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# FAIRFIELD

## Institute of Management & Technology

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### Reference Material for Three Years

### Bachelor in Business Administration (General)

Code : 017

Semester – II



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ISO 9001:2015 & 14001:2015

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**INDEX**  
**Three Years**  
**Bachelor in Business Administration (General)**  
**Code : 017**  
**Semester – II**

S.No.	Subjects	Code	Pg. No.
1	<b>Cost Accounting</b>	BBA 102	4 – 40
2	<b>Quantitative Techniques</b>	BBA 104	41-81
3	<b>E Commerce</b>	BBA106	82-134
4	<b>Business Communication</b>	BBA 110	135-192
5	<b>Business Environment</b>	BBA 112	193-263

## BBA 102 – Cost Accounting

### II- SEMESTER

#### **Q.1 What is meant by cost accounting? Give the objects of cost accounting?**

**Ans:** Cost Accounting is classifying, recording an appropriate allocation of expenditure for the determination of the costs of products or services, and for the presentation of suitably arranged data for the purpose of control and guidance of management.

It is the formal mechanism by means of which cost of products or services are ascertained and controlled.

Cost Accounting provides analysis and classification of expenditure as will enable the total cost of any particular unit of product / service to be ascertained with reasonable degree of accuracy and at the same time to disclose exactly how such total cost is constituted. For example it is not sufficient to know that the cost of one pen is 25/- but the management is also interested to know the cost of material used, the amount of labour and other expenses incurred so as to control and reduce its cost.

Thus Cost Accounting is a quantitative method that collects, classifies, summarizes and interprets information for product costing, operation planning and control and decision making.

#### **Objectives of Cost Accounting**

The following are the main objectives of Cost Accounting:-

- To ascertain the Costs under different situations using different techniques and systems of costing
- To determine the selling prices under different circumstances
- To determine and control efficiency by setting standards for Materials, Labour and Overheads
- To determine the value of closing inventory for preparing financial statements of the concern
- To ascertain the cost per unit of the different products manufactured by a business concern;

- To provide a correct analysis of cost both by process or operations and by different elements of cost;
- To disclose sources of wastage whether of material, time or expense or in the use of machinery, equipment and tools and to prepare such reports which may be necessary to control such wastage;
- To provide requisite data and serve as a guide for fixing prices of products manufactured or services rendered;
- To ascertain the profitability of each of the products and advise management as to how these profits can be maximized;
- To exercise effective control if stocks of raw materials, work-in-progress, consumable stores and finished goods in order to minimize the capital locked up in these stocks;
- To reveal sources of economy by installing and implementing a system of cost control for materials, labour and overheads;
- To advise management on future expansion policies and proposed capital projects;
- To present and interpret data for management planning, evaluation of performance and control;
- To help in the preparation of budgets and implementation of budgetary control

**Q.2 Give the scope, advantages and limitation of cost accounting?**

**Ans:**

**Scope of cost accounting:**

The scope of Cost Accountancy is very wide and includes the following:-

**Cost Ascertainment:** The main objective of Cost Accounting is to find out the Cost of product / services rendered with reasonable degree of accuracy.

**Cost Accounting:** It is the process of Accounting for Cost which begins with recording of expenditure and ends with preparation of statistical data.

**Cost Control:** It is the process of regulating the action so as to keep the element of cost within the set parameters.

**Cost Reports:** This is the ultimate function of Cost Accounting. These reports are primarily prepared for use by the management at different levels. Cost reports help in planning and control, performance appraisal and managerial decision making.

**Cost Audit:** Cost Audit is the verification of correctness of Cost Accounts and check on the adherence to the Cost Accounting plan. Its purpose is not only to ensure the arithmetic accuracy of cost records but also to see the principles and rules have been applied correctly.

**Advantages of Cost Accounting:**

**1. Fixation of responsibility:** Whenever a cost center is established, it implies establishing a kind of relationship between superior and subordinates. Thus, responsibilities are fixed on every individual who is concerned with incurrance of cost.

**2. Measures economic performance:** By applying cost control techniques such as budgetary control and standard costing it helps in knowing the performance of business.

**3. Fixation of price:** By providing cost data it helps management to fix the selling price in advance. Hence, quotations can be supplied to prospective customers to secure orders.

**4. Aids in decision-making:** It helps management in making suitable decisions such as make or buys, replaces manual labour by machines, shut down or continue operations based on cost reports.

**5. Helps in the preparation of interim final accounts:** By the process of continuous stock taking it enables to know the value of closing stock of materials at any time. This facilitates preparation of final accounts wherever desired.

**6. Helps in minimizing wastages and losses:** Cost accounting system enables to locate the losses relating to materials, idle time and underutilization of plant and machinery.

**7. Facilitates comparison:** It facilitates cost comparison in respect of jobs, process, departments and also between two periods. This reveals the efficiency or otherwise of each job, process or department.

**8. Assists in increasing profitability:** Costing reports provide information about profitable or unprofitable areas of operation. The management can discontinue that product line or those

departments which are responsible for incurring losses and only profitable line of activities alone are retained.

**9. Reconciliation with financial accounts:** A well maintained cost accounting system facilitates reconciliation with financial accounts to check the arithmetical accuracy of both the systems.

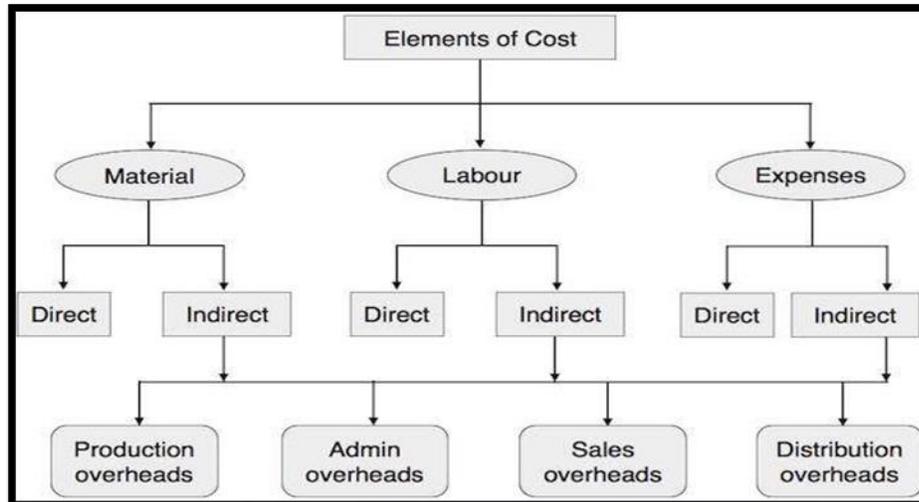
**10. It guides future production policy:** Cost data help management in determining future production policy. Any expansion or contraction of production for the future is based on past 1.

