with the company. Payments received by the different collection

centers are deposited with their respective local banks which in turn transfer all surplus funds to the concentration bank of head office. The concentration bank transfer all surplus funds to the concentration bank of head office. The concentration bank with which the company has its major bank account is generally located at headquarters. Thus, concentration banking becomes an alternative to reduce size of float.

d) W. J. Baumal's EOQ Model – Baumal suggested that cash may be managed in the same way as any other inventory and that the inventory model could reasonably reflect the cost volume relationships as well as the cash flows. In this way, the economic order quantity could be applied to cash management. In the Model, the carrying cost of holding cash namely the interest forgone on marketable securities is balanced against the fixed cost of transferring marketable securities to cash, or vice-versa. The Baumal's model finds a correct balance by combining holding costs and transaction costs so as to minimize the total cost of holding cash. As in the EOQ model, the Baumal Model assumes that the rate of cash usage is constant and known with certainty. The formula for determining optimum cash balance is as follows:

$$C = \sqrt{\frac{2UP}{S}}$$

Where C = Optimum cash balance; U = Annual/ Monthly cash disbursement

P = Fixed Cost per Transaction; S = Opportunity cost of Rs. 1 p.a. or p.m.

T.10.11] Explain the objectives and the elements of a credit policy.

Ans. The objectives of credit policy of a firm are:

1) Increasing sales and market share
2) Increasing profit and higher margins on credit sale
3) Meeting competition

a) Credit period – It depends on various market conditions prevailing in the market. If the product has an elastic demand, the credit period would influence the quantum of sales. The credit period is also dependent on customs, traditions and practices followed in the industry as a whole. Availability of funds, credit risk involved and possibility of bad debt also determine the credit period.

b) Credit analysis – The firm has to evaluate individual customers in respect of their credit worthiness and possibility of bad debts. For this purpose, the firm has to ascertain credit rating of prospective customers.

c) Control and monitoring of receivables – Efficient and timely collection of debtors reduce the bad debt losses to its minimum along with reduction in average collection period. The firm has to decide an optimum amount, which it is ready to spend on collection of debtors, as more the amount spend lesser would be the bad debts. The receivables should be monitored and proper consideration should be given to Ageing Schedule of debtors.

T.10.12] What do you mean by Factoring? Explain the benefits of Factoring.

Ans. Factoring involves provision of specialized services relating to credit investigation, sales ledger management, purchase and collection of debts, credit protection and also provisions of finance against receivables and risk bearing. Accounting receivables are generally sold to a financial institution that charges commission and bears the credit risk associated with the accounts receivable purchased by it.

The various benefits of Factoring are as follows –

a) The firm can convert its accounts receivables into cash without any headache of collection from its debtors.

b) Definite pattern of cash flows is ensured once contracts is given to the Factor.

c) Continuous Factoring eliminates need for the credit department and the expenditure associated with this department is avoided. The seller firm is able to continue to finance its receivables on a more or less automatic basis.

d) The Factor assumes responsibility of sales ledger administration.

e) Factoring compresses operating cycle by providing liquidity.

T.10.13] Differentiate between 'Factoring' and 'Bill discounting'. **[May-2015]**
Answer:– Differentiation between Factoring and Bills Discounting
The differences between Factoring and Bills discounting are:
(a) Factoring is called as "Invoice Factoring' whereas Bills discounting is known as 'Invoice discounting."
(b) In Factoring, the parties are known as the client, factor and debtor whereas in Bills discounting, they are known as drawer, drawee and payee.
(c) Factoring is a sort of management of book debts whereas bills discounting is a sort of borrowing from commercial banks.
(d) For factoring there is no specific Act, whereas in the case of bills discounting, the Negotiable Instruments Act is applicable.

T.10.14] Interpret the liquidity conditions of a business in the following circumstances : a) High current ratio & high quick ratio b) High current ratio & low quick ratio c) Low current ratio & high quick ratio d) Low current ratio & low quick ratio

Ans. Current ratio in a business concern indicates the availability of current asset to meet current liabilities. A quick ratio indicates the availability of cash and near cash assets to meet the immediate liabilities.
a) High current ratio and high quick ratio – High current ratio means that the business concern has fairly enough arrangement to meet its current liabilities and the high quick ratio indicates that it has fairly enough of current assets in cash so as to meet its immediate liabilities. But, the concern should see that the cash or near cash assets do not remain idle.
b) High current ratio & low quick ratio – High current ratio means that the business concern has fairly enough arrangement to meet its current liabilities and a lower quick ratio would means that the current assets which the concern is holding, are not easily convertible into cash. In other words, the cash and near cash assets of concern are not enough to meet its immediate liabilities. This may be due to the stocks lying unsold with the concern or because of slow moving stocks.
c) Low current ratio & high quick ratio – A lower current ratio means either that current assets are less or that current liabilities are more than the average level of that in the industry. But, if the quick ratio is high then again the firm has the capacity to pay off its immediate liabilities. In this case the concern may face problems in the long run but would enjoy benefits of high quick ratio in the short run.
d) Low current ratio & low quick ratio – If both the liquidity ratios of the concern are lower then this is the alarming condition because lower current ratio indicates inability of current assets to meet the current liabilities and lower quick ratio means inability of cash or near cash assets to meet the immediate liabilities. In other words, with lower liquidity ratios, the concern is unable to meet even the current liabilities and the management should look into the matter and take the appropriate steps to improve the situation.

T.10.15] Evaluate the role of cash budget in effective cash management system. **[Nov-2015]**

Answer:– Cash Budget is the most significant device to plan for and control cash receipts and payments. It plays a very significant role in effective Cash Management System. This represents cash requirements of business during the budget period.
The various role of cash budgets in Cash Management System are:-
(i) Coordinate the timings of cash needs. It identifies the period(s) when there might either be a shortage of cash or an abnormally large cash requirement;
(ii) It also helps to pinpoint period(s) when there is likely to be excess cash;
(iii) It enables firm which has sufficient cash to take advantage like cash discounts on its accounts payable; and
Lastly it helps to plan/arrange adequately needed funds (avoiding excess/shortage of cash) on favorable terms.

