

Theory of Cost Accounting & Financial Management

Fast track revisionary notes

For CA-IPCC

COMPILED BY :-

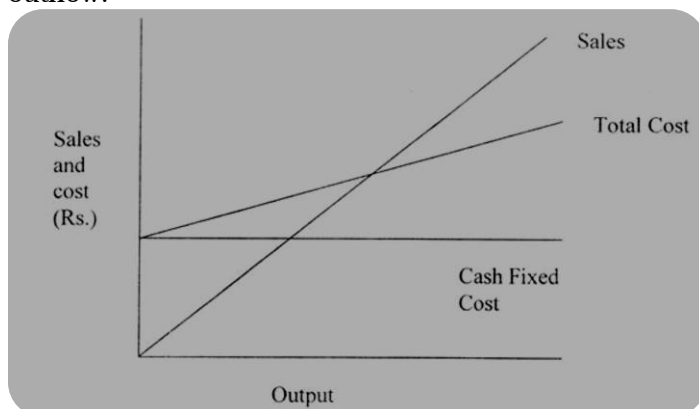
ASHISH SULTANIA

Salient Features:

- * Full coverage of important theory
- * Treasure of maximum asked questions in examination of IPCC, PCC, PE-II & FINAL
- * Easy to remember question and answer format
- * Based on Compilation's model answers
- * Combined Questions are given wherever required
- * Useful for LMR (Last Minute Revision)

COST ACCOUNTING**MARGINAL & ABSORPTION COSTING****1. Cash BEP***Or***Explain and illustrate cash break-even chart.***(May 2008, 3 Marks)*

- In cash break-even chart, only cash fixed costs are considered. Non-cash items like depreciation etc. are excluded from the fixed cost for computation of break-even point. It depicts the level of output or sales at which the sales revenue will equal to total cash outflow.



- It is computed as under:

$$\text{Cash BEP(units)} = \frac{\text{Cash Fixed Cost}}{\text{Cost per unit}}$$

- Hence for example suppose insurance has been paid on 1st January, 2006 till 31st December, 2010 then this fixed cost will not be considered as a cash fixed cost for the period 1st January, 2008 to 31st December, 2009.

2. BEP

- Breakeven point represents that volume of production where total cost equal total revenue resulting into a no-profit no-loss situation. If output falls below that point, there is loss and if output exceeds the point there is profit. Therefore at breakeven point.

$$\text{Revenue} = \text{Total Cost}$$

$$\text{Sales} = \text{Fixed Cost} + \text{Variable Cost}$$

$$\text{Sales} - \text{variable Cost} = \text{Contribution} = \text{Fixed Cost}$$

- **Assumptions of break-even analysis**

- (1) All costs can be easily classified into fixed and variable components.
- (2) Both revenue and cost functions are linear over the range of activity under consideration.
- (3) Prices of output and input remain unchanged.
- (4) Productivity of the factors of production will remain the same.
- (5) The state of technology and the process of production will not change.
- (6) There will be no significant change in the levels of inventory.
- (7) The company manufactures a single product.
- (8) In the case of a multi-product company, the sales mix will remain unchanged.

- **Limitations of break-even chart**

- The variable cost line need not necessarily be a straight line because of the possibility of operation of law of increasing costs or law of decreasing returns.
- Similarly the selling price will not be a constant factor. Any increase or decrease in output is likely to have an influence on the selling price.

- When a number of products are produced, separate break-even charts have to be drawn. This poses a problem of apportionment of fixed expenses to each product.
- Break-even charts ignore the capital employed in business which is one of the important guiding factor in the determination of profitability.

3. Margin of safety:

- Margin of safety is the difference between the sales or productions at a particular level of activity and the break even sales a production. A large margin of safety indicates the soundness of the business and correspondingly a small margin of business indicates a not too-sound position. Margin of safety can be improved by lowering the fixed cost and variable costs, increasing the volumes of sales and production, increasing the selling prices or changing the product mix resulting into a better overall Profit/Volume ratio.

$\text{Margin of safety} = \frac{\text{Profit}}{\text{P/V Ratio}}$
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CONTRACT COSTING

1. Cost plus contract & advantages

Or

Write note on cost-plus-contracts.

(November 2002, 2 marks)

- Cost plus contracts provide for payment of allowable actual cost plus an agreed element to cover the profit as incentive. Cost plus contracts will be entered mainly in the following situations:
- Existence of sole supplier of product or services.
 - Product or services is highly complex in nature and the cost cannot be predetermined.
 - When the product or services is a new or special one for which no cost estimates are available.
 - In a highly inflationary situation cost plus basis is more secure when the estimates based on current costs are uncertain.
- Cost plus contracts are more popular in Government for defense equipments and components, ships, aircrafts, etc.
- These contracts provide for the payment by the contractee of the actual cost of manufacture plus a stipulated profit, mutually decided between the two parties.
- *The main features of these contracts are as follows:*
- The practice of cost-plus contracts is adopted in the case of those contracts where the probable cost of the contracts cannot be ascertained in advance with a reasonable accuracy.
 - These contracts are preferred when the cost of material and labour is not steady and the contract completion may take number of years.
 - The different costs to be included in the execution of the contract are mutually agreed, so that no dispute may arise in future in this respect. Under such type of contracts, contractee is allowed to check or scrutinize the concerned books, documents and accounts.
 - Such a contract offers a fair price to the contractee and also a reasonable profit to the contractor.
 - The contract price here is ascertained by adding a fixed and mutually pre-decided component of profit to the total cost of the work.

2. Escalation clause**Or****Write notes on Escalation Clause.****(Nov. 2000, 2 marks, May 1994, 4 marks)**

- **Escalation Clause:** This clause is usually provided in the contracts as a safeguard against any likely changes in the price or utilization of material and labour. If during the period of execution of a contract, the prices of materials or labour rise beyond a certain limit, the contract price will be increased by an agreed amount. Inclusion of such a term in a contract deed is known as an 'escalation clause'.
- An escalation clause usually relates to change in price of inputs; it may also be extended to increased consumption or utilization of quantities of materials, labour etc. In such a situation the contractor has to satisfy the contractee that the increased utilization is not due to his inefficiency.

MATERIAL COSTING**1. ABC analysis****Or****Explain the concept of "ABC Analysis" as a technique of inventory control****(May, 2000, 3 marks; May 2008, 3 Marks)****Or****Write short notes: ABC Analysis****(May, 1996, 4 marks)****Or****Discuss ABC analysis as a system of Inventory control.****(November, 2004, 4 marks)****ABC Analysis as a technique of Inventory Control:**

- It is a system of inventory control. It exercises discriminating control over different items of stores classified on the basis of investment involved. Usually they are divided into three categories according to their importance, namely, their value and frequency of replenishment during a period.
- 'A' category of items consists of only a small percentage i.e. about 10% of total items handled by the stores but require heavy investment about 70% of inventory value, because of their high price or heavy requirement or both.
- 'B' categories of items are relatively less important – 20% of the total items of material handled by stores and % of investment required is about 20% of total investment in inventories.
- 'C' category – 70% of total items handled and 10% of value.
- For 'A' category items, stocks levels and EOQ are used and effective monitoring is done.
- For 'B' category same tools as in 'A' category are applied.
- For 'C' category of items, there is no need of exercising constant control. Orders for items in this group may be placed after 6 months or once in a year, after ascertaining consumption requirement.

2. Economic Batch Quantity**Or****Discuss the concept of Economic Batch Quantity (EBQ)****(May, 2000, 2marks; May, 2001, 3 marks)**

- Economic Batch Quantity (EBQ) represents the optimum size for batch production. The determination of EBQ involves two types of cost as followings:
- (a) Set-up cost (Preparation Cost):** The processing of a particular batch gives rise to clerical and machine set up costs followed by machine disassembly cost on completion of batch. These costs are incurred in connection with each batch processed and are independent of the size of the batch.

(b) Carrying cost (Holding Cost): The larger the batch size the greater will be number of units in inventory. Hence the cost associated with holding/carrying the inventory like space occupancy, interest etc. will also be higher. These are carrying costs.

- If batch size increases, there is an increase in carrying cost but the set up cost per unit of product is reduced; this situation is reversed when the batch size decreases. Thus there is one particular batch size for which the total of set up and carrying cost are minimum. This size is known as Economic or Optimum Batch Quantity.

Formula: EBQ can mathematically determined with the help of following formula:

$$EBQ = \sqrt{\frac{2AS}{C}}$$

Where, A=Annual demand for the product

S=Set up cost per batch

C=Carrying cost per unit of production

3. Difference: Bin card and Stores ledger

Or

Distinguish between Bin Card and Stores Ledger.

(May, 2000, 4 marks; May, 2002, 2 marks; November, 2004, 2 marks)

<i>Bin Card</i>	<i>Stores Ledger</i>
→ Bin cards are maintained in the stores and are serving the purpose of stock register.	→ Stores ledger is maintained in the cost accounts department.
→ Entries in it are posted by the issue clerk. He records the quantity about receipts, issues and closing balance along with code number of material, maximum, minimum and reorder levels.	→ Here entries are posted by the stores ledger clerk. He records the quantities and value about receipts, issues and closing balance along with code number of material, maximum, minimum and reorder levels.
→ Here transactions are posted individually.	→ Here transactions can be posted periodically.
→ Posting is done at the time of issue of material.	→ Posting is done after the issue of materials.

4. Bill of Material

Or

Write notes on Bill of Material

(May, 1998, 4 marks)

- In most of the manufacturing units a list of materials required for a particular work or job order is prepared. Such a list is usually prepared either by the engineering or production planning department. This list is known as a bill of material.
- Bill of materials has code; description and quantity of materials and other stores items required for carrying out a particular work or job order. It also acts as an authorisation for the issue of materials and stores items mentioned in it. Use of Bill of materials saves paper work and also ensures requisition of the exact quantity of materials. It also saves the botheration of stores people of preparing and issuing a number of material requisition slips. It also acts as an advance intimation to stores and purchase department about the requirements of materials.
- Generally four copies of it are prepared, one for each of the following departments.
- Stores department
 - Production department
 - Cost Accounts department

- Production planning department.

**Proforma of
Bill of Materials**

Job No. _____ No. _____
Department authorised _____ Date _____

S. No.	Code No. or size	Description	Qty.	Date of Issue and Qty. issued		Rate Rs.	Amount Rs.
				Date	Qty.		

Authorised by _____
Store Keeper's Signature _____

Received by _____
Checked by _____
Cost Clerk _____

5. Two bin system, MRN (Material Requisition Note), PRN (Purchase Requisition Note)

- **The two-bin system:** The basic procedure is used under this system is that for each item of stock, two piles, bundles or bins are maintained. The first bin stocks that quantity of inventory, which is sufficient to meet its usage during the period that elapses between receipt of an order and the placing of the next order. The second bin contains the safety stock and also the normal amount used from order to delivery date. The moment stock contained in the first bin is exhausted and the second bin is tapped, a requisition for new supply is prepared and submitted to the purchasing department. Since no bin-tag (quantity record of material) card is maintained, there is absence of perpetual inventory record under this system.

- **MRN (Material Requisition Note):** MRN (Material Requisition Note) is the document for issue of materials from stores to production departments. It is one type of voucher of authority as regards issue of material for use in the factory or in any of its departments.

Copies: MRN's are made out in triplicate to be used by

- (1) Stores keeper: *for issuing material*
- (2) Cost department: *to account of cost thereof*
- (3) The department requiring material: *for control purposes*

Origination:

- **Where a Material List has been prepared:** MRN can be prepared by the production department. Such requisition can be either for the whole of all specified materials or in different lot size, drawn up-to the limit specified in the list.
- **Where a Material List has not been prepared:** MRN should ideally be prepared by planning department. If there is no planning department, it may be prepared by the concerned production department. In all cases, it should be duly approved by a responsible official.

- **PRN (Purchase Requisition Note):**

Or

What is a purchase requisition? Give a specimen form of a purchase requisition.

(November, 1998, 4 marks)

PRN (Purchase Requisition Note) is a form used for making a formal request to the purchasing department to procure materials.

Origination: The form is usually filled up by the store-keeper for regular materials and by the assistant in the production, planning or technical department for special materials. It should be signed and approved by responsible official e.g., works manager, in addition to the one originating it.

Pre-conditions: The purchase requisition cannot be prepared at the discretion of the store-keeper. The following conditions should have been fulfilled in order to initiate the purchase procedure:

- The item of material should be included in the standard list of the purchase department as *Regular Item*. If a new item is required, suitable sanction and approval shall be obtained.
- The stock of the item should have reached the Re-order Level. This is the level at which action can be taken to initiate purchase procedure.
- There should be proper co-ordination between purchase, stores and production department in this regard.

A specimen form of purchase requisition

Date _____ For Stock _____ Date of requirement _____
 Req. No. _____ Dept. or work order No. _____

Sl. No.	Code No.	Description	Quantity	Grade	Remarks

Requisitioned by _____ Checked by _____ Approved by _____
 For Purchase Department use
 Purchase Order No. _____ Date of Purchase _____
 Name of supplier _____ Expected date of delivery _____

6. Difference between spoilage & defectives

Or

Discuss the accounting treatment of spoilage and defectives in Cost Accounting.

(May, 2003, 3 marks; November, 2003, 4 marks; May 2009, 3 Marks)

Accounting treatment of spoilage and defectives in Cost Accounting:

- Normal spoilage cost (which is inherent in the operation) are included in cost either by charging the loss due to spoilage to the production order or charging it to production overhead so that it is spread over all products. Any value realized from the sale of spoilage is credited to production order or production overhead account, as the case may be.
- The cost of abnormal spoilage (i.e. spoilage arising out of causes not inherent in manufacturing process) is charged to the Costing Profit and Loss Account. When spoiled work is due to rigid specifications, the cost of spoiled work is absorbed by good production, while the cost of disposal is charged to production overheads.
- The problem of accounting for defective work is the problem of accounting of the costs of rectification or rework. The possible ways of treatment are as below:
 - (i) Defectives that are considered inherent in the process and are identified as normal can be recovered by using the following methods:
 - Charged to good products
 - Charged to general overheads
 - Charged to department overheads
 - Charged to identifiable job.
 - (ii) If defectives are abnormal and are due to causes beyond the control of organisation, the rework, cost should be charged to Costing Profit and Loss Account.

7. Difference between scrap & defectives

Or

Differentiate between “scrap” and “defectives” and how they are treated in cost accounting.