#### **Limitations of Cost Accounting:**

- **It is expensive:** The system of cost accounting involves additional expenditure to be incurred in installing and maintaining it. However, before installing it, care must be taken to ensure that the benefits derived are more than the investment made on this system of accounting.
- **The system is more complex:** As the cost accounting system involves number of steps in ascertaining cost such as collection and classification of expenses, allocation and apportionment of expenses, it is considered to be complicated system of accounts. Moreover the system makes use of several documents and forms in preparing the reports. This will tend to delay in the preparation of accounts.
- **Inapplicability of same costing method and technique:** All business enterprises cannot make use of a single method and technique of costing. It all depends up on the nature of business and type of product manufactured by it. If a wrong technique and method is used, it misleads the results of business.
- **Not suitable for small-scale units:** A cost accounting system is applicable only to a large-sized business but not to small-sized one. Hence, there is limitation to its application to all types of business.
- **Lack of accuracy:** The accuracy of cost accounts get distorted owing to the use of notional cost such as standard cost, estimated cost, etc.
- **It lacks social accounting:** Cost accounting fails to take into account the social obligation of the business. In other words, social accounting is outside the purview of cost accounts cost data.

#### **Q.3 Define Cost classification and elements of cost?**

Ans :



Direct Material + Direct Labour + Direct Expenses = Prime Cost

Indirect Material+ Indirect Labour + Indirect Expenses = Overheads

### Direct Material Cost:

Direct material cost can be defined as ‘The Cost of material which can be attributed to a cost object in an economically feasible way’. Direct materials are those materials which can be identified in the product and can be conveniently measured and directly charged to the product.

Thus, these materials directly enter the product and form a part of the finished product. For example, timber in furniture making, cloth in dress making, bricks in building a house. The following are normally classified as direct materials:-

- All raw materials, like jute in the manufacture of gunny bags, pig iron in foundry and fruits in canning industry.
- Materials specifically purchased for a specific job, process or order, like glue for book binding, starch powder for dressing yarn.
- Parts or components purchased or produced, like batteries for transistor-radios.
- Primary packing materials like cartons, wrappings, card-board boxes, etc.

## **Indirect Material Cost**

Materials the costs of which cannot be directly attributed to a particular cost-object. Indirect materials are those materials which do not normally form a part of the finished product. It has been defined as “materials which cannot be allocated but which can apportioned to or absorbed by cost centers or cost units”. These are:

- Stores used in maintenance of machinery, buildings, etc., like lubricants, cotton waste, bricks and cements.
- Stores used by the service departments, i.e., non-productive departments like Power House, Boiler House, and Canteen, etc., and
- Materials which due to their cost being small, are not considered worthwhile to be treated as direct materials.

## **Direct Labour Cost**

The cost of employees which can be attributed to a cost object in an economically feasible way. In simple words, it is that labour which can be conveniently identified or attributed wholly to a particular job, product or process or expended in converting raw materials into finished goods. Wages of such labour are known as direct wages. Thus it includes payment made to the following groups of labour:

- Labour engaged on the actual production of the product or in carrying out of an operation or process.
- Labour engaged in adding the manufacture by way of supervision, maintenance, tool setting, transportation of material etc.
- Inspectors, analysts etc., specially required for such production.

## **Indirect Labour Cost**

The labour cost which cannot be directly attributed to a particular cost object. The wages of that labour which cannot be allocated but which can be apportioned to or absorbed by cost centers or cost units is known as Indirect Labour. In other words paid to labour which are employed other than on production constitute indirect labour costs. Example of such labour are: charge-hands

and supervisors; maintenance workers; men employed in service departments, material handling and internal transport; apprentices, trainees and instructors; clerical staff and labour employed in time office and security office.

### **Direct or Chargeable Expenses**

Direct expenses are expenses relating to manufacture of a product or rendering a service which can be identified or linked with the cost object other than direct material cost and direct employee cost.

Direct expenses include all expenditure other than direct material or direct labour that is specifically incurred for a particular product or process. Such expenses are charged directly to the particular cost account concerned as part of the prime cost. Examples of direct expenses are: (i) Excise duty; (ii) Royalty; (iii) Architect or Supervisor's fees; (iv) Cost of rectifying defective work; (v) Travelling expenses to the city; (vi) Experimental expenses of pilot projects; (vii) Expenses of designing or drawings of patterns or models; (viii) Repairs and maintenance of plant obtained on hire; and (ix) Hire of special equipment obtained for a contract.

### **Overhead**

Overheads comprise of indirect materials, indirect employee cost and indirect expenses which are not directly identifiable or allocable to a cost object. Overheads may be defined as the aggregate of the cost of indirect material, indirect labour and such other expenses including services as cannot conveniently be charged directly to specific cost units. Thus overheads are all expenses other than direct expenses. In general terms, overheads comprise all expenses incurred for or in connection with, the general organization of the whole or part of the undertaking, i.e., the cost of operating supplies and services used by the undertaking and includes the maintenance of capital assets.

**Prime Cost:** The aggregate of Direct Material, Direct Labour and Direct Expenses.

**Q.4 Writes notes on:-**

**Ans: Production or Manufacturing Costs:** Production cost is the cost of all items involved in the production of a product or service. These refer to the costs of operating the manufacturing division of an undertaking and include all costs incurred by the factory from the receipt of raw materials and supply of labour and services until production is completed and the finished product is packed with the primary packing.

The followings are considered as Production or Manufacturing Costs:-

Direct Material

Direct Labour

Direct Expenses and

Factory overhead, i.e., aggregate of factory indirect material, indirect labour and indirect expenses.

Manufacturing cost can also be referred to as the aggregate of prime cost and factory overhead.

**(ii) Administration Costs:** Administration costs are expenses incurred for general management of an organization. These are in the nature of indirect costs and are also termed as administrative overheads. For understanding administration cost, it is necessary to know the scope of administrative function. Administrative function in any organization primarily concerned with following activities:-

Formulation of policy

Directing the organization and

Controlling the operations of an organization.

But administrative function will not include control activities concerned with production, selling and distribution and research and development.

Therefore, administration cost is the cost of administrative function, i.e., the cost of formulating policy, directing, organizing and controlling the operations of an undertaking (Administrative cost will include the cost of only those control operations which are not related to production, selling and distribution and research and development). In most of the cases, administration cost includes indirect expenses of following types:

- Salaries of office staff, accountants, directors
- Rent, rates and depreciation of office building
- Postage, stationery and telephone
- Office supplies and expenses

- General administration expenses.

**(iii) Selling & Distribution Costs:** Selling costs are indirect costs related to selling of products and services and include all indirect costs in sales management for the organization. Distribution costs are the costs incurred in handling a product from the time it is completed in the works until it reaches the ultimate consumer.

Selling function includes activities directed to create and stimulate demand of company's product and secure orders. Distribution costs are incurred to make the saleable goods available in the hands of the customer.

Following are the examples of selling and distribution costs:

- Salaries and commission of salesmen and sales managers.
- Expenses of advertisement, insurance.
- Rent, rates, depreciation and insurance of sales office and warehouses.
- Cost of insurance, freight, export, duty, packing, shipping, etc.,
- Maintenance of Delivery vans.

**(iv) Research & Development Costs:**

Research & development costs are the cost for undertaking research to improve quality of a present product or improve process of manufacture, develop a new product, market research...etc. and commercialization thereof.

R&D Costs comprises of the following:-

- Development of new product.
- Improvement of existing products.
- Finding new uses for known products.
- Solving technical problem arising in manufacture and application of products.

Development cost includes the costs incurred for commercialization / implementation of research findings.