T.10.16] State the advantage of Electronic Cash Management System. **[May, 2013]**

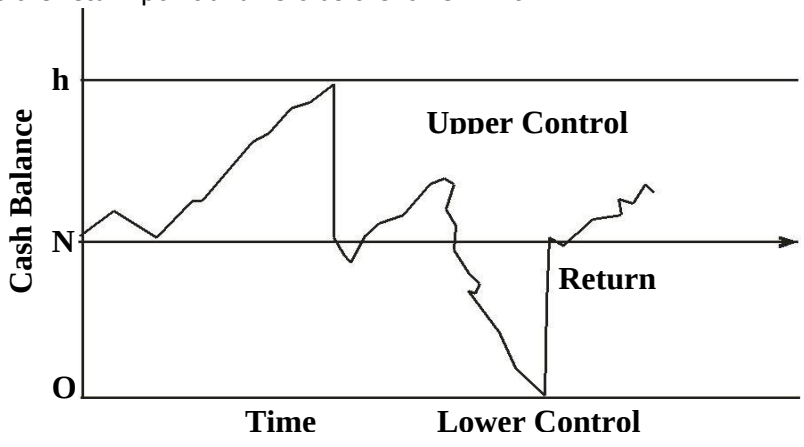
Answer

Advantages of Electronic Cash Management System

(i) Significant saving in time.
(ii) Decrease in interest costs.
(iii) Less paper work.
(iv) Greater accounting accuracy.
(v) More control over time and funds.
(vi) Supports electronic payments.
(vii) Faster transfer of funds from one location to another, where required.
(viii) Speedy conversion of various instruments into cash.
(ix) Making available funds wherever required, whenever required.
(x) Reduction in the amount of 'idle float' to the maximum possible extent
(xi) Ensures no idle funds are placed at any place in the organization.
(xii) It makes inter-bank balancing of funds much easier.
(xiii) It is a true form of centralised 'Cash Management'.
(xiv) Produces faster electronic reconciliation.
(xv) Allows for detection of book-keeping errors.
(xvi) Reduces the number of cheques issued.
(xvii) Earns interest income or reduce interest expense.

T.10.17] Explain four kinds of float with reference to management of cash. **(Nov-2014)**
Answer:- Four Kinds of Float with reference to Management of Cash
The four kinds of float are:
(i) Billing Float: The time between the sale and the mailing of the invoice is the billing float.
(ii) Mail Float: This is the time when a cheque is being processed by post office, messenger service or other means of delivery.
(iii) Cheque processing float: This is the time required for the seller to sort, record and deposit the cheque after it has been received by the company.
(iv) Bank processing float: This is the time from the deposit of the cheque to the crediting of funds in the seller's account

T.10.18] Explain 'Miller-Orr Cash Management model'. **(May-2015)**
Answer:– Miller – Orr Cash Management Model: According to this model the net cash flow is completely stochastic. When changes in cash balance occur randomly, the application of control theory serves a useful purpose. The Miller – Orr model is one of such control limit models. This model is designed to determine the time and size of transfers between an investment account and cash account. In this model control limits are set for cash balances. These limits may consist of 'h' as upper limit, 'z' as the return point and zero as the lower limit.



MILLER-ORR CASH MANAGEEMNT MODEL

When the cash balance reaches the upper limit, the transfer of cash equal to 'h – z' is invested in marketable securities account. When it touches the lower limit, a transfer from marketable securities account to cash account is made. During the period when cash balance stays between (h, z) and (z, 0) i.e. high and low limits, no transactions between cash and marketable securities account is made. The high and low limits of cash balance are set up on the basis of fixed cost associated with the securities transaction, the opportunities cost of holding cash and degree of likely fluctuations in cash balances. These limits satisfy the demands for cash at the lowest possible total costs.

T.10.19] What is 'Bill discounting'? How does it differ from 'Factoring'? Explain.

[IPCC–NOV–2017]

Answer: Bills Discounting:

Advances are allowed by banks against security of bills. When a bill is discounted, the borrower is paid the present worth.

The differences between Factoring and Bills discounting are as follows:

(i) Factoring is called as 'Invoice factoring' whereas bills discounting is known as "Invoice discounting".

(ii) In factoring the parties are known as client, factor and debtor whereas in bills discounting they are known as Drawer, Drawee and Payee.

(iii) Factoring is a sort of management of book debts whereas bills discounting is a sort of borrowing from commercial banks.

(iv) For Factoring there is no specific Act, whereas in the case of bills discounting, the Negotiable Instrument Act is applicable.

T.10.20] Explain ageing schedule in context of monitoring of receivables.

Answer: An important means to get an insight into collection pattern of debtors is the preparation of their 'Ageing Schedule'. Receivables are classified according to their age from the date of invoicing e.g. 0 – 30 days, 31 – 60 days, 61 – 90 days, 91 – 120 days and more.

The ageing schedule can be compared with earlier month's figures or the corresponding month of the earlier year.

This classification helps the firm in its collection efforts and enables management to have a close control over the quality of individual accounts. The ageing schedule can be compared with other firms also. **[IPCC–NOV–2018]**

T.10.21] Discuss the factors to be taken into consideration while determining the requirement of working capital. **[CA-IPCC – MAY - 2018]**

Answer: Factors to be taken into consideration while determining the requirement of working capital:

(i) Production Policies	(ii) Nature of the business
(iii) Credit policy	(iv) Inventory policy
(v) Abnormal factors	(vi) Market conditions
(vii) Conditions of supply	(viii) Business cycle
(ix) Growth and expansion	(x) Level of taxes
(xi) Dividend policy	(xii) Price level changes
(xiii) Operating efficiency.	(xiv) Receivables
(xv) Technology and Manufacturing policies	(xvi) Short term financing options

MANAGEMET WORKING CAPITAL

PRACTICE PROBLEMS

P.10.1] The following annual figures relate to MNP Limited:

Sales (at three months credit)	`90,00,000
Materials consumed (suppliers extend one and half month's credit)	`22,50,000
Wages paid (one month in arrear)	`18,00,000
Manufacturing expenses outstanding at the end of the year (cash expenses are paid one month in arrear)	`2,00,000
Total administrative expenses for the year (cash expenses are paid one month in arrear)	`6,00,000
Sales Promotion expenses for the year (paid quarterly in advance)	`12,00,000

The company sells its products on gross profit of 25% assuming depreciation as a part of cost of production. It keeps two month's stock of finished goods and one month's stock of raw materials as inventory. It keeps cash balance of `2,50,000.