(Nov 2007, 2 Marks)

Scrap:

- Scrap is incidental residue from certain type of manufacture, usually of small amount and low value, recoverable without further processing.
- The cost of scrap is borne by good units and income scrap is treated as other income.

Defectives:

- Defectives are portion of production which can be rectified by incurring additional cost. Normal defectives can be avoided by quality control. Normal defectives are charged to good products.
- Abnormal defectives are charged to Costing Profit and Loss Account.

8. Distinction between Perpetual Inventory System and Continuous Stock taking:

- *Perpetual Inventory System*: It is a system of stock control followed by the stores department. Under this system, a continuous record of receipt and issue of material is maintained by the stores department. In other words, in this system, stock control cards or bin cards and the stores ledger show clearly the receipts, issues and balance of all items in stock at all times. This system facilitates planning of production and ensures that production is not interrupted for want of materials and stores.
- *Continuous Stock taking*: It means physical verification of stores items on a continuous basis to reveal the position of actual balances. Such a verification is conducted round the year, thus covering each item of store twice or thrice. Any discrepancies, irregularities or shortages brought to the notice, as a result of continuous stock verification are reported to the appropriate authorities for initiating necessary rectification measures. This system works as a moral check as stores staff and acts as a deterrent to dishonesty.
- A perpetual inventory system is usually supported by a programme of continuous stock taking. That is continuous stock taking is complementary to the perpetual inventory system. Sometimes the two terms are considered synonymous but it is not so. The success of the perpetual inventory system depends upon the maintenance and upto date writing up of (i) the stores ledger and (ii) bin-cards/stock control cards, Continuous stock taking, ensures the veracity of figures shown by the above records

LABOUR COSTING**1. Treatment of Idle capacity cost (May 1997, 6 marks; November, 2001, 4 marks)**

Idle Capacity Costs: Costs associated with idle capacity are mostly fixed in nature. These include depreciation, repairs and maintenance charges, insurance premium, rent, rates, management and supervisory costs. These costs remain unabsorbed or unrecovered due to under-utilisation of plant and service capacity. Idle capacity cost can be calculated as follows:-

$$\text{Idle capacity cost} = \frac{\text{Aggregate overhead related to plant}}{\text{Normal plant capacity}} \times \text{Idle Capacity}$$

Treatment of Idle capacity cost: Idle capacity costs can be treated in product costing, in the following ways:

- (i) If the idle capacity cost is due to unavoidable reasons such as repairs, maintenance, changeover of job, etc., a supplementary overhead rate may be used to recover the idle capacity cost. In this case, the costs are charged to the production capacity utilised.
- (ii) If the idle capacity cost is due to avoidable reasons such as faulty planning, power failure etc., the cost should be charged to profit and loss account.
If the idle capacity cost is due to seasonal factors, then, the cost should be charged to the cost of production by inflating overhead rates.

2. Explain wage/incentive system**Overview of wage and incentive system**

- Time based
 - Simple time rate
 - Differential time rate
 - High wage plan
 - Measured day work
- Result based
 - Piece rate methods
 - (a) *Differential piece rate method*

- (i) Taylor
- (ii) Merrick
- (b) Simple piece rate method
- Premium bonus method
 - (a) Halsey Weir
 - (b) Halsey
 - (c) Rowan
 - (d) Barth
- Combination of time and piece rate
 - (a) Gantt's task and bonus method
 - (b) Emerson's efficiency system
 - (c) Point system
 - (i) Bedeaux system
 - (ii) Haynes system

3. Job evaluation & merit rating

Or

Distinguish between Job Evaluation and Merit Rating.

(Nov., 1996, 4 marks; Nov., 1999, 4 marks; Nov., 2001, 3 marks)

→ *Job evaluation:* It can be defined as the process of analysis and assessment of jobs to ascertain reliably their relative worth and to provide management with a reasonably sound basis for determining the basic internal wage and salary structure for the various job positions. In other words, job evaluation provides a rationale for differential wages and salaries for different groups of employees and ensures that these differentials are consistent and equitable.

→ *Merit rating:* It is a systematic evaluation of the personality and performance of each employee by his supervisor or some other qualified person.

The main points of distinction between job evaluation and merit rating are as follows:

- Job evaluation is the assessment of the relative worth of jobs within a company and merit rating is the assessment of the relative worth of the man behind a job. In other words, job evaluation rate the jobs while merit rating rate employees on these jobs.
- Job evaluation and its accomplishment are means to set up a rational wage and salary structure whereas merit rating provides scientific basis for determining fair wages for each worker based on his ability and performance.
- Job evaluation simplifies wage administration by bringing a uniformity in wage rates. On the other hand, merit rating is used to determine fair rate of pay for different workers on the basis of their performance.

4. Labour Turnover Rate

Or

Write short note on Labour Turnover *(May, 1996, 4 marks; Nov., 1994, 4 marks)*

Or

Discuss the three methods of calculating labour turnover *(Nov., 2004, 3 marks)*

Or

What do you understand by labour turnover? How is it measured?

(May, 2003, 1+4 marks)

Labour Turnover: It is the rate of change in the labour force during a specified period measured against a suitable index. The standard or usual labour turnover in the industry or locally or the labour turnover rate for a past period may be taken as the index or norm against which actual turnover rate is compared. The methods of calculating labour turnover.

$$\begin{aligned}
 \text{Labour turnover} &= \frac{\text{Number of employees replaced}}{\text{Average number of employees on payroll}} \times 100 \\
 &\text{Or} \\
 &= \frac{\text{Number of employees left}}{\text{Average number of employees on payroll}} \times 100 \\
 &\text{Or} \\
 &= \frac{\text{Number joining} + \text{Number leaving}}{\text{Average number of employees on payroll}} \times 100
 \end{aligned}$$

Methods of Calculating labour turnover

- (i) Replacement method = $\frac{\text{No. of employees replaced} \times 100}{\text{Av. number of employees on roll}}$
- (ii) Separation method = $\frac{\text{No. of employees separated during the year}}{\text{Av. number of employees on the roll during the year}} \times 100$
- (iii) Flex method = $\frac{(\text{No. of employees separated} + \text{No. of employees replaced})}{\text{Av. number of employees on roll during the period}} \times 100$

Causes of Labour Turnover: The main causes of labour turnover in an organization/industry can be broadly classified under the following heads:

- Personal Causes
- Unavoidable Causes
- Avoidable Causes

Remedial steps to minimize labour turnover: The following remedial steps are useful in minimizing labour turnover.

- Exit Interview
- Job analysis and evaluation
- Scientific system of recruitment, selection, placement and promotion.
- Enlightened attitude of management
- Use of committee.

5. Hasley, Rowan, Emerson, Barth plans

Halsey plan:

F.A. Halsey, an American Engineer, brought out his plan in 1891.

$$\text{Halsey plan} = (TT \times AR) + 50\%(TS \times AR)$$

The main features of his plan were as follows:

- Time rate is guaranteed.
- Standard time is fixed for the job or operation.
- In case a worker completes the job or operation in less time than allowed time (or standard time) he is paid a fixed percentage of saving in time, which is usually 50%.
- Under this plan, the employer is benefited to the extent of remaining 50% of time saved.
- Employer is not protected against overspeeding jobs by workers resulting in waste, damages etc.

Rowan Plan:

Rowan Scheme was introduced by James Rowan in Glasgow in the year 1898. It is similar to Halsey Scheme but the premium concept here is different.

$$\text{Rowan plan} = (TT \times AR) + \frac{TS}{TA}(TT \times AR)$$

The main features of Rowan Scheme are:

- (i) Time rate is guaranteed.
- (ii) Bonus is based on time saved.
- (iii) Instead of fixed percentage of time saved, bonus is in proportion of time saved to time allowed.
- (iv) Protects employer against loose rate setting.
- (v) Employer shares the benefit of increased output.

Comparison between Halsey and Rowan Plan:

The Rowan Scheme is better than Halsey Scheme because of the following reasons:

- (i) In Halsey Scheme, bonus is set at 50% of time saved. It does not serve as a strong incentive. If workers over-speed, the quality of the products deteriorates.
- (ii) In Rowan Scheme, there is an automatic check on the earnings and thus overspeeding is arrested. In Halsey Scheme if two third of the time is saved, the worker can double his earning per hour and in Rowan Scheme, this is not possible.
- (iii) The earning per hour in Rowan Scheme is higher upto 50% of time saved and falls thereafter whereas in Halsey Scheme the earnings per hour increases at a slow speed and can be doubled.

Emerson's efficiency Plan:

- Under this system minimum time wages are guaranteed. But beyond certain efficiency level, bonus in addition to minimum day wages is given.

Level of efficiency	Differed Piece Rate (DPR)
Up to 66.67%	→ NTR (Normal Time Rate)
Above 66.67% to 100%	→ NTR + Bonus between 0.01% to 20% (as per table)
Above 100%	→ NTR + Bonus 20% Additional 1% bonus for each excess efficiency % over 100%

Just for Information

Emerson's Table for Bonus Rate:

Efficiency %	Bonus per Re. 1 wage	Efficiency %	Bonus per Re. 1 wage	Efficiency %	Bonus per Re. 1 wage	Efficiency %	Bonus per Re. 1 wage
67	0.0001	78	0.0238	88	0.0832	99	0.1881
68	0.0004	79	0.0280	89	0.0911	100	0.2000
69	0.0011	80	0.0327	90	0.0991	101	0.2100
70	0.0022	81	0.0378	91	0.1074	102	0.2200
71	0.0037	82	0.0433	92	0.1162	103	0.2300
72	0.0055	83	0.0492	93	0.1256	104	0.2500
73	0.0076	84	0.0553	94	0.1352	105	0.3000
74	0.0102	85	0.0617	95	0.1453	110	0.4000
75	0.0131	86	0.0684	96	0.1557	120	0.5000
76	0.0164	87	0.0756	97	0.1662	130	0.5500
77	0.0199	87.5	0.0794	98	0.1770	140	0.6000

Barth Plan:

→ Barth system is considered as one of the best premium bonus method.

→ $\text{Payments to workers} = \text{Rate per hour} \times \sqrt{\text{Standard hours} \times \text{Actual hours}}$

→ This system is suitable for (a) trainees and beginners and also for (b) Unskilled workers.

→ This is because, for lower production efficiency, earnings are higher than in the piece rate system. However, as efficiency increases, the rate of increase in incentive falls and piece rate system is more attractive.

6. Casual & out workers**Or****Distinguish between Casual worker and Outworker****(May, 1997, 4 marks)****Or****Discuss briefly, how you will deal with casual workers and workers employed on outdoor work in Cost Accounts.****(May, 2002, 4 marks)****Casual worker and outworker:**

- Workers who are appointed for a short duration to carry on normal business activities in place of a regular but temporarily absent worker. Such a worker is also known as daily wage or 'badlies'. A casual worker does not enjoy the facilities available to a regular worker.
- Workers who do not work in the factory premises but either he works in his home or at a site outside the factory is known as an outworker. An outworker who works in a home is usually compensated on the basis of his output. He is supplied with raw materials and tools necessary for carrying out the job. An outworker (outside to factory) is usually engaged on specialized jobs/contract work.

PROCESS COSTING**1. Treatment of normal and abnormal loss**

- **Normal Loss:** In many processes, the physical quality of output is found to be less than the input, the difference being attributable to wastage, spoilage, shrinkage, evaporation etc. occurring in course of manufacture. In order to compute correct costs per unit, the units entering a process must be reconciled with the output coming out of the process, and the lost units, as they are called, must be analyzed to determine the factors, leading to the loss. If the loss is inevitable and within limit it is called *Normal Process Loss*.
 - *Such losses are not valued separately and are absorbed by good production.*
- **Abnormal Loss:** Abnormal spoilage or defective work may arise in a process due to unforeseen factors like sub-standard material, bad design etc.
 - *The cost of such abnormal loss is not included in the cost of the process but the average cost of the lost units is charged to an Abnormal Loss Account which is credited with the scrap and closed to Profit and Loss Account.*
 - *Thus, in computing the value of abnormal loss, scrap value of the abnormal lost units will be ignored but in working out the loss for charging to Profit & Loss Account, this will be taken into consideration.*

2. Treatment of abnormal loss and abnormal gain:

- **Abnormal Loss:** Abnormal spoilage or defective work may arise in a process due to unforeseen factors like sub-standard material, bad design etc.
 - *The cost of such abnormal loss is not included in the cost of the process but the average cost of the lost units is charged to an Abnormal Loss Account which is credited with the scrap and closed to Profit and Loss Account.*
 - *Thus, in computing the value of abnormal loss, scrap value of the abnormal lost units will be ignored but in working out the loss for charging to Profit & Loss Account, this will be taken into consideration.*
- **Abnormal Gain (May, 1995, 4 marks):** If in a process the actual process loss (which is inherent in a process) is less than the estimated normal loss, the difference is considered

as abnormal gain. Abnormal gain is accounted for in the same way as abnormal process loss.

- *The concerned process account is debited with the abnormal gain units and value, and the abnormal gain account is credited. The abnormal gain account is debited with the figure of reduced normal loss (in units) and value. The balance of the abnormal gain account is transferred to the costing profit and loss account.*

COST SHEET & RECONCILIATION

1. Uniform costing

Or

Write a short note on uniform costing.

(May, 1996, 3 marks)

Or

Define Uniform Costing. What are the essential requisites for the installation of a uniform costing system?

(May 1996, 6 marks; Nov., 2000, 6 marks)

- **Uniform Costing:** It has been defined by the Institute of Cost and Works Accountants of England as "The use by several undertaking of the same costing principles and/or practices". Thus when a number of undertaking, whether under the same management or not, decide to adhere to one set of accepted costing principles especially in matters where there can be two opinions – they are said to be following uniform costing. It makes inter firm comparison easy and, of course, one of the aims of uniform costing is to introduce inter-firm comparison. Use of uniform costing is comparatively easy among concerns manufacturing the same type of products.
- A great deal of spade work is required to be done before the introduction of uniform costing in an industry. Its introduction helps the firms to submit reliable cost data to price fixing bodies to determine the average cost and fixing the fair selling prices of various products. It serves as a pre-requisite to cost audit.
- **Requisites for the installation of a uniform costing system:**
 - (i) The firms in the industry should be willing to share/furnish relevant data/information
 - (ii) A spirit of cooperation and mutual trust should prevail among the participating firms
 - (iii) Mutual exchange of ideas, methods used, special achievements made research and know-how etc., should be frequent.
 - (iv) Bigger firms should take the lead towards sharing their experience and know-how with the smaller firms to enable the latter to improve their performance.
 - (v) Uniformity must be established with regard to several points before the introduction of uniform costing in an industry. In fact, uniformity should be with regard to following points.
 - 1. Size of the various units covered by uniform costing.
 - 2. Production methods.
 - 3. Accounting methods, principles and procedures used.