**(d) Classification based on Behavior – Fixed, Semi-variable or Variable**

Costs are classified based on behavior as fixed cost, variable cost and semi-variable cost depending upon response to the changes in the activity levels.

**Fixed Cost:** Fixed cost is the cost which does not vary with the change in the volume of activity in the short run. These costs are not affected by temporary fluctuation in activity of an enterprise. These are also known as period costs. Example: Rent, Depreciation...etc.

**Variable Cost:** Variable cost is the cost of elements which tends to directly vary with the volume of activity. Variable cost has two parts (i) Variable direct cost (ii) Variable indirect costs. Variable indirect costs are termed as variable overheads. Example: Direct labour, Outward Freight...etc.

**Semi-Variable Costs:** Semi variable costs contain both fixed and variable elements. They are partly affected by fluctuation in the level of activity. These are partly fixed and partly variable costs and vice versa. Example: Factory supervision, Maintenance...etc.

#### **(e) Classification based on Costs for Management Decision Making**

Ascertainment of cost is essential for making managerial decisions. On this basis costing may be classified into the following types.

**Marginal Costing:** Marginal Cost is the aggregate of variable costs, i.e. prime cost plus variable overhead. Marginal cost per unit is the change in the amount at any given volume of output by which the aggregate cost changes if the volume of output is increased or decreased by one unit. Marginal Costing system is based on the system of classification of costs into fixed and variable. The fixed costs are excluded and only the marginal costs, i.e. the variable costs are taken into consideration for determining the cost of products and the inventory of work-in-progress and completed products.

**Differential Cost:** Differential cost is the change in the cost due to change in activity from one level to another.

**Opportunity Cost:** Opportunity cost is the value of alternatives foregone by adopting a particular strategy or employing resources in specific manner. It is the return expected from an investment other than the present one. These refer to costs which result from the use or

application of material, labour or other facilities in a particular manner which has been foregone due to not using the facilities in the manner originally planned. Resources (or input) like men, materials, plant and machinery, finance etc., when utilized in one particular way, yield a particular return (or output). If the same input is utilized in another way, yielding the same or a different return, the original return on the forsaken alternative that is no longer obtainable is the opportunity cost. For example, if fixed deposits in the bank are proposed to be withdrawn for financing project, the opportunity cost would be the loss of interest on the deposits.

Similarly when a building leased out on rent to a party is got vacated for own purpose or a vacant space is not leased out but used internally, say, for expansion of the production programme, the rent so forgone is the opportunity cost.

**Replacement Cost:** Replacement cost is the cost of an asset in the current market for the purpose of replacement. Replacement cost is used for determining the optimum time of replacement of an equipment or machine in consideration of maintenance cost of the existing one and its productive capacity. This is the cost in the current market of replacing an asset. For example, when replacement cost of material or an asset is being considered, it means that the cost that would be incurred if the material or the asset was to be purchased at the current market price and not the cost, at which it was actually purchased earlier, should be taken into account.

**Relevant Costs:** Relevant costs are costs which are relevant for a specific purpose or situation. In the context of decision making, only those costs are relevant which are pertinent to the decision at hand. Since we are concerned with future costs only while making a decision, historical costs, unless they remain unchanged in the future period are irrelevant to the decision making process.

**Imputed Costs:** Imputed costs are hypothetical or notional costs, not involving cash outlay computed only for the purpose of decision making. In this respect, imputed costs are similar to opportunity costs. Interest on funds generated internally, payment for which is not actually made is an example of imputed cost. When alternative capital investment projects are being considered out of which one or more are to be financed from internal funds, it is necessary to take into account the imputed interest on own funds before a decision is arrived at.

**Batch Costing:** Batch Costing is the aggregate cost related to a cost unit which consists of a group of similar articles which maintains its identity throughout one or more stages of production. In this method, the cost of a group of products is ascertained. The unit cost is a batch or group of identical products instead of a single job, order, or contract. This method is applicable to general engineering factories which produces components in convenient economical batches.

**Process Costing:** When the production process is such that goods are produced from a sequence of continuous or repetitive operations or processes, the cost incurred during a period is considered as Process Cost. The process cost per unit is derived by dividing the process cost by number of units produced in the process during the period. Process Costing is employed in industries where a continuous process of manufacturing is carried out. Costs are ascertained for a specified period of time by departments or process. Chemical industries, refineries, gas and electricity generating concerns may be quoted as examples of undertakings that employ process costing.

**Operation Cost:** Operation Cost is the cost of a specific operation involved in a production processor business activity. The cost unit in this method is the operation, instead of process. When the manufacturing method consists of a number of distinct operations, operation costing is suitable.

**Operating Cost:** Operating cost is the cost incurred in conducting a business activity. Operating cost refer to the cost of undertakings which do not manufacture any product but which provide services. Industries and establishments like power house, transport and travel agencies, hospitals, and schools, which undertake services rather than the manufacture of products, ascertain operating costs. The cost units used are Kilo Watt Hour (KWH), Passenger Kilometer and Bed in the hospital....etc. Operation costing method constitutes a distinct type of costing but it may also be classed as a variant of Process.

#### **Q.5 what is inventory control and its objectives?**

**Ans:** Inventory control is the systematic control and regulation of purchase, storage and usage of materials in such a way as to maintain an even flow of production and at the same time avoiding excessive investment in inventories. Efficient material control reduces loses and wastages of

materials that otherwise pass unnoticed. Inventory control is the core of materials management. The need and importance of inventory varies in direct proportion to the idle time cost of men and machinery, and the urgency of requirements. If men and machinery in the factory could wait and so could customers, materials would not lie in wait for then and no inventories, need be carried. But it is highly uneconomical to keep men and machines waiting and the requirements of modern life are so urgent that they cannot wait for materials to arrive after the need for them has arisen. Hence firms must carry inventories because materials constitute a significant part of the total production cost of a product and since this cost is control able to some extent, proper planning and controlling of inventories are of great importance. Inventory control is a planned method of determining what to indent, so that purchasing and storing cost are minimum without affecting production or sales. Without proper control, inventories have a tendency to grow beyond economic limits. Funds are tied up unnecessarily in surplus stores and stocks, productive operations are stalled, and finances of the plant are severely strained. Lack of control over inventory also leads to excessive consumption and wastage as operatives are liable to become careless with irrational supply of materials.

### **OBJECTIVES OF INVENTORY CONTROL**

Scientific control of inventories should serve the following purposes:

- To provide continuous flow of required materials, parts and components for efficient and uninterrupted flow of production.
- To minimize investment in inventories keeping in view operating requirements.
- To provide for efficient store of materials so that inventories are protected from loss by fire and theft and handling time and cost are kept at a minimum.
- To keep surplus and obsolete items to minimum.

It might seem axiomatic that inventory control is efficient as long as inventory level is going down. But the fact is that if inventories are minimized without guaranteeing adequate operations, inventories have been mismanaged rather than controlled efficiently. Thus the two basic objectives of inventory control appear to be conflicting in nature. Inventories should increase or decrease in amount and time as related to sales requirements and production schedules.