Assume a 5% safety margin, work out the working capital requirements of the company on cash cost basis. Ignore work-in-progress. **[May 2004]**

P.10.2] The following information has been extracted from the records of a company:

Product cost sheet	**`/unit**
Raw materials	45
Direct labour	20
Overheads	40
Total	105
Profit	15
Selling price	120

- Raw materials are in stock on an average of two months.
- The materials are in process on an average for 4 weeks. The degree of completion is 50%.
- Finished goods stock on an average is for one month.
- Time tag in payment of wages and overheads is 1 ½ weeks.
- Time lag in receipt of proceeds from debtors is 2 months.
- Credit allowed by suppliers is one month.
- 20% of the output is sold against cash.
- The company expects to keep a Cash balance of `1,00,000.
- Take 52 weeks per annum.

The company is poised for a manufacture of 1,44,000 units in the year.
You are required to prepare a statement showing the Working capital requirements of the Company.
[Nov 2002]

P.10.3] Q Ltd. sells goods at a uniform rate of gross profit of 20% on sales including depreciation as part of cost of production . Its annual figures are as under:

	`
Sales (At 2 months' credit)	24,00,000
Materials consumed (Suppliers credit 2 months)	6,00,000
Wages paid (Monthly at the beginning of the subsequent month)	4,80,000
Manufacturing expenses (Cash expenses are paid one month in arrear)	6,00,000
Administration expenses (Cash expenses are paid one month in arrear)	1,50,000
Sales promotion expenses (paid quarterly in advance)	75,000

The company keeps one month stock each of raw materials and finished goods. A minimum cash balance of `80,000 is always kept. The company wants to adopt a 10% safety margin in the maintenance of working capital.

The company has no work in progress. Find out the requirements of working capital of the company on cash cost basis. **[May 1999]**

P.10.4] Foods Ltd. is presently operating at 60% level producing 36,000 packets of snack foods and proposes to increase capacity utilization in the coming year by 33 $^1/_3$ % over the existing level of production.

The following data has been supplied:

i Unit cost structure of the product at current level:

	`
Raw Material	4
Wages (Variable)	2
Overheads (Variable)	2
Fixed Overhead	1
Profit	3
Selling Price	12

ii Raw materials will remain in stores for 1 month before being issued for production. Material will remain in process for further 1 month. Suppliers grant 3 months credit to the company.

iii Finished goods remain in godown for 1 month.

iv Debtors are allowed credit for 2 months.

v Lag in wages and overhead payments is 1 month and these expenses accrue evenly throughout the production cycle.

vi No increase either in cost of inputs or selling price is envisaged.

Prepare a projected profitability statement and the working capital requirement at the new level, assuming that a minimum cash balance of `19,500 has to be maintained.

[Nov 1996]

P.10.5] Marks Ltd. is launching a new project for the manufacture of a unique component. At full capacity of 24,000 units, the cost will be as follows:

	Cost per unit (`)
Material	80
Labour and variable expenses	40
Fixed manufacturing and administrative expenses	20
Depreciation	10
	150

The selling price unit is expected at `200 and the selling expenses per unit will be `10, 80% of which is variable.

In the first 2 years, production and sales are expected to be as follows:–

Year	**Production**	**Sales**
1	15,000 units	14,000 units
2	20,000 units	18,000 units

To assess working capital requirement, the following additional information is given:

a. Stock of materials	2.25 month's average consumption
b. Work-in-process	Nil
c. Debtors	1 month's average sales
d. Creditors for supply of materials	2 months' average purchases of the year
e. Creditors for expenses	1 month's average of all expenses during the year
f. Cash balance	Rs.20,000

Stock of finished goods is taken at average cost.

You are required to prepare for the 2 years –

a. A projected statement of Profit / Loss

b. A projected statement of working capital requirements. **[May 1996]**

P.10.6] The following is the projected Balance Sheet of excel limited as on 31.03.2005. The company wants to increase the fund-based limits from the Zonal Bank from `100 lakhs to `300 lakhs:

Balance Sheet as on 31.03.2005

			(` Lakhs)
Liabilities	`	**Assets**	`
Share Capital	100	Fixed Assets	800
Reserves & Surplus	150	Current Assets	1,000
Secured Loans	450	Miscellaneous Expenditure	150
Unsecured Loans	1,050		
Current Liabilities	200		
	1,950		1,950

The following are the other information:

1. Secured loans include instalments payable to financial institutions before 31.03.2006 `100 lakhs

2. secured loans include working capital facilities expected from Zonal Bank `300 lakhs

3. Unsecured loans include fixed deposits from public amounting to `400 lakhs out of which Rs.100 lakhs are due for repayment before 31.03.2006.

4. Unsecured loans include `600 lakhs of zero interest fully convertible debentures due for conversion on 30.09.2005.

5. Current assets include deferred receivables due for payment after 31.03.2006 `40 lakhs.

6. The company has introduced a voluntary retirement scheme for workers costing `40 lakhs payable on 31.03.2010 and this amount is included in current liability.

i You are required to calculate from the above information, the maximum permissible bank finance by all the three methods for working capital as per Tandon committee norms. For your exercise, assume that core current assets constitute 25% of the current assets.

ii Also compute the Current Ratio for all the three methods. **[Nov 1995]**

P.10.7] The turnover of R Ltd. is `60 lakhs of which 80% is on credit. Debtors are allowed one month to clear off the dues. A factor is willing to advance 90% of the bills raised on credit for a fee of 2% a month plus a commission of 4% on the total amount of debts. R Ltd. as a result of this arrangement is likely to save `21,600 annually in management cost and avoid bad debts at 1% on the credit at 1% on the credit sales.