2. Job & batch costing

Or

Distinguish between Job Costing & Batch Costing?

(Nov, 2004, 2 marks)

- Accounting to job costing, costs are collected and accumulated according to job. Each job or unit of production is treated as a separate entity for the purpose of costing. Job costing may be employed when jobs are executed for different customers according to their specification.
- Batch costing is a form of job costing; a lot of similar units which comprises the batch may be used as a cost unit for ascertaining cost. Such a method of costing is used in case of

pharmaceutical industry, readymade garments, industries manufacturing parts of TV, radio sets etc.

3. Batch and uniform costing

- **Batch Costing:** It is a variant of job costing. Under batch costing, a lot of similar units which comprises the batch may be used as a unit for ascertaining cost. In the case of batch costing separate cost sheets are maintained for each batch of products by assigning a batch number. Cost per unit in a batch is ascertained by dividing the total cost of a batch by the number of units produced in that batch.
- **Uniform Costing:** It has been defined by the Institute of Cost and Works Accountants of England as “The use by several undertaking of the same costing principles and/or practices”. Thus when a number of undertaking, whether under the same management or not, decide to adhere to one set of accepted costing principles especially in matters where there can be two opinions – they are said to be following uniform costing. It makes inter firm comparison easy and, of course, one of the aims of uniform costing is to introduce inter-firm comparison. Use of uniform costing is comparatively easy among concerns manufacturing the same type of products.

4. Treatment of cost of Insurance, Bad debts, Cash discount

Insurance:

- The insurance premium paid by a concern may cover various kinds of insurances, insurance of plant & machinery, buildings and equipment usually covers risks of general loss and fire.
- The amount of premium which is based on the value insured is allocated to particular department or cost centers as items of overhead cost. Premium for insurance of warehouse stock are charged to distribution overhead; those for raw material to manufacturing overhead and the payment for insurance against loss of profit, burglary etc. are treated as administration overhead.
- The cost of insurance of plant & machinery, vehicles and buildings, if not directly allocated, is apportioned on the basis of number, value or area or cubic capacity. Accident may be apportioned on the basis of wages in each cost center with suitable weighable for those centers which are more prone to accident.
- Insurance charges paid at the time of purchase are charged direct to the cost of the material or asset purchased.

Bad Debts:

- Bad debts occur when some of the debtors fails to honour the commitments to pay. So the organization suffers a loss in the sense that they do not receive the price for goods sold or services rendered.
- Bad debts are usually considered part of selling and distribution overhead. It is also a *debatable* point in the sense that some accountants feel that bad debts arise out of financial policy and should not be taken into cost accounting altogether.
- These expenses should be charged off directly in the Costing Profit and Loss Account. In case when bad debts are included in costing and are considered as part of selling overheads this should be divided into normal and abnormal elements. When bad debts are within normal limits they should be absorbed in selling overheads as normal charge and when they are beyond the normal limits they should be charged off to P/L A/c thereby not being considered in the cost.

Cash Discount:

- It is an allowance given by the vendor for prompt payment of material price. The opinion among accountants about its treatment is differing. Two prevalent approaches for treatment of cash discount received as follows:

- (a) The cash discount received in the course of materials buying should be deducted from the invoice price of the materials. This way the discount received will reduce the purchase price of the materials.
- (b) It may be treated as an item of financial nature and therefore be kept outside the preview of cost accounting. However, dealt in the following manner:
 - *The full invoice price should be charged to the material account crediting the suppliers with the net invoice price and the discount earned account with the amount of cash discount received. If the prompt payment could not be made, the discount lost is debited to the discount lost a/c. any difference between the discount earned and the discount lost be treated as an item of administrative overhead.*

OVERHEADS

1. Cost apportionment & Cost Absorption

- *Cost apportionment* is the process of charging expenses in an equitable proportion to the various cost centers or departments. This describes the allotment of proportions of overhead to cost centers or departments. It is carried out in respect of those items of cost which cannot be allocated to any specific cost centre or department. For example, the salary of general manager cannot be allocated wholly to the production department, as he attends in general to all the departments. Therefore, some logical basis is selected and adopted for the apportionment of such type of expenses over various departments. Likewise, factory rent can be apportioned over the production and service departments on the basis of the area occupied by each.
- *Cost absorption*, is the process of absorbing all overhead costs allocated to or apportioned over particular cost centre or production department by the units produced; for example, the manufacturing cost of lathe centre is absorbed by a rate per lathe hour. Manufacturing costs of groundnut crushing centre can be absorbed by using a Kg. of groundnut oil produced as the basis. The purpose behind the absorption is that expenses should be absorbed in the cost of the output of the given period. For overhead absorption some suitable basis has to be adopted.

2. Bases for determining the Pre-determined rate/Recovery rate

The term 'pre-determined' rate of recovery of overheads refers to a rate of overhead absorption. It is calculated by dividing the budgeted overhead expenses for the accounting period by the budgeted base for the period. This rate of overhead absorption is determined prior to the start of the activity; that is why it is called a 'pre-determined rate'. The use of the pre-determined rate of recovery of overheads enables prompt preparation of cost estimates and quotations and fixation of sales prices. For prompt billing on a provisional basis before completion of work, as for example in the case of cost plus contracts, pre-determined overhead rates are particularly useful.

Bases Available: The bases available for computing 'pre-determined rate of recovery of overheads' are given below:-

1. Rate per unit of output
2. Direct labour cost method
3. Direct labour hours method
4. Machine hour rate method
5. Direct material cost method
6. Prime cost method.

The choice of a suitable method for calculating 'pre-determined rate of recovery of overhead' depends upon several factors. Some important ones are- type of industry, nature of product and processes of manufacture, nature of overhead expenses, organisational set-up, policy of management etc.

Reason for over/under absorption of overheads: Over-absorption of overheads arises due to one or more of the following reasons.

- (i) Improper estimation of overhead.
- (ii) Error in estimating the level of production.
- (iii) Unanticipated changes in the methods or techniques of production.
- (iv) Under-utilisation of the available capacity.
- (v) Seasonal fluctuations in the overhead expenses from period to period.

3. Blanket Overheads Rate

Or

What is blanket overhead rate? In which situations, blanket rate is to be used and why?
(May 1999, 3 marks)

- Blanket overhead rate is one single overhead absorption rate for the whole factory. It may be computed by using the following formulae:

$$\text{Blanket overhead rate} = \frac{\text{Overhead costs for the whole factory}}{\text{*Total units of the selected base}}$$

*** The selected base can be the total output; total labour hours; machine hours etc.**

Situation for using blanket rate:

- The use of blanket rate may be considered appropriate for factories which produce only one major product on a continuous basis. It may also be used in those units in which all products utilise same amount of time in each department. If such conditions do not exist, the use of blanket rate will give misleading results in the determination of the production cost, especially when such a cost ascertainment is carried out for giving quotations and tenders.

4. Methods of Absorbing under & over

Or

Explain, how under absorption and over-absorption of overheads are treated in Cost Accounts.
(November, 1998, 4 marks)

Methods for absorbing under/over absorbed overheads: The over-absorption and under-absorption of overheads can be disposed off in cost accounting by using any one of the following methods:

- (i) Use of supplementary rates
 - (ii) Writing off to costing profit & loss Account
 - (iii) Carrying over to the next year's account
- (i) *Use of supplementary rates:* This method is used to adjust the difference between overheads absorbed and overhead actually incurred by computing supplementary overhead rates. Such rates may be either positive or negative. A positive rate is intended to add the unabsorbed overheads to the cost of production. The negative rate, however corrects the cost of production by deducting the amount of over-absorbed overheads. The effect of applying such a rate is to make the actual overhead get completely absorbed.
 - (ii) *Writing off to costing profit & loss account:* When over or under-absorbed amount is quite negligible and it is not felt worthwhile to absorb it by using supplementary rates, then the said amount be transferred to costing profit & loss Account. In case under-absorption of overheads arises due to factors like idle capacity, defective planning etc., it may also be transferred to costing profit & loss Account.
 - (iii) *Carrying over to the next year's account:* Under this method the amount of under/over-absorbed overhead may be carried over to the next year's account. This method is not considered appropriate as it allows costs of one period to affect costs of

another period. Further, comparison between one period and another is rendered difficult. Therefore, this method is not proper and has only a limited application. However, this method may be used when the normal business cycle extends over more than one year, or in the case of a new project where the output is low in the initial years.

- 5. Absorption rate:** A rate charged to a cost unit intended to account for the overhead at a predetermined level of activity is called Absorption Rate. Cost absorption, is the process of absorbing all overhead costs allocated to or apportioned over particular cost centre or production department by the units produced; for example, the manufacturing cost of lathe centre is absorbed by a rate per lathe hour. Manufacturing costs of groundnut crushing centre can be absorbed by using a Kg. of groundnut oil produced as the basis. The purpose behind the absorption is that expenses should be absorbed in the cost of the output of the given period. For overhead absorption some suitable basis has to be adopted.

OPERATING COSTING

- 1. What do you mean by operation costing?**

Or

Write short note on operation costing.

(May, 1996, 4 marks)

Operation Costing: It is defined as the refinement of process costing. It is concerned with the determination of the cost of each operation rather than the process. In those industries where a process consists of distinct operations, the method of costing applied or used is called operation costing. Operation costing offers better scope for control. It facilitates the computation of unit operation cost at the end of each operation by dividing the total operation cost by total input units. It is the category of the basic costing method, applicable, where standardized goods or services result from a sequence of repetitive and more or less continuous operations, or processes to which costs are charged before being averaged over the units produced during the period. The two costing methods included under this head are process costing and service costing.

- 2. How are composite cost computed?**

Or

Explain briefly, what do you understand by Operating Costing. How are composite units computed?

(Nov. 2009, 3 marks)

- It is a *combination of two or more methods of costing*. Suppose a firm manufactures bicycles, including its components, the parts will be costed by way of batch costing but the cost of assembling the bicycle will be done by unit costing. This method is also called composite costing.
- Some other industries using this method of costing are those manufacturing – *radios, automobiles, aeroplanes etc.*
- Composite units may be computed in two ways:
 - a. *Absolute (weighted average) tones kms, quintal kms etc.:* Absolute tonnes-kms are the sum total of tonnes kms arrived at by multiplying various distances by respective load quantities carried.
 - b. *Commercial (simple average) tones kms, quintal kms etc.:* Commercial tonnes-kms, are arrived at by multiplying total distance kms, by average load quantity.

INTEGRATED & NON-INTEGRATED ACCOUNT

- 1. Pre-requisite of integrated account**

Or

What are the essential pre-requisites of integrated accounting system?

(Nov, 1996, 2001, 3 marks)

The essential pre-requisites of integrated accounting system include the following:

1. The management's decision about the extent of integration of the two sets of books. Some concerns find it useful to integrate upto the stage of primary cost or factory cost while other prefer full integration of the entire accounting records.
2. A suitable coding system must be made available so as to serve the accounting purposes of financial and cost accounts.
3. An agreed routine, with regard to the treatment of provision for accruals, prepaid expenses, other adjustment necessary for preparation of interim accounts.
4. Perfect coordination should exist between the staff responsible for the financial and cost aspects of the accounts and an efficient processing of accounting documents should be ensured.

Under this system there is no need for a separate cost ledger. Of course, there will be a number of subsidiary ledgers; in addition to the useful Customers Ledger and the Bought Ledger, there will be: (a) Stores Ledger; (b) Stock Ledger and (c) Job Ledger.

2. Advantages of integrated accounting

Or

What are the advantages of integrated accounting? (Nov., 1997; May, 2002, 4 marks)

Integrated Accounting is the name given to a system of accounting whereby cost and financial accounts are kept in the same set of books. Such a system will have to afford full information required for Costing as well as for Financial Accounts. In other words, information and data should be recorded in such a way so as to enable the firm to ascertain the cost (together with the necessary analysis) of each product, job, process, operation or any other identifiable activity. For instance, purchases are analysed by nature of material and its end-use. Purchases account is eliminated and direct postings are made to Stores Control Account, Work-in-Progress account, or Overhead Account. Payroll is straightway analysed into direct labour and overheads. It also ensures the ascertainment of marginal cost, variances, abnormal losses and gains. In fact all information that management requires from a system of Costing for doing its work properly is made available. The integrated accounts give full information in such a manner so that the profit and loss account and the balance sheet can be prepared according to the requirements of law and the management maintains full control over the liabilities and assets of its business.

The main advantages of Integrated Accounting are as follows:

- (i) Since there is one set of accounts, thus there is one figure of profit. Hence the question of reconciliation of costing profit and financial profit does not arise.
- (ii) There is no duplication of recording of entries and efforts to maintain separate set of books.
- (iii) Costing data are available from books of original entry and hence no delay is caused in obtaining information.
- (iv) The operation of the system is facilitated with the use of mechanized accounting.
- (v) Centralization of accounting function results in economy.

BUDGETARY CONTROL

1. Flexible budget

Or

Explain briefly the concept of 'flexible budget'.

(Nov 2008, 2 Marks)

Flexible Budget: A flexible budget is defined as "a budget which, by recognizing the difference between fixed, semi-variable and variable cost is designed to change in relation to the level of activity attained". A fixed budget, on the other hand is a budget which is designed to remain unchanged irrespective of the level of activity actually attained. In a fixed budgetary control, budgets are prepared for one level of activity whereas in a flexibility budgetary control system, a series of budgets are prepared one for the each of a

number of alternative production levels or volumes. Flexible budgets represent the amount of expense that is reasonably necessary to achieve each level of output specified. In other words, the allowances given under flexibility budgetary control system serve as standards of what costs should be at each level of output.

2. Functional budget

Or

List the eight functional budgets prepared by a business. (November 2009, 3 Marks)

Functional budgets are those budgets which can be related to the individual functions in an organisation. For example production budget, purchase budget etc.

The various commonly used Functional budgets are:

- Sales Budget
- Production Budget
- Plant Utilisation Budget
- Direct Material Usage Budget
- Direct Material Purchase Budget
- Direct Labour (Personnel) Budget
- Factory Overhead Budget
- Production Cost Budget

JOINT PRODUCT & BY PRODUCT

1. Spoilage, Defectives, Scrap, Waste

Waste: It represents the portion of basic raw materials lost in processing having no recoverable value. Waste may be visible-remnants of basic raw materials—or invisible, e.g., disappearance of basic raw materials through evaporation, smoke etc.