## Q.6 Define labour cost and Distinction between direct and indirect labour cost?

Ans :Labor cost after material cost is another significant element of cost not only because the wage bill in a modern organization is generally substantial but also because it has certain peculiar characteristics which other elements of cost do not have. A good cost accountant must understand the special features of labour cost, the most important of which is that there is almost no limit to the increase of output of this most important and wonderful factor of production.

Labour cost may be broadly classified as direct labour cost and indirect labour cost.

1. **Direct Labour Cost:** Labour cost that is expended in production of a product and easily identified and allocated to a cost unit i.e. a specific job, contract, work order or any other unit of cost.
2. **Indirect Labour Cost:** Labour cost that is expended on the wages of workmen who are not directly engaged in the production process and can be easily identified with a cost unit.

### Distinction between Direct and Indirect Labour Cost:

Direct Labour cost	Indirect Labour Cost
It is the cost incurred in payment of labour who are directly engaged in the production process	Cost incurred for payment of labour who are not directly engaged in the production process
Direct labour cost can be easily identified and allocated to cost unit..	Indirect labour cost is apportioned on some Appropriate basis.
Direct labour cost varies with the volume of production and has positive relationship with the volume	Indirect labour cost may not vary with the Volume of production.

## Q.7 Define remuneration and incentives?

### Ans: Remuneration and Incentives

The term 'remuneration' has been defined as the award for labour and service. It is the result of the agreement between the employer and the employee, whereby for a specified work or service

rendered by the employee the employer agrees to pay a specified sum of money. Apart from this an employee by virtue of the fact that he is an employee becomes entitled to certain non-monetary benefits. The method of remuneration adopted varies from industry to industry and, in certain cases, even among different units in the same industry. Whatever be the variation, the method of fixing remuneration payable to the various categories of employees has to be based on certain accepted principles.

An incentive can be defined as the stimulation for effort and effectiveness by offering monetary inducement or enhanced facilities. It may be provided individually or collectively. It may be monetary in the form of a bonus where the employee gets a reward for his efforts directly or non-monetary tending to improve living and working conditions where a group of employees or individuals share the reward arising out of their combined effort in equitable production.

The main factors that should be taken into account before introducing a scheme of incentives are stated below:

1. **System of Quality Control:** The need for producing goods of high quality or those having very good workmanship or finish and the manner this can be ensured. Only if a system of quality control can be relied upon to maintain the quality of goods of the standard required, an incentive scheme should be introduced; otherwise, workers should be paid on time basis.
2. **Maximize production:** The need to maximize production—thus required incentives to be given to workers. But sometimes workmanship is more important than quantity of output; in such cases, incentive schemes of wage payment are not suitable.
3. **Precision in measuring quantity of Work:** Where the quantity of work done cannot be measured precisely, incentive schemes cannot be offered.
4. **Role of Management in Incentive Schemes:** The role of management and workers in achieving greater efficiency, if it is unnecessary for the management to constantly plan work, for example, when the work is repetitive, workers should be offered good incentives to achieve high efficiency; but in case management is constantly required to plan the work, as in the case of job work, the management should share the fruits of extra efficiency achieved. This factor determines the choice of a particular incentive scheme

The following points highlight the top four incentive schemes for efficient workers. The schemes are:

1. Differential Piece Rate
2. Premium Bonus Scheme
3. Group Incentive Plans
4. Bonus Schemes for Indirect Workers.

### **Q.8 Define Halsey and Rowan plan ?**

#### **1. Halsey Plan:**

This scheme was originated by F. A. Halsey in 1891. In this plan time rate is guaranteed. A standard time is fixed for the performance of a particular job. If a worker can complete the job before standard time, he is paid bonus for the time saved at a fixed percentage. The percentage varies from 30% to 70%. Generally, the worker is paid bonus @ 50% of standard time saved.

**Total wages = Time taken x Rate + 50/100 of Time saved x Rate per hour.**

Under the Halsey Premium Plan, with time wages guaranteed up to standard, the employee receives time wages until he produces in less than standard time. For production above standard, the employee's remuneration is increased by the addition of a bonus, but as the savings are shared with the employer the rate of increase is lower than under straight piece-work.

Labour cost falls sharply as output increases up to standard, in the same way as it does with straight time rates. The cost per unit continues to fall when output exceeds standard, but it does not do so as rapidly as before.

#### **Advantages of Halsey Plan:**

1. **Simplicity:** This scheme is simple to operate. It is also easily understandable to all workers. The worker knows the method of calculating the premium.
2. **Efficiency is rewarded:** Individual efficiency of workers is taken care of and rewarded.
3. **Benefit of time saved:** Benefit of time saved is equally shared by the employer and employee.
4. **Increased labour productivity:** Since worker is motivated in a better way, his earnings increase which leads to increased productivity.

5. **Feeling of security:** As the plan assures a minimum hourly rate or guaranteed wage, it helps to create a feeling of security among workers. Moreover, if a worker fails to perform his job well, he is not penalized.

6. **Reduction in fixed overhead:** Fixed overhead cost per unit comes down because of increased production.

### **Disadvantages:**

1. **Not scientific:** The plan is not scientific since it is difficult to fix standard time for a particular job.

2. **Quality deteriorates:** As the workers are attracted by higher income they complete the job in hurry as a result of which quality may suffer.

3. **More labour cost:** If the standard time cannot be properly fixed, the amount of bonus payable to workers may involve a large amount of money.

4. More wastage, spoilage, defectives etc:

### **2. Halsey -Weir Plan:**

The Halsey plan was modified by Weir. This is based on 33 1/3 %: 66 1/3-% sharing plan.

Worker's earning = Time taken x Rate per hour + (33 1/3% of time saved x Rate per hour.)

### **Rowan Plan:**

James Rowan was the first to introduce the scheme in 1898. This scheme is similar to Halsey Plan. Under this scheme bonus is calculated as the proportion of time taken which the time saved bears to the time allowed.

The bonus is paid at time rates. The Rowan Scheme protects the employer from loose rate-fixing by reducing the bonus at high production levels. For this reason this scheme of bonus is unpopular with the workers. The important features of this plan are (i) there is guaranteed day wage and (ii) the incentive is based on time worked compared with the standard time for completing the job.

### **Advantages of Rowan Plan:**

1. Increased production is one of the important advantages of Rowan Plan.

2. The benefit arising out of increased production is shared also by the employer.

3. Up to 50% of the time saved the rate of bonus is higher than that under Halsey Plan. So, relatively slow workers enjoy good incentive.
4. It protects the employer against loose rate-setting.
5. As the premium increases at a decreasing rate above 50% of time saved, the employees do not complete the job quickly, so wastage and defective goods are less.
6. This scheme encourages the employer to better the working conditions.
7. The system is encouraging to beginners and learners.