A scheduled bank has come forward to make an advance equal to 90% of the debts at an interest rate of 18% p.a. However its processing fee will be at 2% on the debts. Would you accept factoring or the offer from the bank? **[May 1997]**

P.10.8] A trader whose current sales are in the region of Rs.6 lakhs per annum and an average collection period of 30 days wants to pursue a more liberal policy to improve sales. A study made by a management consultant reveals the following information:–

Credit Policy	Increase in collection Period	Increase in sales	Present default anticipatied
A	10 days	`30,000	1.5%
B	20 days	`48,000	2%
C	30 days	`75,000	3%
D	45 days	`90,000	4%

The selling price per unit is Rs.3. Average cost per unit is `2.25 and variable costs per unit are Rs.2. The current bad debt loss is 1%. Required return on additional investment is 20%. Assume a 360 days year.

Which of the above policies would you recommend recommend for adoption?

P.10.9] XYZ Corporation is considering relaxing its present credit policy and is in the process of evaluating two proposed policies. Currently, the firm has annual credit sales of `50 lakhs and accounts receivable turnover ratio of 4 times a year. The current level of loss due to bad debts is `1,50,000. The firm is required to give a return of 25% on the investment in new accounts receivables. The company's variable costs are 70% of the selling price. Given the following information, which is the better option?

(Amount in Rs.)

	Present Policy	**Policy Option I**	**Policy Option II.**
Annual credit sales	50,00,000	60,00,000	67,50,000
Accounts receivable turnover ratio	4 times	3 times	2.4 times
Bad debt losses	1,50,000	3,00,000	4,50,000

P.10.10] As a part of the strategy to increase sales and profits, the sales manager of a company proposes to sell goods to a group of new customers with 10% risk of non-payment. This group would require one and a half month credit and is likely to increase sales by `1,00,000 p.a. Production and Selling expenses amount to 80% of sales and the income-tax rate is 50%.
The company's minimum required rate of return (after tax) is 25%
Should the sales manager's proposal be accepted?
Also find the degree of risk of non-payment that the company should be willing to assume if the required rate of return (after tax) were (i) 30%, (ii) 40% and (iii) 60%

P.10.11] XYZ Co. Ltd. is a pipe manufacturing company. Its production cycle indicates that materials are introduced in the beginning of the production cycle; Wages and overhead accrue evenly throughout the period of the cycle. Wages are paid in the next month following the month of accrual. Work in process includes full units of raw materials used in the beginning of the production process and 50% of wages and overheads are supposed to be conversion costs. Details of production process and the components of working capital are as follows:

Production of pipes	12,00,000 UNITS
Duration of the production cycle	One month
Raw materials inventory held	One month consumption
Finished goods inventory held for	Two months
Credit allowed by creditors	One month
Credit given to debtors	Two months
Cost price of raw materials	Rs.60 per unit
Direct wages	Rs.10 per unit
Overheads	Rs.20 per unit
Selling price of finished pipes	Rs.100 per unit

Required to calculate:

i) The amount of working capital required for the company.

ii) Its maximum permissible bank finance under all the three methods of lending norms as suggested by the Tandon Committee, assuming the value of core current assets: Rs,1,00,00,000.

[May 2005]

P.10.12] A newly formed company has applied to the Commercial Bank for the first time for financing its working capital requirements. The following information is available about the projections for the current year:

Elements of cost:	**Per unit Rs.**
Raw material	40
Direct labour	15
Overhead	30
Total cost	85
Profit	15
Sales	100

Other Information:

Raw material in stock: Average 4 weeks consumption, work-in progress (completion stage, 50 percent), on an average half a month.

Finished goods in stock : on an average, one month.

Credit allowed by suppliers is one month.

Credit allowed to debtors is two months.

Average time lag in payment of wages is $1^1/_2$ weeks and 4 weeks in overhead expenses.

Cash in hand and at bank is desired to be maintained at Rs.50,000.

All Sales are on credit basis only.

Required:

(i) Prepare statement showing estimate of working capital needed to finance an activity level of 96,000 units of production. Assume that production is carried on evenly throughout the year, and wages and overhead accrue similarly. For the calculation purpose 4 weeks may be taken as equivalent to a month and 52 weeks in a year.

(ii) From the above information calculate the maximum permissible bank finance by all the three methods for working capital as per Tondon committee norms; assume the core current assets constitute 25% of the current assets. **[Nov, 2007]**

P.10.13] The Trading and profit and Loss Account of Beta Ltd. for the year ended 31st March, 2011 is given below: **[Nov,2011]**

Particulars		Amount ₹	Particulars		Amount ₹
To Opening Stock:			By Sales (Credit)		20,00,000
Raw Materials	1,80,000		By Closing Stock:		
Work-in-progress	60,000		Raw Material	2,00,000	
Finished Goods	2,60,000	5,00,000	Work-in-Progress	1,00,000	
To Purchases (credit)		11,00,000	Finished Goods	3,00,000	6,00,000
To Wages		3,00,000			
To Production Expenses		2,00,000			
To Gross Profit C/d		5,00,000			
		26,00,000			**26,00,000**
To Administration Expenses		1,75,000	By Gross Profit b/d		
To Selling Expenses		75,000			
To Net profit		2,50,000			
		5,00,000			**5,00,000**

The opening and closing balances of debtors were ₹ 1,50,000 and ₹ 2,00,000 respectively whereas opening and closing creditors were ₹ 2,00,000 and ₹ 2,40,000 respectively.

You are required to ascertain the working capital requirement by operating cycle method.

P.10.14] PQR Ltd. having an annual sales of ₹30 lakhs, is re-considering its present collection policy. At present, the average collection period is 50 days and the bad debt losses are 5% of sales. The company is incurring an expenditure of ₹30,000 on account of collection of receivables.