- Normal waste is absorbed in the cost of net output, whereas abnormal waste is transferred to the Costing Profit and Loss Account.
- For effective control of waste, normal allowances for yield and waste should be made from past experience, technical factors and special features of the material process and product. Actual yield and waste should be compared with anticipated figures and appropriate actions should be taken where necessary. Responsibility should be fixed on purchasing, storage, maintenance, production and inspection staff to maintain standards. A systematic procedure for feedback of achievement against laid down standards should be established.

Scrap: The incidental residue arising from the manufacturing operations, small in quantity and low in value, recoverable without further processing.

Spoilage: It is the term used for materials which are badly damaged in manufacturing operations, and they cannot be rectified economically and hence taken out of process to be disposed of in some manner without further processing. Spoilage may be either normal or abnormal.

- Normal spoilage (i.e., which is inherent in the operation) costs are included in costs either by charging the loss due to spoilage to the production order or charging it to production overhead so that it is spread over all products. Any value realised from spoilage is credited to production order or production overhead account, as the case may be.
- The cost of abnormal spoilage (i.e., arising out of causes not inherent in manufacturing process) are charged to the Costing Profit and Loss Account. When spoiled work is the result of rigid specification, the cost of spoiled work is absorbed by good production while the cost of disposal is charged to production overhead.

- To control spoilage, allowance for normal spoilage should be fixed and actual spoilage should be compared with standard set. A systematic procedure of reporting would help control over spoilage. A spoilage report should highlight the normal and abnormal spoilage, the department responsible, the causes of spoilage and the corrective action taken, if any.

Defectives (May, 2000, 4 marks): Defectives refers to those units or portions of production, which do not meet the prescribed specifications. Such units can be reworked or re-conditioned by the use of additional material, labour and /or processing and brought to the point of either standard or sub-standard units.

The possible way of treating defectives in cost accounts are as below:

- When defectives are normal and it is not beneficial to identify them job-wise, then the following methods may be used.
 - Charged to good products:* The cost of rectification of normal defectives is charged to good units. This method is used when defectives rectified are normal.
 - Charged to general overheads.* If the department responsible for defectives cannot be identified, the rework costs are charged to general overheads.
 - Charged to departmental overheads:* If the department responsible for defectives can be correctly identified, the rectification costs should be charged to that department.
- When normal defectives are easily identifiable with specific job the rework costs are debited to the identified job.
- When defectives are abnormal and are due to causes within the control of the organisation, the rework cost should be charged to the Costing Profit and Loss Account.

BASICS OF COSTING

Short notes type questions:

1. Relevant & Irrelevant Costs

The relevant cost is a cost appropriate in aiding to make specific management decisions. Business decision involves planning for future and consideration of several alternative courses of action. In this process the cost which are affected by the decisions are future costs. Such costs are called *Relevant Costs* because they are pertinent to the decision in hand. The cost is said to be relevant if it helps the manager in taking a right decision in furtherance of company's objectives.

Example: A company intends to rearrange production facilities, the estimates of future cost are as follows:

(Rs.)		
Item of cost	Existing facilities	Proposed Rearrangement
Direct material/unit	10.00	10.00
Direct labour/unit	5.00	4.00

The material cost being constant is irrelevant to decision making. The relevant cost is Labour cost.

2. Opportunity Cost & Incremental (Differential) Cost

Opportunity Cost (May, 2003, 2 marks): It refers to the value of sacrifice made or benefit of opportunity foregone in accepting an alternative course of action. For example, a firm financing its expansion plans by withdrawing money from its bank deposits. In such a case the loss of interest on the bank deposit is the opportunity cost for carrying out the expansion plan.

Incremental (Differential) Cost: Differential Costing is defined as the technique of costing which uses differential costs and/or differential revenues for ascertaining the acceptability of an alternative. The technique may be termed as incremental costing when

the difference is increase in costs and decremental costing when the difference is decrease in costs.

- 3. Conversion cost (May, 2003, 2 marks):** Conversion cost is the production cost excluding the cost of direct material (but including the cost resulting from variations in direct material, weight or volume) of producing partly or fully finished products. In other words, conversion cost of finished product or work in-progress is comprised of direct labour and the manufacturing overhead. In other words, it is the cost incurred to convert raw materials into finished goods. It is the sum of direct wages, direct expenses and manufacturing overheads.

- 4. Synergic effects in reduction in costs:**

Or

Briefly discuss how the synergetic effects help in reduction in costs.

(May 2007, 2 Marks)

- Two or more products are produced and managed together.
- The results of combined efforts are higher than sum of the results of individual products.
- Analysis of synergetic effect is helpful in cost control.

- 5. Different Terms of cost**

- | | |
|---|--------------------------------|
| → Imputed and sunk cost | → Marginal cost |
| → Relevant and irrelevant cost | → Explicit cost |
| → Opportunity cost and Incremental cost | → Implicit cost |
| → Conversion cost | → Target cost |
| → Shut down and abandonment cost | → Period cost and product cost |

- 6. Imputed cost:** These costs are notional costs which do not involve any cash outlay. Interest on capital, the payment for which is not actually made, is an example of imputed cost. These costs are similar to opportunity costs.

- 7. Sunk cost (May, 2003, 2 marks):** Historical costs or the costs incurred in the past are known as sunk cost. They play no role in the current decision making process and are termed as irrelevant costs. For example, in the case of a decision relating to the replacement of a machine, the written down value of the existing machine is a sunk cost, and therefore, not considered.

- 8. Cost centers & profit centers**

Cost centres (May 1995, 4 marks; May, 1997; Nov., 2002, 4 marks): It is defined as a location, person or an item of equipment or a group of these for which costs are ascertained and used for cost control. Cost centres are of two types viz, impersonal and personal.

- A cost centre which consists of a location or an item of equipment or a group of these is called an impersonal cost centre. A cost centre which consists of a person or a group of person is known as a personal cost centre.
- In a manufacturing concern there are two type of cost centres viz., production and service. Production cost centres are those where production activity is actually carried out whereas service cost centres are those sections which are ancillary and render service to production cost centres.

Profit centres (Nov, 1997, 4 marks): It is defined as an activity centre of a business organisation. Chief of such a centre is fully responsible for all costs, revenues and profitability of its operation. The main objective of profit centre is to maximise the centre's profit. Creation of profit centres facilitates management control and implementation of the objectives of responsibility accounting. A profit centre may have a number of cost centres

9. Cost control & cost reduction

Or

Difference between cost control and cost reduction

(Nov., 2002, May, 2003, 2004, Nov., 2004, 4 marks)

- *Cost control* is defined as the regulation by executive action of the cost of operating and undertaking. Cost control is achieved by setting targets of performance, collecting actual cost for each area of responsibility, comparing with actual targets.
- *Cost reduction* may be defined as the achievement of real and permanent reduction in the unit cost of goods manufactured or services rendered without impairing their suitability for the use intended or diminution in the quality of the product.

<i>Cost Control</i>	<i>Cost Reduction</i>
<ol style="list-style-type: none"> 1. Cost control represents efforts made towards achieving a target or a goal. 2. The process of cost control is to set up a target, instigate the variances / variations and taking remedial measures to correct them 3. Cost control assumes existence of standards or norms which are not changed. 4. Cost control is preventive function. Costs are optimized before they are incurred. 5. Cost control sometime lacks dynamic approach. 	<ol style="list-style-type: none"> 1. Cost reduction presents achievement in reduction of cost 2. Cost control is not contented merely with maintenance of performance according to the standard. 3. It assumes the existence of concealed potential saving in the standards or norms which are therefore subject to constant challenge or improvement. 4. Cost reduction is corrective function. It operates even when efficient cost control system exists. There is room for reduction in the achieved costs. 5. It is continuous process of analysis by various methods of all the factors affecting costs, efforts and functions in an organization. The main aim is to have continuous economy in costs.

10. Cost objects

Or

What are the main objectives of cost accounting?

(Nov 2007, 2 Marks)

The Main objectives of Cost Accounting are

1. Ascertainment of cost.
2. Determination of selling price.
3. Cost control and cost reduction.
4. Ascertaining the project of each activity.
5. Assisting management in decision-making.
6. Determination of breakeven point.

FINANCIAL MANAGEMENT**CAPITAL BUDGETING****1. Payback period**

Pay Back Period: It measures the time required to pay the initial investment back. It is one of the simplest method to calculate period within which entire cost of project would be completely recovered. It is the period within which total cash inflows from project would be equal to total cash outflow of project, cash inflow means profit after tax but before depreciation.

When cash inflows are uniform throughout the project life-

$$\text{Pay Back Period} = \frac{\text{Original Investment}}{\text{Cash Inflow p.a.}}$$

Lower the Pay Back period higher the acceptability.

When cash Inflows are not uniform throughout the project life:

Apply the method of simple interpolation for payback period calculation.

$$\frac{\text{Required Time} - \text{Lower Limit}}{\text{Upper Limit} - \text{Lower Limit}} = \frac{\text{Required Investment} - \text{Lower Limit}}{\text{Upper Limit} - \text{Lower Limit}}$$

Merits:

- (1) This method of evaluating proposals for capital budgeting is simple and easy to understand, it has an advantage of making clear that it has no profit on any project until the payback period is over i.e. Until capital invested is recovered. When funds are limited, they may be made to do more by selecting projects having shorter payback periods. This method is particularly suitable in the case of industries where risk of technological services is very high. In such industries, only those projects having a shorter payback period should be financed since changing technology would make the projects totally obsolete, before all costs are recovered.
- (2) In case of routine projects also use of payback period method favours projects that generates cash inflows in earlier years, thereby eliminating projects bringing cash inflows in later years that generally are conceived to be risky as this tends to increase with futurity.
- (3) By stressing earlier cash inflows, liquidity dimension is also considered in selection criteria. This is Important in situations of liquidity crunch and high cost of capital.
- (4) Payback period can be compared to break-even point, the point at which costs are fully recovered but profits are yet to commence.
- (5) The risk associated with a project arises due to uncertainty associated with cash inflows. A shorter payback period means that uncertainty with respect to project is resolved faster.

Limitations: Technique of payback period is not a scientific one due to the following reasons:

- (1) It stresses capital recovery rather than profitability. It does not take into account returns from the project after its payback period. For example : project a may have payback period of 3 years and project b of 8 years, according to this method project a would be selected, however, it is possible that after 3 years project b earns returns @ 20 % for another 3 years while project a stops yielding returns after 2 years. Thus, payback period is not a good measure to evaluate where the comparison is between 2 projects, one involving long gestation period and the other yielding quick results but for a short period.
- (2) This method becomes an inadequate measure of evaluating 2 projects where the cash inflows are uneven.
- (3) This method does not give any consideration to time value of money, cash flows occurring at all points of time are simply added. This treatment is in contravention of

the basic principle of financial analysis that stipulates compounding or discounting of cash flows and when they arise at different points of time.

- Some accountants calculate payback period after discounting cash flows by a pre-determined rate and the payback period so calculated is called "discounted payback period".

2. IRR

Or

Write a short note on Internal Rate of Return.

(Final-May 1996, 4 marks)

Internal Rate of Return (IRR): IRR is that rate of return at which the sum total of discounted cash inflows equals to discounted cash outflows. The IRR of a project is the discount rate that makes the net present value of the project equal to zero.

$$\begin{aligned} CO_0 &= \frac{CF_0}{(1+r)^0} + \frac{CF_1}{(1+r)^1} + \dots + \frac{CF_n}{(1+r)^n} + \frac{(SV+WC)}{(1+r)^n} \\ &= \sum_{t=0}^n \frac{CF_t}{(1+r)^t} + \frac{(SV+WC)}{(1+r)^t} \end{aligned}$$

Where, CO_0 = Cash outflows at the time of 0(zero) year end

F_t = Cash flows at the end of year t

r = Rate of discount

n = Life of the project in no. of years

SV = Salvage Value at the end of n years

WC = Working Capital at the end of n years

- The discount rate i.e. cost of capital is assumed to be known in the determination of NPV, while in the IRR, the NPV is set at 0(zero) and discount rate satisfying this condition is determined. IRR can be interpreted in 2 ways:

1. IRR represents the rate of return on the unrecovered investment balance in the project.
2. IRR is the rate of return earned on the initial investment made in the project.

- It may not be possible for all firms to reinvest intermediate cash flows at a rate of return equal to the project's IRR; hence the first interpretation seems to be more realistic. Thus, IRR should be viewed as the rate of return on unrecovered balance of project rather than compounded rate of return on initial investment over the life of the project. The exact rate of interpolation as follows:

- *Acceptance Rule:*

The use of IRR, as a criterion to accept capital investment decision involves a comparison of IRR with required rate of return called as Cutoff rate. The project should be accepted if IRR is greater than cut off rate. If IRR is equal to cut off rate the firm is indifferent. If IRR less than cut off rate, the project is rejected.

Merits:

- (1) This method makes use of the concept of time value of money.
- (2) All the cash flows in the project are considered.
- (3) IRR is easier to use as instantaneous understanding of desirability is determined by comparing it with the cost of capital.
- (4) IRR technique helps in achieving the objective of minimisation of shareholders wealth.

Demerits:

- (1) The calculation process is tedious if there are more than one cash outflow interspersed between the cash inflows then there would be multiple IRR's, the interpretation of which is difficult.

- (2) The IRR approach creates a peculiar situation if we compare the 2 projects with different inflow/outflow patterns.
- (3) It is assumed that under this method all future cash inflows of a proposal are reinvested at a rate equal to IRR which is a ridiculous assumption.
- (4) In case of mutually exclusive projects, investment options have considerably different cash outlays. A project with large fund commitments but lower IRR contribute more in terms of absolute NPV and increases the shareholders' wealth then decisions based only on IRR may not be correct.