**Disadvantages:**

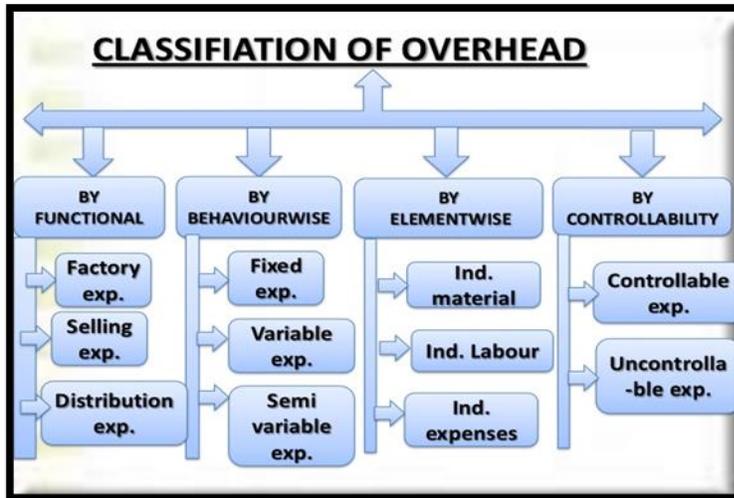
1. It is a complicated system which the workers do not understand easily.
2. At higher level of production, the incentive becomes lower. So, above a point of higher production, the efficient workers feel discouraged to produce more since there is a ceiling of bonus above a certain level Of production,
3. If the standard of Plant and Machinery, Tools, Materials and Working condition cannot be maintained, the scheme will fail to serve any useful purpose.

**Q.9 what is overhead accounting?**

**Overhead Accounting**

The ultimate aim of Overhead Accounting is to absorb them in the product units produced by the firm. Absorption of overhead means charging each unit of a product with an equitable share of overhead expenses. In other words, as overheads are all indirect costs, it becomes difficult to charge them to the product units. In view of this, it becomes necessary to charge them to the product units on some equitably basis which is called as 'Absorption' of overheads. The important steps involved in Overhead Accounting are as follows:-

- Collection, Classification and Codification of Overheads.
- Allocation, Apportionment and Reapportionment of overheads.
- Absorption of Overheads.



### Classification of Overheads:

Classification is defined by CIMA as, ‘the arrangement of items in logical groups having regard to their nature (subjective classification) or the purpose to be fulfilled (Objective classification). In other words, classification is the process of arranging items into groups according to their degree of similarity. Accurate classification of all items is actually a prerequisite to any form of cost analysis and control system. Classification is made according to the following basis:

**Based on Elements:** Indirect Materials, Indirect labour and indirect expenses.

**Based on Functions of the organization:** Manufacturing overheads, Administrative overheads, Selling and Distribution overheads, Research & Development overheads.

**Based on the Behavior:** Fixed Overheads, Variable Overheads & Semi variable overheads

### **Classification according to Elements**

According to this classification overheads are divided according to their elements. The classification is done as per the following details:-

### **Indirect Materials:**

Materials which cannot be identified with the given product unit of cost centre is called as indirect materials. As per CAS-3 indirect material cost is defined as 'Materials, the cost of which cannot be directly attributed to a particular cost object'. For example, lubricants used in a machine is an indirect material, similarly thread used to stitch clothes is also indirect material. Small nuts and bolts are also examples of indirect materials.

### **Indirect Labour**

As per CAS-3, indirect employee cost is the employee cost, which cannot be directly attributed to a particular cost object. Wages and salaries paid to indirect workers, i.e. workers who are not directly engaged on the production are examples of indirect wages.

### **Indirect Expenses**

As per CAS-3, Indirect Expenses are expenses, which cannot be directly attributed to a particular cost object. Expenses such as rent and taxes, printing and stationery, power, insurance, electricity, marketing and selling expenses etc. are the examples of indirect expenses.

### **Q.10 Define allocation and apportionment of overhead expenses?**

#### **Ans : Allocation of Overhead Expenses:**

Allocation is the process of identification of overheads with cost centres. An expense which is directly identifiable with a specific cost centre is allocated to that centre. So it is the allotment of whole item of cost to a cost centre or cost unit or refers to the charging of expenses which can be identified wholly with a particular department. For example, the whole of overtime wages paid to the workers relating to a particular department should be charged to that department.

Similarly, the cost of repairs and maintenance of a particular machine should be charged to that particular department wherein the machine is located. Power, if separate meters are provided at each cost centre and fuel oil for boilers are other examples of allocation. So, the term allocation means the allotment of the whole item without division to a particular department or cost centre.

#### **Apportionment of Overhead Expenses:**

Cost apportionment is the allotment of proportions of items to cost centres or cost units on an equitable basis. The term refers to the allotment of expenses which cannot identify wholly with a particular department. Such expenses require division and apportionment over two or more cost centers or units.

So cost apportionment will arise in case of expenses common to more than one cost centre or unit. It is defined as the allotment to two or more cost centres of proportions of the common items of cost on the estimated basis of benefit received. Common items of overheads are rent and rates, depreciation, repairs and maintenance, lighting, works manager's salary etc.

### **Basis of Apportionment:**

Suitable bases have to be found out for apportioning the items of overhead cost to production and service departments and then for reapportionment of service departments costs to other service and production departments. The basis adopted should be such by which the expenses being apportioned must be measurable by the basis adopted and there must be proper correlation between the expenses and the basis.

Therefore, the common expenses have to be apportioned or distributed over the departments on some equitable basis. The process of distribution is usually known as 'Primary Distribution'.

Following are the main bases of overhead apportionment utilized in manufacturing concerns:

- (i) **Direct Allocation:** Overheads are directly allocated to various departments on the basis of expenses for each department respectively. Examples are: overtime premium of workers engaged in a particular department, power (when separate meters are available), jobbing repairs etc.
- (ii) **Direct Labour/Machine Hours:** Under this basis, the overhead expenses are distributed to various departments in the ratio of total number of labour or machine hours worked in each department. Majority of general overhead items are apportioned on this basis.
- (i) **Value of Materials Passing through Cost Centers:** This basis is adopted for expenses associated with material such as material handling expenses.
- (ii) **Direct Wages:** According to this basis, expenses are distributed amongst the departments in the ratio of direct wages bills of the various departments. This method is used only for those

items of expenses which are booked with the amounts of wages, e.g., workers' insurance, their contribution to provident fund, workers' compensation etc.

(v) **Number of Workers:** The total number of workers working in each department is taken as a basis for apportioning overhead expenses amongst departments. Where the expenditure depends more on the number of employees than on wages bill or number of labour hours, this method is used. This method is used for the apportionment of certain expenses as welfare and recreation expenses, medical expenses, time keeping, supervision etc.

(vi) **Floor Area of Departments:** This basis is adopted for the apportionment of certain expenses like lighting and heating, rent, rates, taxes, maintenance on building, air conditioning, fire precaution services etc.

(vii) **Capital Values:** In this method, the capital values of certain assets like machinery and building are used as basis for the apportionment of certain expenses.

Examples are: Rates, taxes, depreciation, maintenance, insurance charges of the building etc.

(viii) **Light Points:** This is used for apportioning lighting expenses.

(ix) **Kilowatt Hours:** This basis is used for the apportionment of power expenses.

(x) **Technical Estimates:** This basis of apportionment is used for the apportionment of those expenses for which it is difficult, to find out any other basis of apportionment. An assessment of the equitable proportion is carried out by technical experts. This is used for distributing lighting, electric power, works manager's salary, internal transport, steam, water charges etc. when these are used for processes.