The alternative policies are as under:

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

Evaluate the alternatives on the basis of incremental approach and state which alternative is more beneficial. **(Nov-2014)**

P.10.15] The Sales Manager of AB Limited suggests that if credit period is given for 1.5 months then sales may likely to increase by Rs.1,20,000 per annum. Cost of sales amounted to 90% of sales. The risk of non-payment is 5%. Income tax rate is 30%. The expected return on investment is Rs.3,375 (after tax). Should the company accept the suggestion of Sales Manager? **[May, 2008]**

P.10.16] A company is presently having credit sales of ₹ 12 lakh. The existing credit terms are 1/10, net 45 days and average collection period is 30 days. The current bad debts loss is 1.5%. In order to accelerate the collection process further as also to increase sales, the company is contemplating liberalization of its existing credit terms to 2/10, net 45 days. It is expected that sales are likely to increase by 1/3 of existing sales, bad debts increase to 2% of sales and average collection period to decline to 20 days. The contribution to sales ratio of the company is 22% and opportunity cost of investment in receivables is 15 percent (pre-tax). 50 per cent and 80 percent of customers in terms of sales revenue are expected to avail cash discount under existing and liberalization scheme respectively. The tax rate is 30%.

Should the company change its credit terms? (Assume 360 days in a year). **[May, 2012]**

SOLUTION PRACTICE PROBLEMS

S.10.1]

Working Capital Requirement

		Rs.	Rs.
Current Assets:			
Raw Material Stock	[Rs.22,50,000 ÷ 12]	1,87,500	
Finished goods inventory	[W. Note # 3]	10,75,000	
Debtors	[W. Note # 4]	20,62,500	
Advance Payment: Sales promotion expenses	[Rs.12,00,000 ÷ 4]	3,00,000	
cash in hand		2,50,000	38,75,000
Current Liabilities:			
Creditors for material	[Rs.22,50,000 × 1 ½ ÷12]	2,81,250	
Outstanding Manufacturing Expenses		2,00,000	
Outstanding Administrative Expenses	[Rs.6,00,000 ÷ 12]	50,000	
Outstanding Wages	[Rs.18,00,000 ÷ 12]	1,50,000	6,81,250
	Estimated working Capital		31,93,750
	Add: 5% margin		1,59,688
	Working Capital Requirement		33,53,438

1. Cash Manufacturing costs = Materials Cost + Wages + Cash Manufacturing Expenses
= Rs.22,50,000 + Rs.18,00,000 + (Rs.2,00,000 ×12) = Rs.64,50,000

2. Total Cash costs = Cash manufacturing Expenses + Administrative Expenses + sales Promotion Expenses
= 64,50,000 + 6,00,000 + 12,00,000
= Rs.82,50,000

3. Finished Goods $= \text{Cash manufacturing costs} \times \frac{2}{12} = \text{Rs.}64,50,000 \times \frac{2}{12}$
= Rs.10,75,000

4. Debtors $= \text{Total Cash costs} \times \frac{3}{12} = \text{Rs.}82,50,000 \times \frac{3}{12}$

= Rs.20,62,500

S.10.2]

Working Capital Requirement

		Rs.	Rs.
Current Assets:			
Raw Material Stock	[Rs.64,80,000 × 2 / 12]	10,80,000	
Work in Process	[Rs.1,51,20,000×4/52 ×50%]	5,81,538	
Finished goods	[Rs.1,51,20,000 × 1/12]	12,60,000	
Debtors	[Rs.28,80,000 × 80%]	23,04,000	
Cash in hand		1,00,000	53,25,538
Current Liabilities:			
Creditors for material	[Rs.64,80,000 × 1/12]	5,40,000	
Creditors for wages and overheads	[Rs.86,40,000 × 1.5 / 52]	2,49,231	7,89,231
	Working Capital Requirement		45,36,307

Working Notes

1. Total Cost		
Annual raw materials requirements	= 1,44,000 units × Rs.45 / unit	=Rs.64,80,000
Annual direct labour	= 1,44,000 units × Rs.20 / unit	=Rs.28,80,000
Annual Overhead cost	= 1,44,000 units × Rs.40 / unit	=Rs.57,60,000
		Rs.1,51,20,000
2. Total Cost		
Sales for 2 months	= 1,44,000 units × Rs.120/unit × 2/12	=Rs.28,80,000

S.10.3]

Working Capital Requirement

		Rs.	Rs.
Current Assets:			
Raw Material Stock	[Rs.6,00,000 ÷ 12]	50,000	
Finished goods inventory	[W. Note # 3]	1,40,000	
Debtors	[W. Note # 4]	3,17,500	
Advance payments: Sales promotion Expenses			
Cash in hand		18,750	
		80,000	6,06,250
Current Liabilities:			
Creditors for material	[Rs.6,00,000 × 2/12]	1,00,000	
Outstanding Manufacturing Expenses	[Rs.6,00,000 ÷ 12]	50,000	
Outstanding Administrative Expenses	[Rs.1,50,000 ÷ 12]	12,500	
Outstanding Wages	[Rs.4,80,000 ÷ 12]	40,000	2,02,500
	Estimated working Capital		4,03,750
	Add: 10% margin		40,375
	Working Capital Requirement		4,44,125

Working Notes

1. Cash Manufacturing Cost = Materials +Wages + Cash Manufacturing Expenses
= Rs.6,00,000 + Rs.4,80,000 + (Rs.50,000 × 12)
= Rs.16,80,000

2. Total Cash Coast = Cash manufacturing Cost + Administrative Expenses + Sales Promotion Expenses
= Rs.16,80,000+Rs.1,50,000 + Rs.75,000 = Rs.19,05,000

3. Finished Goods $= \text{Cash manufacturing cost} \times \frac{1}{12} = \text{Rs.16,80,000} \times \frac{1}{12}$
$= \text{Rs.1,40,000}$