3. NPV (Net Present Value):

- The best method for evaluation of investment proposal is net present value method or discounted cash flow technique. This method takes into account the time value of money. The net present value of investment proposal may be defined as sum of the present values of all cash inflows as reduced by the present values of all cash outflows associated with the proposal. Each project involves certain investments and commitment of cash at certain point of time. This is known as cash outflows. Cash inflows can be calculated by adding depreciation to profit after tax arising out of that particular project.

$$\begin{aligned} \text{NPV} &= \frac{\text{CF}_0}{(1+K)^0} + \frac{\text{CF}_1}{(1+K)^1} + \dots + \frac{\text{CF}_n}{(1+K)^n} \\ &= \sum_{t=0 \dots n} \frac{\text{CF}_t}{(1+K)^t} \end{aligned}$$

Where, NPV = Net Present Value of a project

CF_0 = Cash Outflow at the time 0 (zero)

CF_t = Cash flows at the end of year t ($t = 0 \dots n$)

i.e. the difference between cash inflows and out flows

K = Discount Rate

n = Life of Project

- *Discounting cash inflows:* Once cash inflows and outflows are determined, next step is to discount each cash inflow and work out its present value. For the purpose, discounting rates must be known. Normally, the discounting rate equals the opportunity cost of capital as a project must earn at least that much as is paid out on the funds locked in the project. The concept of present value is easy to understand. To calculate present value of various cash inflows reference shall be had to the present value table.
- *Discounting cash outflows:* The cash outflows also requires discounting as the whole of investment is not made at the initial stage itself and will be spread over a period of time. This may be due to interest-free deferred credit facilities from suppliers of plant or some other reasons. Another change in cash flows to be considered in the capital budgeting decision is the change due to requirement of working capital. Apart from investment in fixed assets, each project involves commitment of funds in working capital. The commitment on this account may arise as soon as the plant starts production. The working capital commitment ends after the fixed assets of the project are sold out. Thus, while considering the total outflows, working capital requirement must also be considered in the year the plant starts production. At the end of the project, the working capital will be recovered and can be treated as cash inflow of last year.
- *Acceptance rule:* A project can be accepted if NPV is positive i.e. $\text{NPV} > 0$ and rejected; if it is negative i.e. $\text{NPV} < 0$. If $\text{NPV} = 0$, project may be accepted as it implies a project generates cash flows at the rate just equal to the opportunity cost of capital.

Merits:

- (1) NPV method takes into account the time value of money.
- (2) The whole stream of cash flows is considered.
- (3) NPV can be seen as addition to the wealth of shareholders. The criterion of NPV is thus in conformity with basic financial objectives.
- (4) NPV uses discounted cash flows i.e. expresses cash flows in terms of current rupees. NPV's of different projects therefore can be compared. It implies that each project can be evaluated independent of others on its own merits.

Limitations:

- (1) It involves different calculations.
- (2) The application of this method necessitates forecasting cash flows and the discount rate. Thus accuracy of NPV depends on accurate estimation of these 2 factors that may be quite difficult in reality.
- (3) The ranking of projects depends on the discount rate.

Combined Question**Distinguish between Net Present Value and Internal Rate of Return.****(Final-May 2002, 2 marks)**

NPV and IRR: NPV and IRR methods differ in the sense that the results regarding the choice of an asset under certain circumstances are mutually contradictory under two methods. In case of mutually exclusive investment projects, in certain situations, they may give contradictory results such that if the NPV method finds one proposal acceptable, IRR favours another. The different rankings given by the NPV and IRR methods could be due to size disparity problem, time disparity problem and unequal expected lives.

→ The net present value is expressed in financial values whereas internal rate of return (IRR) is expressed in percentage terms.

→ In the net present value cash flows are assumed to be re-invested at cost of capital rate. In IRR reinvestment is assumed to be made at IRR rates.

4. Profitability Index (PI) / Desirability factor / Cost benefit**Or****Explain the term "Desirability factor".****(PCC-Nov. 2009, 1.5 marks)**

- In cases of, a number of capital expenditure proposals, each involving different amounts of cash inflows, the method of working out desirability factor or profitability index is followed. In general terms, a project is acceptable if its profitability index value is greater than 1.

- Mathematically

$\text{Desirability factor} = \frac{\text{Sum of Discounted Cash inflows}}{\text{Initial Cash Outlay or Total Discounted Cash outflows}}$

Merits:

- (1) This method also uses the concept of time value of money.
- (2) It is a better project evaluation technique than NPV.

Limitations:

- (1) Profitability index fails as a guide in resolving 'capital rationing' where projects are indivisible. Once a single large project with high NPV is selected, possibility of accepting several small projects that together may have higher NPV, then a single project is excluded.
- (2) Situations may arise where a project selected with lower profitability index may generate cash flows in such a manner that another project can be taken up one or two

years later, the total NPV in such case being more than the one with a project having highest Profitability Index.

- The profitability index approach thus, cannot be used indiscriminately but all other type of alternatives of projects would have to be worked out.

5. Discounted payback

Or

Explain the concept of discounted payback period.

(PCC-June 2009, 3 marks)

Concept of Discounted Payback Period

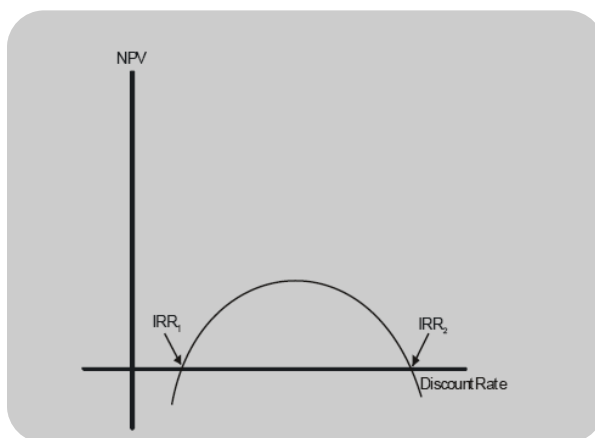
Payback period is time taken to recover the original investment from project cash flows. It is also termed as break even period. The focus of the analysis is on liquidity aspect and it suffers from the limitation of ignoring time value of money and profitability. Discounted payback period considers present value of cash flows, discounted at company's cost of capital to estimate breakeven period i.e. it is that period in which future discounted cash flows equal the initial outflow. The shorter the period, better it is. It also ignores post discounted payback period cash flows.

6. Multiple IRR

Or

Explain the concept of Multiple Internal Rate of Return. **(PCC-Nov. 2008, 3 marks)**

In cases where project cash flows change signs or reverse during the life of a project for example, an initial cash outflow is followed by cash inflows and subsequently followed by a major cash outflow; there may be more than one internal rate of return (IRR). The following graph of discount rate versus net present value (NPV) may be used as an illustration:



In such situations if the cost of capital is less than the two IRRs, a decision can be made easily; however, otherwise the IRR decision rule may turn out to be misleading as the project should only be invested if the cost of capital is between IRR1 and IRR2. To understand the concept of multiple IRRs it is necessary to understand the implicit re-investment assumption in both NPV and IRR techniques.

7. Capital rationing

- Usually, firms decide maximum amount that can be invested in capital projects, during a given period of time, say a year. The firm, then attempts to select a combination of investment proposals, that will be within specific limits providing maximum profitability and rank them in descending order as per their rate of return, this is a capital rationing situation. A firm should accept all investment projects with positive NPV, with an objective to maximise the wealth of shareholders. However, there

may be resource constraints due to which a firm may have to select from amongst various projects. Thus, there may arise a situation of capital rationing where, there may be internal or external constraints on procurement of funds needed to invest in all investment proposals with positive NPV's. Capital rationing can be experienced due to external factors, mainly imperfections in capital markets attributable to non-availability of market information, investor attitude, and so on. Internal capital rationing is due to self-imposed restrictions imposed by management as, not to raise additional debtor lay down a specified minimum rate of return on each project. There are various ways of resorting to capital rationing. It may put up a ceiling when it has been financing investment proposals only by way of retained earnings i.e., ploughing back of profits. Capital rationing can also be introduced by following the concept of 'Responsibility Accounting', whereby management may introduce capital rationing by authorising a particular department to invest up-to a specified limit, beyond which decisions would be taken by the higher-ups. Selection of a project under capital rationing involves :

- 1) Identification of the projects that can be accepted by using evaluation technique as discussed.
 - 2) Selection of the combination of projects.
- In capital rationing, it would be desirable to accept several small investment proposals than a few large ones, for a fuller utilisation of the budgeted amount. This would result in accepting relatively less profitable investment proposals if full utilisation of budget is a primary consideration. It may also mean that the firm forgoes the next profitable investment following after the budget ceiling, even if it is estimated to yield a rate of return higher than the required rate. Thus capital rationing does not always lead to optimum results.

8. Modified IRR

Or

Define Modified Internal Rate of Return method.

(PCC-May 2007, 2 marks)

Modified Internal Rate of Return (MIRR):

There are several limitations attached with the concept of the conventional Internal Rate of Return. The MIRR addresses some of these deficiencies. For example, it eliminates multiple IRR rates; it addresses the reinvestment rate issue and produces results, which are consistent with the Net Present Value method. Under this method, all cash flows, apart from the initial investment, are brought to the terminal value using an appropriate discount rate (usually the cost of capital). This results in a single stream of cash inflow in the terminal year. The MIRR is obtained by assuming a single outflow in the 0th year and the terminal cash inflow as mentioned above. The discount rate which equates the present value of the terminal cash in flow to the 0th year outflow is called the MIRR.

CASH FLOWS & FUND FLOWS

1. Difference between cash flow and fund flow

Or

Distinguish between Cash Flow and Fund Flow statement.

(PE-II-Nov.2002, May 2004, 3 marks; IPCC-May 2010, 3 marks)

The points of distinction between cash flow and funds flow statement are as below:

Cash flow statement	Funds flow statement
→ It ascertains the changes in balance of cash in hand and bank.	→ It ascertains the changes in financial position between two accounting periods.
→ It analyses the reasons for changes in balance of cash in hand and bank	→ It analyses the reasons for change in financial position between two balance sheets

→ It shows the inflows and outflows of cash.	→ It reveals the sources and application of funds.
→ It is an important tool for short term analysis.	→ It helps to test whether working capital has been effectively used or not.

LEVERAGE

1. Concept of leveraged lease

Or

Explain the concept of leveraged lease.

(PCC-Nov. 2007, 2 marks)

Concept of Leveraged Lease: Leveraged lease involves lessor, lessee and financier. In leveraged lease, the lessor makes a substantial borrowing, even up-to 80 per cent of the assets purchase price. He provides remaining amount – about 20 per cent or so – as equity to become the owner. The lessor claims all tax benefits related to the ownership of the assets. Lenders, generally large financial institutions, provide loans on a non-recourse basis to the lessor. Their debt is served exclusively out of the lease proceeds. To secure the loan provided by the lenders, the lessor also agrees to give them a mortgage on the asset. Leveraged lease are called so because the high non-recourse debt creates a high degree of leverage.

2. Trading on equity

Or

Explain the principles of “Trading on equity”.

(PCC-May 2008, 2 marks)

The term trading on equity means debts are contracted and loans are raised mainly on the basis of equity capital. Those who provide debt have a limited share in the firm's earning and hence want to be protected in terms of earnings and values represented by equity capital. Since fixed charges do not vary with firms earnings before interest and tax, a magnified effect is produced on earning per share. Whether the leverage is favourable, in the sense, increase in earnings per share more proportionately to the increased earnings before interest and tax, depends on the profitability of investment proposal. If the rate of returns on investment exceeds their explicit cost, financial leverage is said to be positive.

3. Business (Operating) & financial risk

Or

Differentiate between Business Risk and Financial Risk.

(PCC-May 2007 & Nov. 2009, 3 marks)

Business Risk and Financial Risk:

- Business Risk refers to the risk associated with the firm's operations. It is an unavoidable risk because of the environment in which the firm has to operate and the business risk is represented by the variability of earnings before interest and tax (EBIT). The variability in turn is influenced by revenues and expenses. Revenues and expenses are affected by demand of firm's products, variations in prices and proportion of fixed cost in total cost.
- Whereas, Financial Risk refers to the additional risk placed on firm's shareholders as a result of debt use in financing. Companies that issue more debt instruments would have higher financial risk than companies financed mostly by equity. Financial risk can be measured by ratios such as firm's financial leverage multiplier, total debt to assets ratio etc.

COST OF CAPITAL

1. Ploughing back of profit

Or

Explain the term 'Ploughing back of Profits'.

(PCC- May 2007, 2 marks)

Ploughing back of Profits: Retained earnings means retention of profit and reinvesting it in the company as long term funds. Such funds belong to the ordinary shareholders and increase the net worth of the company. A public limited company must plough back a reasonable amount of profit every year keeping in view the legal requirements in this regard and its own expansion plans. Such funds also entail almost no risk. Further, control of present owners is also not diluted by retaining profits.

2. K_o (Weighted Average Cost of Capital)

Or

What do you understand by Weighted Average Cost of Capital?

(PCC-Nov. 2009, 3 marks)

Weighted Average Cost of Capital: The composite or overall cost of capital of a firm is the weighted average of the costs of various sources of funds. Weights are taken in proportion of each source of funds in capital structure while making financial decisions. The weighted average cost of capital is calculated by calculating the cost of specific source of fund and multiplying the cost of each source by its proportion in capital structure. Thus, weighted average cost of capital is the weighted average after tax costs of the individual components of firm's capital structure. That is, the after tax cost of each debt and equity is calculated separately and added together to a single overall cost of capital.

3. Cut-off rate

Cut off rate is the minimum that the management wishes to have from any project, usually it is based on cost of capital. The technical calculation of cost of capital involves a complicated procedure, as a concern procures funds from any sources i.e. equity shares, capital generated from its own operations and retained in general reserves i.e. retained earnings, debentures, preference share capital, long/short term loans, etc. Thus, the firm's cost of capital can be known only by working out weighted average of the various costs of raising various types of capital. A firm should not and would not invest in projects yielding returns at a rate below the cut off rate.

Overall Cost of Capital or Weighted Average of Capital

Cost of Capital or cut off rate (C_w or C_o) = $\sum(\text{Capital mix ratio} \times \text{cost of each ingredients})$

Alternatively,

$$C_w \text{ or } C_o = \frac{\text{Total Cost}}{\text{Total Capital}} \times 100$$

(Adopted from CA-Final references)

4. "Cost of retain earning is zero" explain.

Or

Explain the concept of Cost of retain earning.*

***Reference Note:** There is no more clarification or discussions are given for some topics in the Module or Compilation of ICAI for CA-IPCC. Therefore some answers must be adopted from CA-FINAL references for more detail and enhanced conceptuality.

Cost of Retained Earnings (C_r): Two basic approaches have been suggested for determining the cost of retained earnings:

- (i) Tax adjusted rate of return approach, and

(ii) External yield approach.