#### **Q.11 why reconciliation needed between Cost & Financial Accounts?**

Reconciliation is required because many items of financial accounts such as income tax, dividends, goodwill, interest, losses on sale of investment etc are not included in cost accounts while items like opportunity cost of capital, notional loss etc which form part of cost account but are not a part of financial accounts. There may be difference in financial and cost accounts due to under or over – absorption of overheads, different base of stock valuation and many other matters. Reconciliation is useful to ascertain correct product cost and ensure correct decision making.

Reconciliation is prepared in three main steps commencing from ascertaining profit as per financial accounts, then ascertaining profit as per cost accounts and at last reconciliation of both profits is made. The only reason behind preparation of reconciliation of cost and financial accounts is the maintenance of non – integrated accounts. It is not required to be prepared when the integrated accounts are prepared as both accounts as per finance and cost is one and the same.

**Need for Reconciliation:**

In those concerns where there are no separate cost and financial accounts, the problem of reconciliation does not arise. But where cost and financial accounts are maintained independent of each other, it is imperative that periodically two accounts are reconciled. Though both sets of books are concerned with the same basic transactions but the figure of profit disclosed by the former does not agree with that disclosed by the latter.

Thus, reconciliation between the results of the two sets of books is necessary due to the following reasons:

1. To find out the reasons for the difference in the profit or loss in cost and financial accounts and to indicate the position clearly and to be sure that no mistakes pertaining to accounts have been committed.
2. To ensure the mathematical accuracy and reliability of cost accounts in order to have cost ascertainment, cost control and to have a check on the financial accounts.
3. To contribute to the standardization of policies regarding stock valuation, depreciation and overheads.
4. To facilitate coordination and promote better cooperation between the activities of financial and cost sections of the accounting department.
5. To place management in better position to acquaint itself with the reasons for the variation in profits paving the way to more effective internal control.

**Methods of Reconciliation:**

Reconciliation of costing and financial profits can be attempted either:

- (a) By preparing a Reconciliation Statement or
- (b) By preparation Memorandum Reconciliation Account.

**Reconciliation Statement:** When reconciliation is attempted by preparing a reconciliation statement, profit shown by one set of accounts is taken as base profit and items of difference are either added to it or deducted from it to arrive at the figure of profit shown by other set of accounts.

**Procedure of Reconciliation:**

When there is a difference between the profits disclosed by cost accounts and financial accounts, the following steps shall be taken to prepare a Reconciliation Statement:

- (I) ascertain the various reasons of disagreement (as discussed above) between the profits disclosed by two sets of books of accounts.
- (II) If profit as per cost account (or loss as per financial accounts) is taken as the base:

Add:

- (i) Items of income included in financial accounts but not in cost accounts.
- (ii) Items of expenditure (as interest on capital, rent on owned premises etc.) included in cost accounts but not in financial accounts.
- (iii) Amounts by which items of expenditure have been shown in excess in cost accounts as compared to the corresponding entries in financial accounts.
- (iv) Amounts by which items of income have been shown in excess in financial accounts as compared to the corresponding entries in cost accounts.
- (v) Over-absorption of overheads in cost accounts.
- (vi) The amount by which closing stock of inventory is undervalued in cost accounts.
- (vii) The amount by which the opening stock of inventory is overvalued in cost accounts.
- (viii) Over charge of depreciation in cost accounts.

Deduct:

- (i) Items of income included in cost accounts but not in financial accounts.
- (ii) Items of expenditure included in financial accounts but not in cost accounts.
- (iii) Amounts by which items of income have been shown in excess in cost accounts over the corresponding entries in financial accounts.

(iv) Amounts by which items of expenditure have been shown in excess in financial accounts over the corresponding entries in cost accounts.

(v) Under-absorption of overheads in cost accounts.

(vi) The amount by which closing stock of inventory is overvalued in cost accounts.

(vii) The amount by which the opening stock of inventory is undervalued in cost accounts.

(viii) Under charge of depreciation in cost accounts.

(III) After making all the above additions and deductions, the resulting figure will be profit as per financial accounts (or loss as per cash accounts).

Note: If profit as per financial accounts (or loss as per cost accounts) is taken as the base, then items added shall be deducted and items to be deducted shall be added i.e. the procedure shall be reversed.

### **Memorandum Reconciliation Account:**

Reconciliation can also be done by preparing a Memorandum Reconciliation Account. This account is a memorandum account only and does not form part of the double entry. When reconciliation is attempted through Memorandum Reconciliation Account, profit to be taken as “base profit” is shown like opening balance of this Account. All items of differences required to be deducted are debited and those to be added are credited to this Account, the balancing figure of this Account is the profit shown by other set of Accounts.

The specimen form of Memorandum Reconciliation Account is given as follows:

<b>MEMORANDUM RECONCILIATION ACCOUNT</b>	
<b>To Financial expenses :</b> Discount Fines and penalties Bank interest Underwriter's commission Donations Goodwill written off Under-absorption of overheads Under-valuation of opening stock in cost accounts Over-valuation of closing stock in cost accounts Under charge of depreciation in cost accounts Profit as per Financial Accounts	<b>By Profit as per Cost Accounts</b> Financial income : Rent Interest Dividend Profit on sales of assets Items charged in cost accounts : Interest on own capital Rent on own building Over-absorption of overheads Over-valuation of opening stock in cost accounts Under-valuation of closing stock in cost accounts Over charge of depreciation in cost accounts.

## Q.12 what is single/output/unit costing?

### SINGLE/OUTPUT/UNIT COSTING

One operation costing method of costing by units of production and is adopted where production is uniform and a continuous affair, units of output are identical and the cost units are physical and natural. The cost per unit is determined by dividing the total cost during a given period by the number of units produced during that period.

This method of costing is generally adopted where an undertaking is engaged in producing only one type of product or two or more products of the same kind but of varying grades or quality. The industries where this method of costing is used are dairy industry, beverages, collieries, sugar mills, cement works, brick works, paper mills etc. In all these cases, work is a natural unit of cost e.g., a tonne of coal, a quintal of sugar, a tonne of cement, 1,000 bricks, 1 kg of paper and soon.

Collection of Costs: The cost in such industries is collected under the following headings:

#### (i) **Material:**

As there will be only one product and the process of manufacture is also simple, the raw material, if any, is directly charged to the production of the period in total. The items of stores issued for maintenance and other purposes are analysed by cost centres through the requisition slips. Normal loss of material is adjusted by inflating the issue price of materials.

#### (ii) **Labour:**

The labour costs are collected periodically through payrolls which are prepared separately for each section of the work. The purpose of such analysis is only to localise the cost to specific cost centres or to departmental managers, so that the cost can be effectively controlled. Labour—direct and indirect—should be identified separately. The direct labour cost is collected separately and forms a part of prime cost whereas indirect labour is charged to the factory overheads.

- (iii) **Overheads:** These are classified into three broad categories: factory overheads, administration overheads and selling and distribution overheads. These are usually charged at a predetermined rate.

## **Q.13 what is job costing? Its advantages and limitation?**

### **Job Costing**

Job costing is a method of costing applied in industries where production is measured in terms of completed jobs. Industries where job costing is generally applied are Printing Press. Automobile Garage, Repair workshops, Ship Building, Foundry and other similar manufacturing units which manufacture to customers' specific requirements.