4. Debtors $= \text{Total Cash costs} \times \frac{2}{12}$

$= \text{Rs.19,05,000} \times \frac{2}{12} = \text{Rs.3,17,500}$

S.10.4]

FOOD LIMITED
Projected Profitability Statement at 80% capacity
Units to be produced = 36,000 × 80 / 60 = 48,000 units

			Rs.
A.	Cost of Sales:		
	Raw Materials	= Rs.4 × 48,000 =	1,92,000
	Wages	= Rs.2 × 48,000 =	96,000
	Variable Overheads	= Rs.2 × 48,000 =	96,000
	Fixed Overheads	= Re 1 × 36,000 =	36,000
			4,20,000
B.	Profit	= Rs.3.25 × 48,000 =	1,56,000
C.	Sales Value	= Rs.12 × 48,000 =	5,76,000

Working capital Requirement

Current Assets:		**Rs.**	**Rs.**
Raw Material Stock	[Rs.1,92,000 ÷ 12]	16,000	
Work in process	[W. Note # 1]	25,500	
Finished goods inventory	[Rs.4,20,000 ÷ 12]	35,000	
Debtors	[Rs.5,76,000 ×2 / 12]	96,000	
Cash in hand		19,500	1,92,000
Current Liabilities:			
Creditors for materials	[Rs.1,92,000 × 3 / 12]	48,000	
Creditors for Wages	[Rs.96,000 ÷ 12]	8,000	
Creditors for Variable Overheads	[Rs.96,000 ÷ 12]	8,000	
Creditors for Fixed Overheads	[Rs.36,000 ÷ 12]	3,000	67,000
	Working Capital Requirement		1,25,000

Working Notes

1. Work in process

		Rs.
Raw Materials	[Rs.1,92,000 ÷12]	16,000
Wages	[Rs.96,000 ÷ 12 × ½]	4,000
Variable Overheads	[Rs.96,000 ÷ 12 × ½]	4,000
Fixed Overheads	[Rs.36,000 ÷ 12 × ½]	1,500
		25,500

S.10.5]

a. Projected Statement of Profit / Loss (ignoring Taxation)

	Year 1	**Year 2**
Production (Units)	15,000	20,000
Sales (Units)	14,000	18,000
	Rs.	**Rs.**
Sales revenue @ Rs.200 per unit: (A)	**28,00,000**	**36,00,000**
Material @ Rs.80 per unit	12,00,000	16,00,000
Direct labour and variable expenses @ Rs.40 per unit	6,00,000	8,00,000
Fixed manufacturing and administrative expenses @ Rs.20 on 24,000 units	4,80,000	4,80,000
Depreciation @ Rs.10 on 24,000 units	2,40,000	2,40,000
Total costs of production	25,20,000	31,20,000
Add: Opening stock of finished goods (Year 1 : Nil; Year 2 : 1,000 units)	—	1,68,000*
Cost of goods available (Year 1 : 15,000 units; Year 2 : 21,000 units)	25,20,000	32,88,000
Less: closing stock of finished goods at average cost (Year 1 : 1,000 units; Year 2 : 3,000 units)	1,68,000*	4,69,714**
Cost of goods sold	23,52,000	27,18,286
Add: Selling expenses – Variable @ 8 per unit	1,12,000	1,44,000
Fixed (24,000 × Rs.2)	48,000	48,000
Cost of Sales : (B)	25,12,000	30,10,286
Profit (A-B)	2,88,000	5,89,714

$* \text{Rs.}25,20,000 \times \frac{1,000}{15,000}$

$** \text{Rs.}35,88,000 \times \frac{3,000}{21,000}$

a. Projected Statement of Working Capital Requirements

		Year 1 Rs.	Year 2 Rs.
Current Assets:			
Raw Material Stock	[3 months' average consumption]	3,00,000	4,00,000
Finished goods		1,68,000	4,69,714
Debtors	[1 months' average sales]	2,33,334	3,00,000
Cash in hand		20,000	20,000
		7,21,334	11,89,714
Current Liabilities:			
Creditors for materials	[W. Note # 1]	2,50,000	2,83,334
Creditors for Expenses	[W. Note # 2]	1,03,334	1,22,667
		3,53,334	4,06,001
	Working Capital Requirement	3,68,000	7,83,713

Working Notes –

1. Creditors for Materials

	Year 1 Rs.	Year 2 Rs.
Materials consumed during the year	12,00,000	16,00,000
Add: Closing Stock [3 months' average consumption]	3,00,000	4,00,000
	15,00,000	20,00,000
Less: Opening Stock	—	3,00,000
Purchases during the year	15,00,000	17,00,000
Average purchases per month (Creditors)	1,25,000	1,41,667
Creditors (2 months for goods)	2,50,000	2,83,334

2. Creditors for expenses

	Year 1 Rs.	Year 2 Rs.
Direct Labour	6,00,000	8,00,000
Manufacturing and Administrative expenses	4,80,000	4,80,000
Selling expenses – variable	1,12,000	1,44,000
Selling expenses – fixed	48,000	48,000
Total direct labour, manufacturing, administration & selling expenses for the year	12,40,000	14,72,000
Average per month	1,03,334	1,22,667

S.10.6] i. Computation of MPBF by all the three methods for working capital as per Tandon Committee

Particulars	Rs. in Lakhs
Current Assets	1,000
Less: Deferred Receivables after 31.03.2006	40
Total (CA)	960
Current Liabilities	200
Less: Provision for voluntary scheme	40
	160
Add: Instalments payable to FIIs before 31.03.2006	100
Fixed Deposits payable before 31.03.2006	100
Total (CL)	360
Working Capital	600

1ST Method

MPBF = 75% of (CA – CL) = 75% of Rs.600 lakhs = Rs.450 lakhs

2nd Method

MPBF = 75% of CA – CL = 75% of Rs.960 lakhs – Rs.360 lakhs = Rs.360 lakhs

3rd Method = 75% of (CA-CCA) – CL = 75% of (Rs.960 lakhs – 25% of Rs.960 lakhs) – Rs.360 lakhs = Rs.180 lakhs

ii. Computation of Current Ratios

1ST Method : Current ratio $= \frac{\text{Rs.960 lakhs}}{\text{Rs.360 lakhs + Rs.300 lakhs}} = 1.45$