Tax-adjusted Rate of Return Approach: The cost of retained earnings is calculated as the post-tax rate of return available to the investor. This means that k_s has to be adjusted for ordinary and long-term capital gains tax. One way to do it is as follows:

$$k_r = k_s \times \frac{1 - t_p}{1 - t_g}$$

Where k_r = cost of retained earnings

k_s = rate of return required by equity investors

t_p = ordinary personal income tax rate

t_g = personal long-term capital gains tax rate.

- This approach is riddled with two problems: (i) The ordinary personal income tax rate and the personal long-term capital gains rate may vary widely across the shareholders of a company. Hence it may be impossible to establish a minimum rate of return that ensures that all the shareholders benefit if the company reinvests its cash flows instead of paying dividends. (ii) The alternative investment opportunities of the company are not considered.

External Yield Approach: The basic premise of this approach is that the company should evaluate the possibility of buying shares of other companies with similar risk characteristics by using retained earnings. Hence the opportunity cost of retained earnings is deemed equal to the rate of return that can be earned on such investment. Since that rate of return is equal to k_s , the cost of retained earnings is simply equal to k_s .

- This approach appears to be superior to the earlier approach. Hence in our subsequent discussion we will adopt this approach.

$$C_r = C_e(1 - b)(1 - t)$$

Where, b = rate of brokerage;

t = marginal tax rate applicable to share holder

If rate brokerage is not given, $C_r = C_e$

$$\therefore C_r = \left(\frac{D}{P} \right) + G$$

5. CAPM*

***Reference Note:** There is no more clarification or discussions are given for some topics in the Module or Compilation of ICAI for CA-IPCC. Therefore some answers are must be adopted from CA-FINAL references for more detail and enhanced conceptuality.

THE CAPITAL ASSET PRICING MODEL (CAPM)

→ In the chronological development of modern financial management, portfolio theory came first with Markowitz in 1952. It was not until 1964 that William Sharpe

derived the capital Asset Pricing Model (CAPM) based on Markowitz's portfolio theory. For example, a key assumption of the CAPM is that investors hold highly diversified portfolios and thus can eliminate a significant proportion of total risk.

- The CAPM was a breakthrough in modern finance because for the first times a model became available which enable academic, financiers and investors to link the risk and return for an asset together, and which explained the underlying mechanism of asset pricing in capital markets.

TYPES OF INVESTMENT RISK

- In the preceding chapter we have seen how the total risk (as represented by the standard deviation, σ) of a two-security portfolio can be significantly reduced by combining securities whose returns are negatively correlated, or at least have low positive correlation – the principle of diversification.
- According to the CAMP, the total risk of a security or portfolio of securities can be split into two specific types, systematic risk and unsystematic risk. This is sometimes referred to as risk partitioning, as follows:

Total risk = Systematic risk + Unsystematic risk

- **Systematic (or market) risk** cannot be diversified away: it is the risk which arises from market factors and is also frequently referred to as undiversifiable risk. It is due to factors which systematically impact on most firms, such as general or macroeconomic conditions (e.g. balance of payments, inflation and interest rates). It may help you remember which type is which if you think of systematic risk as arising from risk factors associated with the general economic and financial system.
- **Unsystematic (or specific) risk** can be diversified away by creating a large enough portfolio of securities: it is also often called diversifiable risk or company-unique risk. It is the risk which relates, or is unique, to a particular firm. Factors such as winning a new contract, an industrial dispute, or the discovery of a new technology or product would contribute to unsystematic risk.

THE CAPM MODEL

- We have previously described the CAPM as a method of expressing the risk-return relationship for a security or portfolio of securities: it brings together systematic (undiversifiable) risk and return. After all, for any rational, risk-averse investor it is only systematic risk which is relevant, because if the investor creates a sufficiently large portfolio of securities, unsystematic or company-specific risk can be virtually eliminated through diversification.
- It is therefore the measurement of systematic risk which is of primary importance for rational investors in identifying those securities which possess the most desired risk-return characteristics. It is the measurement of systematic risk which becomes critical in the CAPM because the model relies on the assumption that investors will only hold well diversified portfolios, so only systematic risk matters.
- The CAPM is quite a complex concept so if you find it difficult to grasp at first do not become disillusioned, stick with it.
- For reasons of presentation and ease of understanding we will approach our study of the CAPM by breaking it down into five key components as follows:
 1. The beta coefficient, (β);
 2. The CAPM equation;
 3. The CAPM graph → The security market line (SML);
 4. Shifts in the SML → Inflationary expectations and risk aversion;
 5. Comments and criticisms of the CAPM.

CAPITAL STRUCTURE

1. Difference between capital structure and financial structure

Or

What do you understand by Capital Structure? How does it differ from Financial Structure? (IPCC-May 2010, 2 marks)

Capital structure: The permanent long-term financing of a company, including Long-term debt, Equity share Capital, Preference Share Capital & Retained earnings is called Capital Structure. It is mixture of different long term finances used by the firm. It is the financing plan of the company. It differs from financial structure, which includes short-term debt and accounts payable also.

Financial structure: Makeup of the right-hand side of a company's Balance Sheet which includes all the ways its assets are financed, such as trade accounts payable and short-term borrowings as well as long-term debt and ownership equity. Financial structure is distinguished from Capital Structure which includes only long-term debt and equity. A company's financial structure is influenced by a number of factors, including the growth rate and stability of its sales, its competitive situation (i.e., the stability of its profits), its asset structure, and the attitudes of its management and its lenders. It is the basic frame of reference for analyses concerned with financial leveraging decisions.

2. Debt/equity and EBIT-EPS for Indifference point

Or

Discuss the concept of Debt-Equity or EBIT-EPS indifference point, while determining the capital structure of a company. (PCC-June 2009, 2 marks)

Concept of Debt-Equity or EBIT-EPS Indifference Point while Determining the Capital Structure of a Company

- The determination of optimum level of debt in the capital structure of a company is a formidable task and is a major policy decision. It ensures that the firm is able to service its debt as well as contain its interest cost. Determination of optimum level of debt involves equalizing between return and risk.
- EBIT – EPS analysis is a widely used tool to determine level of debt in a firm. Through this analysis, a comparison can be drawn for various methods of financing by obtaining indifference point. It is a point to the EBIT level at which EPS remains unchanged irrespective of debt-equity mix. The indifference point for the capital mix (equity share capital and debt) can be determined as follows:

$$\frac{(EBIT - I_1)(1 - T)}{E_1} = \frac{(EBIT - I_2)(1 - T)}{E_2}$$

Where, EBIT=Indifference point

E_1 = Number of equity shares of Alternative 1

E_2 = Number of equity shares of Alternative 2

I_1 = Interest charges in Alternative 1

I_2 = Interest charges in Alternative 2

T = Tax Rates

Alternative 1 = All equity finance

Alternative 2 = Debt-equity finance

3. Optimum capital structure

Or

What is optimum capital structure? Explain. (PCC-Nov. 2007& 2008, 2 marks)

Optimum Capital Structure: The optimum capital structure is that capital structure or combination of debt and equity that leads to the maximisation of the value of the firm. The capital structure decision is important to the firm as the optimum capital structure minimises the firm's overall cost of capital and maximises the value of the firm. The use of debt funds in capital structure increases the earnings per share as the interest on debt is tax deductible, which leads to increase in share price. But higher levels of debt funds in capital structure result in greater financial risk and it leads to higher cost of capital and

depresses the market price of company's share. Therefore, the firm should try to achieve and maintain the optimum capital structure keeping in view value maximisation objective of the firm.

4. Factors to be considered to determine (optimum) capital structure

- There are three major considerations in capital structure planning are:
(a) Risk, (b) Cost and (c) Control
- These differ for various components of Capital i.e. own funds and loan funds. A comparative analysis is given as under:

Type of funds	Risk	Cost	Control
Equity Capital	Low Risk – No question of repayment of capital expect when the company is under liquidation. Hence, <i>best from view point of risk.</i>	Most Expensive – Dividend expectations of shareholders are higher than interest rates. Also, dividends are not Tax-deductible.	Dilution of control – Since the capital base might be expanded and new shareholders/public are involved.
Preference Capital	Slightly high risk when compared to equity capital – Principal is redeemable after certain period even if dividend payment is based on profits.	Slightly cheaper cost than equity but higher than loan funds and interests – Further, preference dividends are not tax-deductible.	No dilution of control – Since voting rights is restricted.
Loan Funds	High Risk – Capital should be repaid as per agreement; interest should be repaid irrespective of performance of profits.	Comparatively cheaper – Prevailing interest rates are considered only to the extent of after tax impact.	No dilution of control – But some financial institutions may insist or nomination of their representatives in the Board of Directors.

5. Proposition in MM Approach

Or

Explain, briefly, Modigliani and Miller approach on Cost of Capital

(Final-May, 1997; PE-II-Nov. 2002, 10 marks)

Modigliani and Miller approach to Cost of Capital: Modigliani and Miller's argue that the total cost of capital of a particular corporation is independent of its methods and level of financing. According to them a change in the debt equity ratio does not affect the cost of capital. This is because a change in the debt equity ratio changes the risk element of the company which in turn changes the expectations of the shareholders from the particular shares of the company. Hence they contend that leverages has little effect on the overall cost of capital or on the market price.

Modigliani and Miller made the following assumptions and the derivations there from:

Assumptions:

- (i) Capital markets are perfect. Information is costless and readily available to all investors, there are no transaction costs; and all securities are infinitely divisible. Investors are assumed to be rational and to behave accordingly.
- (ii) The average expected future operating earnings of a firm are represented by a subjective random variable. It is assumed that the expected values of the probability distributions of all investors are the same. Implied in the MM illustration is that the expected values of the probability distributions of expected operating earnings for all future periods are the same as present operating earnings.

- (iii) Firms can be categorised into “equivalent return” classes. All firms within a class have the same degree of business risk.
- (iv) The absence of corporate income taxes is assumed.

Their three basic propositions are:

- (i) The total market value of the firm and its cost of capital are independent of its capital structure. The total market value of a firm is given by capitalising the expected stream of operating earnings at a discount rate appropriate for its risk class.
- (ii) The expected yield of a share of stock, K_e is equal to the capitalisation rate of a pure equity stream, plus a premium for financial risk equal to the difference between the pure equity capitalization rate and K_g times the ratio B/S . In other words, K_e increases in a manner to exactly offset the use of cheaper debt funds.
- (iii) The cut-off rate for investment purposes is completely independent of the way in which an investment is financed. This proposition along with the first implies a complete separation of the investment and financing decisions of the firm.

Conclusion: *The theory propounded by them is based on the prevalence of perfect market conditions which are rare to find. Corporate taxes and personal taxes are a reality and they exert appreciable influence over decision making whether to have debt or equity.*

Ratio Analysis

1. Limitation of financial ratio

Or

Explain briefly the limitations of Financial Ratios.

(Nov. 2009, 2 marks)

The limitations of financial ratios are listed below:

- Diversified product lines: Many businesses operate a large number of divisions in quite different industries. In such cases, ratios calculated on the basis of aggregate data cannot be used for inter-firm comparisons.
- Financial data are badly distorted by inflation: Historical cost values may be substantially different from true values. Such distortions of financial data are also carried in the financial ratios.
- Seasonal factors may also influence financial data.
- To give a good shape to the popularly used financial ratios (like current ratio, debt-equity ratios, etc.): The business may make some year-end adjustments. Such window dressing can change the character of financial ratios which would be different had there been no such change.
- Differences in accounting policies and accounting period: It can make the accounting data of two firms non-comparable as also the accounting ratios.
- There is no standard set of ratios against which a firm's ratios can be compared: Sometimes a firm's ratios are compared with the industry average. But if a firm desires to be above the average, then industry average becomes a low standard. On the other hand, for a below average firm, industry averages become too high a standard to achieve.
- It is very difficult to generalise whether a particular ratio is good or bad: For example, a low current ratio may be said 'bad' from the point of view of low liquidity, but a high current ratio may not be 'good' as this may result from inefficient working capital management.
- Financial ratios are inter-related, not independent: Viewed in isolation one ratio may highlight efficiency. But when considered as a set of ratios they may speak differently. Such interdependence among the ratios can be taken care of through multivariate analysis.

2. Debt-coverage ratio and importance

- The coverage ratio measures the firm's ability to service fixed liabilities. These ratios establish the relationship between fixed claims and what is usually available out of which these claims are to be paid. The fixed claims consist of:
- Interest on loans*
 - Preference dividend*
- Amortization of principal or repayment of the installment of loans or redemption of preference capital on maturity.
- Lenders are interested in judging the firm's ability to pay off current interest and installments and thus the debt service coverage ratio.

$$\text{Debt service coverage ratio} = \frac{\text{Earnings available for debt service}}{(\text{Interest} + \text{Instalments})}$$

Where,

Earnings available for debt service = Net profit + Non-cash operating expenses like depreciation and other amortisations + Non-operating adjustments like loss on sale of fixed assets + Interest on debt fund.

3. ROE – with Du Pont model

Or

Write a short note: Composition of ROE using Du Pont

(RTP- Nov. 2009)

Or

Diagrammatically present the DU PONT CHART to calculate return on equity.

(May 2007, 3 Marks)

- There are three components in the calculation of return on equity using the traditional DuPont model- the net profit margin, asset turnover, and the equity multiplier. By examining each input individually, the sources of a company's return on equity can be discovered and compared to its competitors.

Return on Equity = (Net Profit Margin) (Asset Turnover) (Equity Multiplier)

Components of Du Pont Chart of ROE:

- (i) **Net Profit Margin:** The net profit margin is simply the after-tax profit a company generates for each rupee of revenue.

Net profit margin = Net Income ÷ Revenue

- Net profit margin is a safety cushion; the lower the margin, lesser the room for error.