Job costing is a method of costing whereby cost is compiled for a job or work order. The production is against customer's orders and not for stock. The cost is not related to the unit of production but is a cost for the job, e. g printing of 5000 ledger sheets, repairs of 50 equipment's, instead of printing one sheet or repair of one equipment.

The elements of cost comprising Prime Cost viz. direct materials, direct labour and direct expenses are charged directly to the jobs concerned, the overhead charged to a job is an apportioned portion of the departmental overhead.

### **Documents Used in a Job Order Cost System:**

The following are the important documents used in a Job Order Cost System:

#### **(i) Production Order or Manufacturing Order:**

This is a works order authorizing the production department to produce a specified quantity of a product which constitutes the job.

(ii) Cost Sheet: For recording costs, very often a separate record called a cost sheet is used. The cost sheet and the works order may also be combined, when costs are recorded on the production order itself.

(iii) Other Documents: The other documents which are used as control mechanism by the dispatching function are: Material Requisitions, Tool Orders, Time Tickets, Inspection Order, etc.

### **Job Cost Accounting Procedure:**

Cost of direct materials in respect of a job is obtained from copies of Material Requisitions costed by the Stores Accounting Section. Cost of direct wages is obtained from various Time Tickets costed by the Payroll Department. Direct Expenses, if any, are also taken up.

Manufacturing overheads are then applied at predetermined departmental absorption rates and recorded in the cost-sheet. Various overheads may be recorded in the separate columns meant for these in the cost sheet which are totaled to obtain the total cost of direct material, direct labour, direct expenses and apportioned manufacturing overheads. These are the four elements of cost which together give the production cost or manufacturing cost of the job.

### **Advantages of Job Order Costing:**

- (i) Profitability of each job can be individually determined.
- (ii) It provides a basis for estimating the cost of similar jobs which are to be taken in future.
- (iii) It provides the detailed analysis of the cost of material, labour and overheads for each job as and when required.
- (iv) Plant efficiency can be controlled by confining attention to costs relating to individual jobs.
- (v) Spoilage and defective work can be identified with a specific job and responsibility for the same may be fixed on individuals.
- (vi) By adopting pre-determined overhead rates in job costing, we can get all advantages of budgetary control.
- (vii) Job costing is essential for cost-plus contract where contract price is determined directly on the basis of cost.

### **Limitations of Job Order Costing:**

- (1) It is expensive to operate as it requires considerable detailed clerical work.
- (2) With the increase in the clerical work the chances of errors are increased.

(3) Job order costing cannot be efficiently operated without highly developed production control system. The job costing requires intricate factory organization system.

(4) The costs as ascertained are historical as they compiled after incidence and therefore does not provide control of cost unless it is used with standard costing system.

#### **Q.14 what is contract costing?**

**Contract Costing:** Contract costing is that form of specific order costing which applies where the work is undertaken according of customer's requirements and each order is of long duration as compared to job costing. The work is generally of constructional and repairs nature.

A construction contract is a contract for the construction of an asset or of a combination of assets which together constitute a single substantial project. This covers various activities such as construction of plants (including site preparation), bridges, roads, dams, ships, buildings, complex pieces of equipment, production of motion pictures etc.

That is why this method is used by builders, civil engineering contractors, constructional and mechanical engineering firms etc. These contracts are negotiated in a number of ways.

#### **Distinguishing Features of Contract Accounts:**

The work to be executed depends upon customer's specification and is generally done at site. Each contract is treated as cost unit and is generally of long duration for completion. Most of the expenses are direct in nature and payment is received depending on the stage of completion of work.

#### **Following are the main distinguishing features of contract accounts:**

##### **(i) Higher proportion of direct costs:**

As most of the items of expenses can be directly identified with a contract, though indirect, are treated as direct expenses. Expenses on telephone installed at site, site power usage, site vehicles, transportation are treated as direct expenses.

**(ii) Low indirect cost:**

The only item of indirect cost may be head office expenses. Such cost represents only a small proportion of the contract cost and is absorbed usually on some overall basis such as percentage of total contract cost.

**(iii) Difficulties of cost control:**

The large scale of contracts and the size of the site may create some major problems of cost control relating to material usage and losses, pilferage, labour supervision and utilisation, damage to and loss of plant and tools etc.

**(iv) Surplus materials:** Surplus material, if any, will be either credited to the contract account with the cost of material at the end of the contract or will be debited to the new contract account, if directly transferred to another contract. If the material is not required immediately, it will be stored and the cost debited to a stock account.

**Q.15 Comparison between Job Costing and Contract Costing?**

**Ans:** There are certain similarities in job and contract costing. Both the methods belong to the category of specific order costing in which work is executed according to the specification of customers. Under both the methods customers come on their own and there is no need of creating demand.

Generally quotation price is asked before giving order and production starts only on receipt of order from the customer. As every job and contract is dissimilar in nature and is identified by a separate number and is known by that number until it is completed. Profit is also determined in respect of each job and contract separately.

In spite of the above similarities there are certain differences between job and contract costing.

**These are given as under:**

**1. Size:**

A job is small in size but the contract is big in size.

**2. Place of Work:**

Work under job costing is performed in the workshop of the proprietor but the contract is executed mostly at site.

**3. Time for Completion:**

A job usually takes less time for completion of work whereas a contract takes more time to complete the work.

**4. Payment of Price:**

The selling price of a job is paid in full after completing the job but in case of a contract, the price is paid in various installments depending upon the progress of the work

**5. Investment:**

There is heavy investment on assets initially in case of job costing as compared to contract costing.

**6. Nature of Expenses:**

In job costing, expenses may be direct and indirect but in case of contract costing, most of the expenses are direct in nature.

**7. Transfer of Profit:**

Profit earned on a job is entirely taken to profit and loss account but in case of incomplete contract, only proportionate profit is transferred to profit and loss account depending on the completion stage of the contract.

**8. Nature of industry applicable:**

Job costing is applied in printing, foundry, engineering and ship building industries but the contract costing is applied to civil engineering-roads, bridges, buildings etc.

**9. Cost units:**

Job is the cost unit in job costing but contract is the cost unit in contract costing.

#### **10. Contractual obligation:**

In job costing a job is undertaken as per specification of the customer and there is a contractual obligation to complete the job in time. There may be a provision of rejection of defective job and rectification thereof. In contract costing, in addition to the contractual obligation as given in case of job costing, there is a provision of retention money and payment to be made according to the work certified.

#### **11. Cost accumulation and variance analysis:**

It is more complicated in job costing whereas it is simple in contract costing.

#### **Q.16 Define work certified?**

**Ans:** A contractor undertakes to execute the contract on the basis of the price agreed upon, and this price is known as the contract price. The contract price is payable by the contractee either in a lump sum on the completion of the contract or in installments on the basis of the work done.

In the case of small contracts, the payment is made after the completion of the work. The contract account is credited and the balancing figure is transferred to profit and loss account. In the case of large contracts, a good amount of working capital is needed and the contractor may not wait till the completion of the contract.

In such cases, there may be a provision for payment of contract price in installments on the basis of work progress certificate issued by the architect or surveyor or engineer as the work done so far. The amount of the work certified is credited to the contract account and debited to the contractee's account.