2nd Method: Current ratio $= \frac{\text{Rs.960 lakhs}}{\text{Rs.360 lakhs + Rs.300 lakhs}} = 1.45$

3rd Method: Current ratio $= \frac{\text{Rs.960 lakhs}}{\text{Rs.360 lakhs + Rs.180 lakhs}} = 1.77$

S.10.7] Net cost of factoring

a. Fee = (Rs.60,00,000 × 80% × 1/12) × 90% × 2% = Rs.7,200
b. Commission = Rs.60,00,000 × 80% × 1 / 12 × 4% = Rs.16,000
c. Savings in management cost = Rs.21,600 × 1 / 12 = Rs.1,800
d. Decrease in bad debts = 1% of (Rs.60,00,000 × 80% × 1/12) = Rs.4,000
e. Net cost of factoring = (a) + (b) – (c) – (d) = Rs.17,400

Net cost of bank advance

a. Interest = (Rs,60,00,000 × 80% × 1/ 12) × 90% × (18% × 1/12) = Rs.5,400
b. Processing fee = Rs.60,00,000 × 80% × 1 / 12 × 2% = Rs.8,000
c. Unavoided management cost $= 21,600 \times \frac{1}{12}$ = Rs.1,800
d. Unavoided bad debts = 1% of (Rs. 60,00,000 × 80% × 1/ 12) = Rs.4,000
e. Net cost of bank advance = (a) + (b) + (c) + (d) = Rs.19,200

Comment: R Ltd. should accept the factor's proposal.

S.10.8]

Evaluation of Credit Policies

Part I

		Credit Policy			
	Existing	**A**	**B**	**C**	**D**
Credit Period (Days)	30	40	50	60	75
Expected additional sales (Rs.)		30,000	48,000	75,000	90,000
Contribution of additional sales (One-third of selling price)		10,000	16,000	25,000	30,000
Bad debs (Expected Sales × Default percentage)	6,000	9,450	12,960	20,250	27,600
Additional bad debts	—	3,450	6,960	14,250	21,600
Contribution of additional sales less additional bad debts (A)	—	6,550	9,040	10,750	8,400
Part II					
Expected sales (Rs.)	6,00,000	6,30,000	6,48,000	6,75,000	6,90,000
Receivables turnover ratio	12	9	7.2	6	4.8
Average receivables	50,000	70,000	90,000	1,12,500	1,43,750
Investment in receivables (Receivables × Variable cost i.e. two-thirds of sales price i.e. Rs.50,000 × 2/3 = Rs.33,333 and so on)	33,333	46,667	60,000	75,000	95,833
Additional investment in receivables	—	13,334	26,667	41,667	62,500
Required return on additional investment at 20% (B)	—	2,667	5,333	8,333	12,500
Excess of additional contribution over required return on additional investment in receivables (A) – (B)	—	3,883	3,707	2,417	(4,100)

The additional contribution Over required return on additional investment in receivables is the maximum under Credit Policy A. Hence, Policy A is recommended for adoption followed by B and C. Policy D cannot be adopted because it would result in the reduction of the existing profits.

S.10.9]

XYZ CORPORATION

Evaluation of Credit Policies **(Amount in Rs.)**

	Present Policy	Policy Option I	Policy Option II
Annual credit sales	50,00,000	60,00,000	67,50,000
Accounts receivable turnover	4times	3 times	2.4 times
Average collection period	3 months	4 months	5 months
Average level of accounts receivable	12,50,000	20,00,000	28,12,500
Marginal increase in investment in receivable			
Less profit margin	—	5,25,000	5,68,750
Marginal increase in sales	—	10,00,000	7,50,000
Profit on marginal increase in sales (30%)	—	3,00,000	2,25,000
Marginal increases in bad debt losses	—	1,50,000	1,50,000
Profit on marginal increase in sales less marginal bad debts loss	—	1,50,000	75,000
Required return on marginal investment @ 25%			
Surplus (loss) after required rate of return	—	1,31,250	1,42,188
	—	18,750	(67,188)

It is clear from the above that the policy option I has a surplus of Rs.18,750 /– whereas option II shows a deficit of Rs.67, 188/– on the basis of 25% return. Hence policy I is better.

S.10.10]

Extension of credit to a group of new customers:	**Rs.**
Profitability of additional sales:	
Increase in sales per annum	1,00,000
Less: Bad debt losses (10%) of sales	10,000
Net sales revenue	90,000
Less: production and selling expenses (80% of sales)	80,000
Profit before tax	10,000
Less: Income tax (50%)	5,000
Profit after tax	5,000

Average investment in additional receivables.

Period of credit: 1 ½ Months

Receivables turnover: $\frac{12}{1\frac{1}{2}} = 8$

Average amount of receivable: $\frac{Rs.1,00,000}{8} = Rs.12,500$

Average investment in receivables: Rs.12,500 × 80% = Rs.10,000

The available rate of return: $\frac{Rs.5,000}{Rs.10,000} \times 100 = 50\%$

Since the available rate of return is 50%, which is higher than the required rate of return of 25%, the Sales Manager's proposal should be accepted.