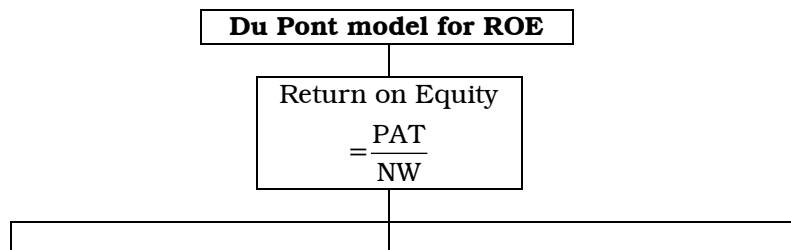
- (ii) **Asset Turnover:** The asset turnover ratio is a measure of how effectively a company converts its assets into sales. It is calculated as follows:

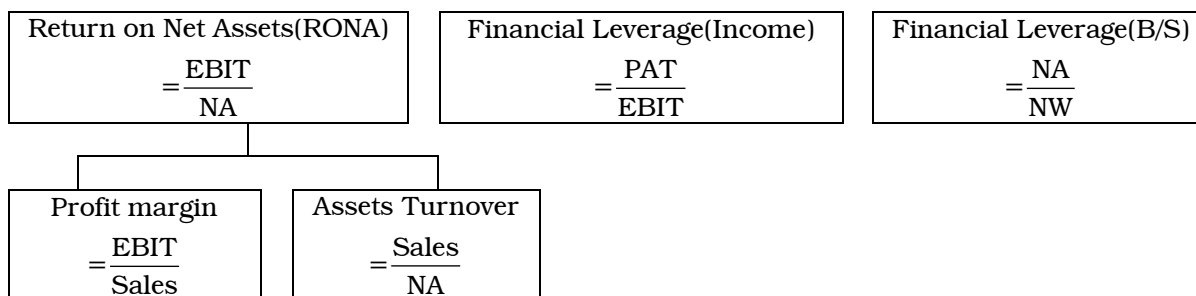
Asset Turnover = Revenue ÷ Assets

- The asset turnover ratio tends to be inversely related to the net profit margin; i.e., the higher the net profit margin, the lower the asset turnover.

- (iii) **Equity Multiplier:** It is possible for a company with terrible sales and margins to take on excessive debt and artificially increase its return on equity. The equity multiplier, a measure of financial leverage, allows the investor to see what portion of the return on equity is the result of debt. The equity multiplier is calculated as follows:

Equity Multiplier = Assets ÷ Shareholders' Equity.





4. Quick ratio, Stock T/o Ratio, Gearing Ratio*

→ **Quick Ratio**

(Nov. 2008, 2 marks)

Formula:

$\text{Quick ratio} = \frac{\text{Quick Assets}}{\text{Current or Quick liabilities}}$
<small>(Acid test ratio)</small>

Where,

Quick assets = Sundry debtors + Cash and Bank balances + Receivables / Accruals
 + Loans and advances + Disposable Investments
 i.e. = Current assets – Inventories.

Quick liabilities = Creditors for goods and services + Short – term Loans
 + Outstanding expenses + Provision for taxation
 + Proposed dividend + Unclaimed dividend

i.e. = Current liabilities – Bank overdraft – Cash credit

Current liabilities = Creditors for goods and services + Short-term Loans
 + Bank Overdraft + Cash credit + Outstanding expenses
 + Provision for taxation + Proposed dividend
 + Unclaimed dividend.

Important Points

- In the above formula, instead of total current liabilities only those current liabilities are taken that are payable within 1 year that are known as quick liabilities.
- Quick assets are also called liquid assets, they consists of cash and only 'near cash assets'.
- Inventories are deducted from current assets, as they are not considered as 'near cash assets', but in a seller's market they are not so considered. Just like lag in collection of debtors, there is lag in conversion of inventories into finished goods and sundry debtors, also slow-moving inventories are not near cash assets.
- While calculating the quick ratio, the conservatism convention, quick liabilities are that portion of current liabilities that fall due immediately, hence bank overdraft and cash credit are excluded.

Combined Question

* **What do you mean by Stock Turnover ratio and Gearing ratio?**

(Nov. 2008, 3 Marks)

→ **Stock Turnover Ratio**

Formulae:

$$\text{Stock (Inventory) turnover ratio} = \frac{\text{Sales}}{\text{Average inventory}}$$

It may also be calculated with reference to cost of sales instead of sales, as:

$$\text{Inventory turnover ratio} = \frac{\text{Cost of sales}}{\text{Average inventory}}$$

For inventory of raw material,

$$\text{Inventory turnover ratio} = \frac{\text{Raw material consumed}}{\text{Average raw material stock}}$$

Where,

$$\text{Average inventory} = \frac{(\text{Opening Stock} + \text{Closing stock})}{2}$$

Important Points

- This ratio indicates the speed of inventory usage.
- A high ratio is good from liquidity point of view and vice versa.
- A low ratio indicates that inventory is not used / sold or is lost and stays in a shelf or in the warehouse for a long time.

→ **Gearing ratio**

Formula:

$$\text{Gearing Ratio} = \frac{\text{Borrowings (all long term debts including normal overdraft)}}{\text{Net Assets or Shareholders' funds}}$$

Important Points:

- Gearing Ratio indicates how much of the business is funded by borrowing.
- In theory, the higher the level of borrowing (gearing), the higher are the risks to a business, since the payment of interest and repayment of debts are not "optional" in the same way as dividends.
- However, gearing can be a financially sound part of a business's capital structure particularly if the business has strong, predictable cash flows.

CASH MANAGEMENT

1. Functions of treasury department

Or

Explain briefly the functions of Treasury Department.

(PCC-May 2008 & June 2009)(3 marks)

The functions of treasury department management is to ensure proper usage, storage and risk management of liquid funds so as to ensure that the organisation is able to meet its obligations, collect its receivables and also maximize the return on its investments.

Towards this end the treasury function may be divided into the following:

- **Cash Management:** The efficient collection and payment of cash both inside the organization and to third parties is the functions of treasury department. Treasury will normally manage surplus funds in an investment portfolio.
- **Currency Management:** The Treasury Department manages the foreign currency risk exposor of the company.

- **Funding Management:** The Treasury Department is responsible for planning and sourcing the company short, medium and long term cash needs.
- **Banking:** Company maintains good relationship with its bankers. The Treasury Department carries out negotiations with bankers and act as the initial points of contact with them.
- **Corporate Finance:** The Treasury department is involved with both acquisition and disinvestment activities within the group.

2. William J.B cash model

- According to William J. Baumal's Economic order quantity model optimum cash level is that level of cash where the carrying costs and transaction costs are the minimum.
- The carrying costs refer to the cost of holding cash, namely, the interest foregone on marketable securities.
- The transaction cost refers to the cost involved in getting the marketable securities converted into cash.
- This happens when the firm falls short of cash and has to sell the securities resulting in clerical, brokerage, registration and other costs.
- The optimum cash balance according to this model will be that point where these two costs are equal. The formula for determining optimum cash balance is:

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

Where, C = Optimum cash balance

U = Annual (monthly) cash disbursements

P = Fixed cost per transaction

S = Opportunity cost of one rupee p.a. (or p.m.)

3. Miller Orr Cash management

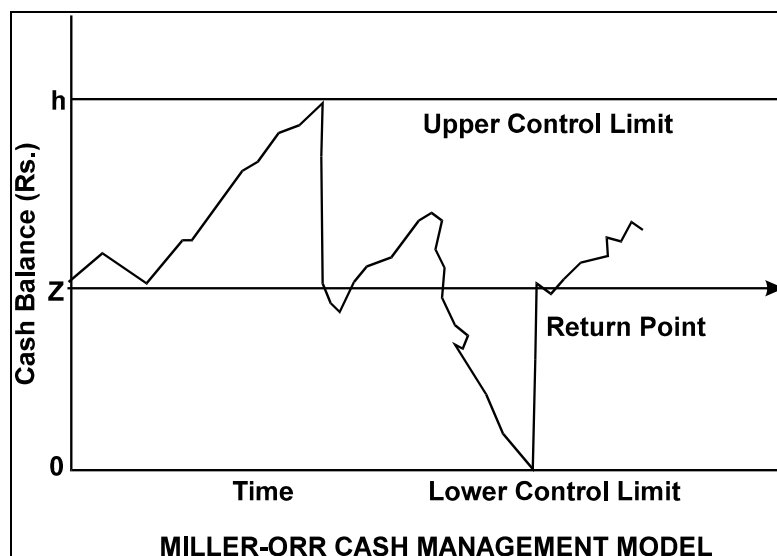
Or

Discuss Miller-Orr Cash Management model.

(P.E-II-Nov. 2005, 2 Marks)

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.



- 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.
- The formula for calculation of the spread between the control limits is:

$$\text{Spread} = 3 \left(\frac{\frac{3}{4} \times \text{Transaction Cost} \times \text{Variance of Cashflows}}{\text{Interest rate}} \right)^{\frac{1}{3}}$$

- And, the return point can be calculated using the formula:

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

WORKING CAPITAL MANAGEMENT

1. Factors affecting working capital management

- | | |
|---|---|
| <ul style="list-style-type: none"> → Production policies → Nature of the business → Credit policy → Inventory policy → Abnormal policy → Market condition → Conditions of supply | <ul style="list-style-type: none"> → Business cycle → Growth of expansion → Level of taxes → Dividend policy → Price level charges → Operating efficiency |
|---|---|

2. Instruments in Investment market (No need to elaborate)

Or

Name the various financial instruments dealt with in the international market.

(Nov. 2008, 2 marks)

Indian market

- Treasury bills
 - *On-Top T-Bills*
 - *Ad hoc T-Bills*
 - *Auctioned T-Bills*
- Repurchase agreements (*REPO-REPurchasing Order*)
- Call money market
- Certificates of Deposits (CDs)
- Commercial papers (CPs)

Financial Instruments in the International Market:

Some of the various financial instruments dealt with in the international market are:

- Euro Bonds
- Foreign Bonds
- Fully Hedged Bonds
- Medium Term Notes
- Floating Rate Notes
- External Commercial Borrowings
- Foreign Currency Futures
- Foreign Currency Option
- Euro Commercial Papers.

3. Commercial Paper

Or

Write a short note: Commercial Paper

(PE-II-Nov. 2003, 3 marks)

- Commercial paper (CP): To give a boost to the money market and reducing the dependence of highly rated corporate borrowers on bank finance for meeting their working capital requirement, corporate borrowers were permitted to arrange short-term borrowing by issue of commercial paper w.e.f. 1st Jan, 1990. It is being regulated by the RBI.
- The interest rates on such an instrument are determined by the market forces. The companies which are allowed to issue 'Commercial Paper' must have a net worth of Rs.10 crores, maximum permissible bank finance not less than Rs.25 crore and are listed on the stock exchange.
- In India, the cost of a C.P. will include the following components:
 - * *Discount;*
 - * *Rating charges;*
 - * *Stamp duty;*
 - * *Issuing; and*
 - * *Issuing paying agent (IPA) charges*
- A commercial paper is a short-term issuance promissory note issued by a company negotiable by endorsement & delivery, issued at such a discount on face value as may be determined by the company.

RECEIVABLE MANAGEMENT

1. Factoring and bills discounting

Or

Differentiate between Factoring and Bills discounting. (IPCC-Nov.2009, 2 marks)

The differences between Factoring and Bills discounting are:

- Factoring is called as "Invoice Factoring" whereas Bills discounting is known as "Invoice discounting."

- In Factoring, the parties are known as the client, factor and debtor whereas in Bills discounting, they are known as drawer, drawee and payee.
- Factoring is a sort of management of book debts whereas bills discounting is a sort of borrowing from commercial banks.
- For factoring there is no specific Act, whereas in the case of bills discounting, the Negotiable Instruments Act is applicable.

2. Factoring and credit sales

Factoring:

- Factoring is a new financial service that is presently being developed in India. Factoring involves provision of specialised services relating to credit investigation, sales ledger management, purchase and collection of debts, credit protection as well as provision of finance against receivables and risk bearing. In factoring, accounts receivables are generally sold to a financial institution (a subsidiary of commercial bank-called "Factor"), who charges commission and bears the credit risks associated with the accounts receivables purchased by it.
- Its operation is very simple. Clients enter into an agreement with the "factor" working out a factoring arrangement according to his requirements. The factor then takes the responsibility of monitoring, follow-up, collection and risk-taking and provision of advance. The factor generally fixes up a limit customer-wise for the client (seller).

Credit sales (Cost benefit analysis of credit sales):

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

TIME VALUE OF MONEY

1. Relevance of Time Value of Money.

Or

Explain the relevance of time value of money in financial decisions.

(PCC-May 2008, 2marks)

- Time value of money means that worth of a rupee received today is different from the worth of a rupee to be received in future. The preference of money now as compared to future money is known as time preference for money. A rupee today is more valuable than rupee after a year due to several reasons:
 - *Risk:* there is uncertainty about the receipt of money in future.
 - *Preference for present consumption:* Most of the persons and companies in general, prefer current consumption over future consumption.
 - *Inflation:* In an inflationary period a rupee today represents a greater real purchasing power than a rupee a year hence.
 - *Investment opportunities:* Most of the persons and companies have a preference for present money because of availabilities of opportunities of investment for earning additional cash flow.

Many financial problems involve cash flow accruing at different points of time for evaluating such cash flow an explicit consideration of time value of money is required.

INVENTORY MANAGEMENT

1. Optimum safety stock

- In real life situations one rarely comes across lead time usage rates that are known with certainty. When usage rate and/or lead time vary, then the re-order level should naturally be at a sufficient level to cater to the production needs during the

procurements periods and also to provide some measure of safety for at least partially neutralizing the degree of uncertainty.

- The question will naturally arise as to the magnitude of the safety stock. There is no authentic answer to the question. However, it depends, *inter alia*, upon the degree of uncertainty surrounding the usage rate and lead time. It is possible to certain extent to quantify the values that usage rate and lead time can take along with the corresponding chances of occurrence, known as probabilities. These probabilities can be ascertained based on previous experiences and/or the judgmental ability of astute (*intelligent*) executives. Based on the above values and estimates of stock out costs and carrying cost of inventory it is possible to work out the total cost associated with different levels of safety stock.
- Once we realize that the *higher the quantity of safety stock, the lower will be the stock out cost and the higher will be the incidence of carrying cost*, the formula for estimating the re-order level will call for a trade-off between stock out and carrying costs. The re-order level will then become one at which the total stock out costs (*to be more précis, the expected stock out costs*) and the carrying costs will be at its minimum.

SOURCES OF FINANCE

1. Commercial paper

Or

Discuss the eligibility criteria for issue of commercial paper.

(PE-II-May, 2005, 3 marks)

Eligibility criteria for issuer of commercial paper

The companies satisfying the following conditions are eligible to issue commercial paper.

- The tangible net worth of the company is Rs. 5 crores or more as per audited balance sheet of the company.
- The fund base working capital limit is not less than Rs. 5 crores.
- The company is required to obtain the necessary credit rating from the rating agencies such as CRISIL, ICRA etc.
- The issuers should ensure that the credit rating at the time of applying to RBI should not be more than two months old.
- The minimum current ratio should be 1.33:1 based on classification of current assets and liabilities.
- For public sector companies there are no listing requirement but for companies other than public sector, the same should be listed on one or more stock exchanges.
- All issue expenses shall be borne by the company issuing commercial paper.

2. Seed capital assistance

Or

Write a short note: Seed capital assistance

(PE-II-May, 2005, 3 marks)

- The seed capital assistance has been designed by IDBI for professionally or technically qualified entrepreneurs. All the projects eligible for financial assistance from IDBI, directly or indirectly through refinance are eligible under the scheme. The project cost should not exceed Rs. 2 crores and the maximum assistance under the project will be restricted to 50% of the required promoters contribution or Rs 15 lacs whichever is lower.
- The seed capital Assistance is interest free but carries a security charge of one percent per annum for the first five years and an increasing rate thereafter.

3. Bridge finance

Or

Write a short note: Bridge finance**(Final–Nov. 1997, PE-II-May 2003 & May 2006, 6 marks)**

Bridge finance refers, normally, to loans taken by the business, usually from commercial banks for a short period, pending disbursement of term loans by financial institutions, normally it takes time for the financial institution to finalise procedures of creation of security, tie-up participation with other institutions etc. even though a positive appraisal of the project has been made. However, once the loans are approved in principle, firms in order not to lose further time in starting their projects arrange for bridge finance. Such temporary loan is normally repaid out of the proceeds of the principal term loans. It is secured by hypothecation of moveable assets, personal guarantees and demand promissory notes. Generally rate of interest on bridge finance is higher as compared with that on term loans.

4. GDR (Global Depository Receipts) & ADR (American Depository Receipts)**→ Global Depository Receipts (GDRs)****(Final–May 1996, 1998, PE-II-May 2003, May 2004, 3 marks)**

- It is a negotiable certificate denominated in US dollars which represents a Non-US company's publically traded local currency equity shares. GDRs are created when the local currency shares of an Indian company are delivered to Depository's local custodian Bank against which the Depository bank issues depository receipts in US dollars. The GDRs may be traded freely in the overseas market like any other dollar-expressed security either on a foreign stock exchange or in the over-the-counter market or among qualified institutional buyers.
- By issue of GDRs Indian companies are able to tap global equity market to raise foreign currency funds by way of equity. It has distinct advantage over debt as there is no repayment of the principal and service costs are lower.

→ American Depository Receipts (ADRs)**(Final–Nov. 1996; PE-II-May 2003, May 2004 & May 2006, 6 marks; PCC-June 2009, 2 marks)**

- These are depository receipts issued by a company in USA and are governed by the provisions of Securities and Exchange Commission of USA. As the regulations are severe, Indian companies tap the American market through private debt placement of GDRs listed in London and Luxemburg stock exchanges.
- Apart from legal impediments, ADRs are costlier than Global Depository Receipts (GDRs). Legal fees are considerably high for US listing. Registration fee in USA is also substantial. Hence ADRs are less popular than GDRs.

5. Debt securitization**Or****What is debt securitisation? Explain the basics of debt securitisation process.****(PE-II-May 2004, Nov. 2004 & May 2006, 6 marks; PCC-May 2008, 3 marks)**

It is a method of recycling of funds. It is especially beneficial to financial intermediaries to support the lending volumes. Assets generating steady cash flows are packaged together and against this asset pool, market securities can be issued, e.g. housing finance, auto loans, and credit card receivables.

Process of Debt Securitisation

- (i) **The origination function** – A borrower seeks a loan from a finance company or a bank. The credit worthiness of borrower is evaluated and contract is entered into with repayment schedule structured over the life of the loan.
- (ii) **The pooling function** – Similar loans on receivables are clubbed together to create an underlying pool of assets. The pool is transferred in favour of Special Purpose Vehicle (SPV), which acts as a trustee for investors.

(iii) **The securitisation function** – SPV will structure and issue securities on the basis of asset pool. The securities carry a coupon and expected maturity which can be asset-based/mortgage-based. These are generally sold to investors through merchant bankers. Investors are – pension funds, mutual funds, insurance funds. The process of securitisation is without recourse i.e. investor bears the credit risk or risk of default. Credit enhancement facilities like insurance, letter of credit (LOC) and guarantees are also provided.

6. Secured premium notes

Or

Discuss the features of Secured Premium Notes (SPNs). *(May, 2008, 2 marks)*

Secured premium notes is issued along with detachable warrant and is redeemable after a notified period of say 4 to 7 years. This is a kind of NCD attached with warrant. It was first introduced by Tisco, which issued the SPNs to existing shareholders on right basis. Subsequently the SPNs will be repaid in some number of equal instalments. The warrant attached to SPNs gives the holder the right to apply for and get allotment of equity shares as per the conditions within the time period notified by the company.

7. Open and close ended lease

Or

Explain the concept of closed and open ended lease. *(May, 2008, 2 marks)*

In the close-ended lease, the assets gets transferred to the lessor at the end of lease, the risk of obsolescence, residual values etc. remain with the lessor being the legal owner of the assets. In the open-ended lease, the lessee has the option of purchasing the assets at the end of lease period.

8. Ploughing back of profit

Or

Explain the term 'Ploughing back of Profits'. *(PCC- May 2007, 2 marks)*

Ploughing back of Profits: Retained earnings means retention of profit and reinvesting it in the company as long term funds. Such funds belong to the ordinary shareholders and increase the net worth of the company. A public limited company must plough back a reasonable amount of profit every year keeping in view the legal requirements in this regard and its own expansion plans. Such funds also entail almost no risk. Further, control of present owners is also not diluted by retaining profits.

9. Deep discount bond

Or

Write a short note on "Deep Discount Bonds". *(Nov. 2008, 2 marks)*

Deep Discount Bonds are a form of zero – interest bonds. These bonds are sold at a discounted value and on maturity face value is paid to the investors. In such bonds, there is no interest payout during lock-in period. The investors can sell the bonds in stock market and realise the difference between face value and market price as capital gain. IDBI was the first to issue Deep Discount Bonds in India in January, 1992.

10. Floating rate

- **Floating Rate Notes:** They are issued upto 7 years maturity. Interest rates are adjusted to reflect the prevailing exchange rates. They provide cheaper money than foreign loans.
- **Floating Rate Bonds:** As the name suggests, Floating Rate Bonds are ones, where the rate of interest is not fixed and is allowed to float depending upon the market conditions. This is an ideal instrument that can be resorted to by the issuer to hedge themselves against the volatility in interest rates. This has become more popular as a

money market instrument and has been successfully issued by financial institutions like IDBI, ICICI, etc.

11. Venture capital finance

Or

Write a shot note: Venture capital finance (PE-II-May 2005, Nov. 2008, 2 marks)

- The term venture capital refers to capital investment made in a business or industrial enterprise, which carries elements of risks and insecurity and the probability of business hazards. Capital investment may assume the form of either equity or debt or both as a derivative instrument. The risk associated with the enterprise could be so high as to entail total loss or be so insignificant as to lead to high gains.
- The European Venture Capital Association describes venture capital as risk finance for entrepreneurial growth oriented companies. It is an investment for the medium or long term seeking to maximise the return.
- Venture Capital, thus, implies an investment in the form of equity for high-risk projects with the expectation of higher profits. The investments are made through private placement with the expectation of risk of total loss or huge returns. High technology industry is more attractive to venture capital financing due to the high profit potential. The main object of investing equity is to get high capital profit at saturation stage.
- In broad sense under venture capital financing venture capitalist makes investment to purchase debt or equity from inexperienced entrepreneurs who undertake highly risky ventures with potential of success.

12. Financial institute in market

- In India specialised institutions provide long-term financial assistance to industries. Some of them are, Industrial Finance Corporations, Life Insurance Corporation of India, National Small Industries Corporation Limited, Industrial Credit and Investment Corporation, Industrial Development Bank of India and Industrial Reconstruction Corporation of India.
- Before sanctioning of a term loan, a company has to satisfy the concerned financial institution regarding the technical, commercial, economic, financial and managerial viability of the project for which the loan is required. Such loans are available at different rates of interest under different schemes of financial institutions and are to be repaid as per a stipulated repayment schedule.
- The loans in many cases stipulate a number of conditions as regards the management and certain other financial policies of the company.
- Term loans represent secured borrowings and are an important source of funds for new projects. They generally, carry a rate of interest inclusive of interest tax, depending on the credit rating of the borrower, the perceived risk of lending and cost of funds and generally repayable over a period of 6 to 10 years in annual, semi-annual or quarterly installments.
- Term loans are also provided by banks, State Financial/Development institutions and all India term lending financial institutions.
- Banks and State Financial Corporations provide term loans to projects in the small scale sector while, for medium and large industries term loans are provided by State developmental institutions alone or in consortium with banks and State financial corporations.
- For large scale projects All India financial institutions provide bulk of term finance singly or in consortium with other such institutions, State level institutions and/or banks.
- After independence, the institutional set up in India for the provision of medium and long term credit for industry has been broadened.

- The assistance sanctioned and disbursed by these specialised institutions has increased impressively over the years. A number of specialised institutions are established over the country.

13. Equity shares and preference share capital

Owner's capital or Equity share capital:

- Ordinary shareholder are owners of the company
- They undertake the risk of business
- They elect the directors to run the company
- They have optimum control over the management of the company
- This source has least risk involved.
- They can be paid the dividends only when there is distribution of profits
- Cost of ordinary share is usually higher
- Such shareholder expect a higher rate of return
- Dividend payable on shares is an appropriation of profits and not charged against profit
- Ordinary share capital also provides the securities to other supplier of funds.
- It is a permanent source of finance
- The issue of new equity shares increases the flexibilities of the company
- The company can make further issue of the share capital by making a right issue
- There are no mandatory payments to shareholders of equity shares

Preference share capital

Or

Discuss the advantages of preference share capital as an instrument of raising funds.

(PCC-May 2008, 2 marks)

- The preference shareholders enjoy priority, both as regards to the payment of a fixed amount of dividend and repayment of capital on winding up of the company.
- No dilution in EPS (**E**arning **P**er **S**hare) on enlarged capital base
- If equity issued it reduces EPS, thus affecting the market perceptions about the company
- There is leveraging advantage as it bears a fixed charge
- There is no risk of takeover
- There is no dilution of managerial control
- Preference capital can be redeemed after a specified period

14. Market security

FINANCIAL MANAGEMENT**1. Responsibility of Chief Finance Officer***Or*

What are the main responsibilities of a Chief Financial Officer (Chief Finance Manager) of an organisation? (PCC-May 2007, 3 marks; IPCC-May 2010, 3marks)

Responsibilities of Chief Financial Officer (CFO)

The chief financial officer of an organisation plays an important role in the company's goals, policies, and financial success. His main responsibilities include:

- *Financial analysis and planning*: Determining the proper amount of funds to be employed in the firm.
- *Investment decisions*: Efficient allocation of funds to specific assets.
- *Financial and capital structure decisions*: Raising of funds on favourable terms as possible, i.e., determining the composition of liabilities.
- *Management of financial resources* (such as working capital).
- *Risk Management*: Protecting assets.

2. Profit maximization

Under this objective the financial manager's sole objective is to maximize profits. The objective could be short-term or long term. Under the short-term objective the manager would intend to show profitability in a short run say one year. When profit maximization becomes a long-term objective the concern of the financial manager is to manage finances in such a way so as to maximize the EPS of the company.

3. Functions of finance manager*Or*

Write a short note: Functions of finance manager (Final-May 1998) (5 marks)

Or

Explain the two basic functions of Financial Management. (PCC-Nov. 2009)(2 marks)

Functions of Finance Manager: The Finance Manager's main objective is to manage funds in such a way so as to ensure their optimum utilisation and their procurement in a manner that the risk, cost and control considerations are properly balanced in a given situation. To achieve these objectives the Finance Manager performs the following functions:

- *Estimating the requirement of Funds*: Both for long-term purposes i.e. investment in fixed assets and for short-term i.e. for working capital. Forecasting the requirements of funds involves the use of techniques of budgetary control and long-range planning.
- *Decision regarding Capital Structure*: Once the requirement of funds has been estimated, a decision regarding various sources from which these funds would be raised has to be taken. A proper balance has to be made between the loan funds and own funds. He has to ensure that he raises sufficient long term funds to finance fixed assets and other long term investments and to provide for the needs of working capital.
- *Investment Decision*: The investment of funds, in a project has to be made after careful assessment of various projects through capital budgeting. Assets management policies are to be laid down regarding various items of current assets. For e.g. receivable in coordination with sales manager, inventory in coordination with production manager.
- *Dividend decision*: The finance manager is concerned with the decision as to how much to retain and what portion to pay as dividend depending on the company's policy. Trend of earnings, trend of share market prices, requirement of funds for future growth, cash flow situation etc., are to be considered.

- *Evaluating financial performance*: A finance manager has to constantly review the financial performance of the various units of organisation generally in terms of ROI. Such a review helps the management in seeing how the funds have been utilised in various divisions and what can be done to improve it.
- *Financial negotiation*: The finance manager plays a very important role in carrying out negotiations with the financial institutions, banks and public depositors for raising of funds on favourable terms.
- *Cash management*: The finance manager lays down the cash management and cash disbursement policies with a view to supply adequate funds to all units of organisation and to ensure that there is no excessive cash.
- *Keeping touch with stock exchange*: Finance manager is required to analyse major trends in stock market and their impact on the price of the company share.

4. Wealth maximization

The value/wealth of a firm is defined as the market price of the firm's stock. The market price of a firm's stock represents the focal judgment of all market participants as to what the value of the particular firm is. It takes into account present and prospective future earnings per share, the timing and risk of these earnings, the dividend policy of the firm and many other factors that bear upon the market price of the stock.

Combined Question

Discuss conflict in profit versus wealth maximization objective.

(PCC-June 2009, 2 marks)

Or

Explain as to how the wealth maximisation objective is superior to the profit maximisation objective.

(Final-Nov. 1999; PE-II-May 2003 & Nov. 2003, 3 marks)

- Profit maximisation is a short-term objective and cannot be the sole objective of a company. It is at best a limited objective. If profit is given undue importance, a number of problems can arise like the term profit is vague, profit maximisation has to be attempted with a realisation of risks involved, it does not take into account the time pattern of returns and as an objective it is too narrow.
- Whereas, on the other hand, wealth maximisation, is a long-term objective and means that the company is using its resources in a good manner. If the share value is to stay high, the company has to reduce its costs and use the resources properly. If the company follows the goal of wealth maximisation, it means that the company will promote only those policies that will lead to an efficient allocation of resources.

BEST OF LUCK

“Ego and attitude are small words that create big differences”

–William Churchill