(i) Acceptable degree of risk of non-payment if the required rat of return (after tax is 30%)

Required amount of profit after tax on investment:

Rs.10,000 × 30% = Rs.3,000

Required amount of profit before tax at this level:

$\frac{Rs.3,000 \times 100}{50} = Rs.6,000$

Net sales revenue required:

Rs.80,000 + Rs.6,000 = Rs.86,000

Acceptable degree of risk of non-payment:

$$\frac{Rs.14,000}{Rs.1,00,000} \times 100 = 14\%$$

(ii) Acceptable degree of risk of non-payment if the required rate of return (after tax) is 40%:
Required amount of profit after tax on investment:
Rs.10,000 × 40% = Rs.4,000
Required amount of profit before tax

$$\frac{Rs.4,000 \times 100}{50} = Rs.8,000$$

Net sales revenue required:
Rs.80,000 + Rs.8,000 = Rs.88,000
Acceptable amount of bad debt losses:
Rs.1,00,000 – Rs.88,000 = Rs.12,000
Acceptable degree of risk of non-payment:

$$\frac{Rs.12,000}{1,00,000} \times 100 = 12\%$$

(iii) Acceptable degree of risk of non-payment of the required rate of return (after tax)is 60%:
Required amount of profit after tax on investment:
Rs.10,000 × 60% = Rs.6,000
Required amount of profit before tax:

$$\frac{Rs.6,000 \times 100}{50} = Rs.12,000$$

Net sales revenue required:
Rs.80,000 + Rs.12,000 = Rs.92,000
Acceptable amount of bad debt losses:
Rs.1,00,000 – Rs.92,000 = Rs.8,000
Acceptable degree of risk of non-payment:

$$\frac{Rs.8,000}{Rs.1,00,000} \times 100 = 8\%$$

S.10.11] Production on 12,00,000 units i.d.1,00,000 units p.m. statement of Working Capital requirement

Current Asset	**₹**
a. Raw Material stock 1,00,000 x 60	60,00,000
b. W.I.P. stock 1,00,000 x (60 + 5 + 10)	75,00,000
c. Finish Goods stock 2 x 1,00,000 x (60+10+20)	1,80,00,000
d. Debtors @ Selling Price 2 x 1,00,000 x 100	2,00,00,000
e. Total Current Liabilities	5,15,00,000
Less Current Asset	
f. Creditors for Raw Material 1,00,000 x 60	60,00,000
g. Outstanding wages 1,00,000 x 10	10,00,000
h. Outstanding overhead **1,00,000 x 20	20,00,000
i. Total Current Liability	90,00,000
j. Working Capital requirement	₹4,25,00,000

Maximum Permissible Bank Finance as per Tandon Committee Norms

Method I MPBF = 0.75 (Current Asset – Current Liability*)
= 0.75 (515 – 90) = ₹318.75 Lakhs

Method II MPBF = 0.75 Current Asset – Current Liability*
= 0.75 x 515 – 90 = ₹296.25 Lakhs

Method III MPBF = 0.75 (Current Asset – Core Current Asset) – Current Liabiliey*
= 0.75 (515 – 100) – 90 = ₹221.25 Lakhs

S.10.12] (i) Statement of working capital Requirement for 96,000 units p.a.

Particulars	₹
a. Raw Material Stock 4 x 2000 x 40	3,20,000
b. W.I.P. stock 1/2 x 800 x (85 x 1/2)	1,70,000
c. Finish Goods Stock 1 x 8000 x 85	6,80,000
d. Debtors 2 x 8000 x 100	16,00,000
e. Cash	50,000
f. Total Current Asset	28,20,000
Less: Current Liability	
	3,20,000
g. Creditors for Raw Material 1 x 8000 x 40	45,000
h. Outstanding Wages 1.5 x 2000 x 15	2,40,000
i. Outstanding Overheads 4 x 2000 x 30	
j. Total Current Liability	6,05,000
k. Working Capital Requirement	₹22,15,000

Production Per Annum = 96,000 units
Production per Month = 8000 units per month
Production per Week = 8,000/4 = 2000 units / week

Maximum Permissible Bank Finance as per Tandon Committee Norms

Method I MPBF = 0.75 (Current Asset – Current Liability*)
= 0.75 (28,20,000 – 6,05,000) = ₹16,61,250

Method II MPBF = 0.75 Current Asset – Current Liability*
= 0.75 x 28,20,000 – 6,05,000 = ₹15,10,000

Method III MPBF = 0.75 (Current Asset – Core Current Asset) – Current Liabiliey*
= 0.75 (28,20,000 – 7,05,000) – 6,05,000 = ₹9,81,250

S.10.14]

Debtors Management
Evaluation of credit Polity

Particulars	@ present 50 days	Alternative – I 40 days	Alternative – I 30 days
a. Average Debtors @ selling price*	$\frac{30,00,000}{360} \times 50 = Rs.4,16,667$	$\frac{30,00,000}{360} \times 40 = Rs.3,33,333$	$\frac{30,00,000}{360} \times 30 = Rs.2,50,000$
b. Bad debts	5% = 1,50,000	4% = 1,20,000	3% = 90,000
c. Collection Cost	30,000	60,000	95,000
d. Total cost of (b + c) Managing Debtors	1,80,000	1,80,000	1,85,000
e. Incremental cost	–	0	5,000

∴ 40 days credit i.e. Alternative – I is beneficial.

S.10.16] Evaluation of New Credit Terms

Particulars	Present terms "1/10 Net 45"	Proposed "2/10 Net 45"
a. Credit Sales	₹12,00,000	₹16,00,000
b. Contribution 22%	₹2,64,000	₹3,52,000
c. Bad debts	1.5% → (18,000)	2% = (32,000)
d. Cash discount	50% x 12,00,000 x 1% = (6,000)	80% x 16,00,000 x 2% = (25,600)
e. Opportunity Cost 15% on Investment in Debtors @ Selling Price (W/N)	(15,000)	(13,333)
f. PBT b – c – d – e	₹2,25,000	₹2,81,067
g. Less: Tax 30%	67,500	84,320
h. Profit after tax	1,57,500	1,96,747
i. Increase in profit after tax	–	₹39,247

∴ Company should change the credit terms to " $\frac{2}{10}$ Net 45"

Working Note:

Opportunity Cost

	@ Present	Proposed
Average credit period	30 days	20 days
Average Debtors @ selling price	$\frac{12,00,000}{360} \times 30 = Rs.1,00,000$	$\frac{16,00,000}{360} \times 20 = Rs.88,889$
Opportunity Cost @ 15%	15,000	13,333
	15,000 x 78% = 11,700	13,333 x 78% = 10,400