Generally, it is seen that the full amount for the work certified is not paid by the contractee but a certain percentage is retained. This retained sum is known as retention money. This is done in

order to protect the contractee, in case faulty work appears or faulty work is not rectified or a penalty is to be imposed on the contractor for undue delay. The retention money may be from 10% to 20%.

**On receipt of the certificate, any one of the following methods is followed:**

(A) Contractee's A/c	Dr.	For value of work certified
To Contract Account		
Bank Account	Dr.	
To Contractee's Account		When cash is received
<b>NB: The balance in Contractee's Account (Retention Money) is shown in Balance Sheet (Asset side)</b>		
(B) Work-in-progress Account	Dr.	
To Contract Account		For value of work certified
Bank Account	Dr.	
To Contractee's Account		When cash is received

NB: The work-in-progress Account will be shown in Balance Sheet after deducting the amount received from Contractees.

### Q.17 Explain retention money?

**Ans : Retention money**

In the case of contracts running for long periods of time, it is customary for the contractor's firm to get on account payments against the portion of contract completed. The amount received depends upon the extent of work certified by the technical assessor i.e. on the surveyor's certificates, as these are called. Normally such payments are not received to the full extent of the work completed but a small percentage is held back as retention money, payable on completion of the contract. The retention money is a sort of safeguard available to the contractee in case the contractor is not able to fulfill one or more of the conditions laid down in the contract.

Retention money is that portion of value of work certified which is retained by the contractee as security for any defective work which may be discovered later within the guarantee period.

Retention money is paid when it is ensured that there is no fault in the work carried out by the contractor.

Computation of retention money:

$$\text{Retention Money} = \text{Value of Work Certified} - \text{Cash Received}$$

Generally, the terms of the contract provide that the whole of the amount shown by the contractor's certificate shall not be paid to the contractor but a specified percentage or portion money (say 10% or 20%) thereof shall be retained by the contractee till the contract. The money so retained is known as 'Retention money'. The cash received from the contractee is credited to his personal account. The value of work (certified and uncertified) is debited to work-in progress account. The work-in-progress account is shown as an asset in the balance sheet after deducting the amount received from the contractee. In the beginning of the next year the work-in-progress account is transferred to the debit side of the contract account. On completion of the contract, the contractee's account is debited and contract account is credited by total contract price.

#### **Q.18 Explain contract accounts and its procedure?**

**Contract accounts:-** According to the Accounting Standard – 7 (AS – 7) issued by the Institute of Chartered Accountants of India, a construction contract” is a contract for the construction of an asset or of a combination of assets which together constitute a single project. Examples of activity covered by such contracts include the construction of bridges, dams, ships, buildings and complex pieces of equipment.”

A Contractor has to maintain a separate account known as Contract Account for each job and this facilitates to know the profit earned or loss incurred. It is akin to factory job costing, but varies only in size; and the contract continues for a longer time.

A contractor undertakes a small number of big contracts at a time. For example, builders, civil engineering firms, constructional and mechanical engineering firms etc., adopt this method of costing.

### **Accounting Procedure:**

A contract ledger is kept in which a separate account is opened for each contract undertaken. It is usual to give each contract a distinguishing number. A contract account is debited with all direct and indirect expenditure incurred in relation to the contract. It is credited with the amount of contract price on completion of the contract. The balance represents profit or loss made on the contract and is transferred to Profit and Loss Account.

### **Q 19. Explain work certified and work uncertified?**

#### **Ans: Work Certified:**

A contractor undertakes to execute the contract on the basis of the price agreed upon, and this price is known as the contract price. The contract price is payable by the contractee either in a lump sum on the completion of the contract or in installments on the basis of the work done.

In the case of small contracts, the payment is made after the completion of the work. The contract account is credited and the balancing figure is transferred to profit and loss account. In the case of large contracts, a good amount of working capital is needed and the contractor may not wait till the completion of the contract.

In such cases, there may be a provision for payment of contract price in installments on the basis of work progress certificate issued by the architect or surveyor or engineer as the work done so far. The amount of the work certified is credited to the contract account and debited to the contractee's account.

Generally, it is seen that the full amount for the work certified is not paid by the contractee but a certain percentage is retained. This retained sum is known as retention money. This is done in order to protect the contractee, in case faulty work appears or faulty work is not rectified or a penalty is to be imposed on the contractor for undue delay. The retention money may be from 10% to 20%.

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(B) Work-in-progress Account	Dr.	
To Contract Account		For value of work certified
Bank Account	Dr.	
To Contractee's Account		When cash is received

### Work Uncertified:

If the progress of a work is unsatisfactory, not reaching the stipulated stage, though certain work is completed, such work does not qualify for a certificate by the architect. This work is known as work done but uncertified. It is valued at cost.

### Q.20 Treatment of profit on incomplete contracts?

#### Profits on Incomplete Contracts:

Big contracts take several years for completion. The exact amount of profit can be ascertained only after the completion of the contract. Incomplete contracts are known as work-in-progress and are valued at cost. Generally profits should not be anticipated. As such, no profit should be transferred to profit and loss account in respect of incomplete contracts. If it is so, there may be wide fluctuations in the profit and loss account and may invite serious repercussions.

For example, profit and loss account in respect of incomplete contracts will show a loss notwithstanding the fact that the year was a good year of profits. Secondly, trading result will differ from year to year and will be un-comparable. Thirdly, high rate of income tax will have to be paid, if the profit is ascertained after the completion of the contract.

Therefore, on account of these drawbacks, it is desirable that the entire profits are not shown in one year, because the profits are not earned in a year. Hence, the profits on incomplete contracts are anticipated carefully.

### Treatment of Profits:

1. If the contract is recently started and the work completed is one-fourth or less than one – fourth of the total work, no profit should be transferred to profit and loss account.
2. If the contract has reasonably advanced and if the architect of the contractee certifies that the work completed is more than one-fourth, but less than half of the work, one-third of the notional profits is normally credited to the profit and loss account. This is further reduced by the ratio cash received to work certified i.e.

$$\text{Notional profit} \times \frac{1}{3} \times \frac{\text{Cash received}}{\text{Work certified}} = \text{Profit to be credited.}$$

If more than half or the contract is nearing completion, then two-thirds of the notional profit may be credited on the basis of cash received to profit and loss account, i.e.,

$$\text{Notional profit} \times \frac{2}{3} \times \frac{\text{Cash received}}{\text{Work certified}} = \text{Profit to be credited.}$$

In the second case 2/3 of the profit and in the third case 1/3 of the profit are left over to meet future contingencies such as penalties, increase in costs or losses if any.

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ISO 9001:2015 & 14001:2015

## BBA -104 QUANTITATIVE TECHNIQUES

### II- SEMESTER

#### Q 1: Define Statistics. How do we collect data?

**Ans:** Meaning: “Statistics”, that a word is often used, has been derived from the Latin word ‘Status’ that means a group of numbers or figures; those represent some information of our human interest. We find statistics in everyday life, such as in books or other information papers or TV or newspapers. Although, in the beginning it was used by Kings only for collecting information about states and other information which was needed about their people, their number, revenue of the state etc

Data collection sources: The system of data collection is based on the type of study being conducted. Depending on the researcher’s research plan and design, there are several ways data can be collected. The most commonly used methods are: published literature sources, surveys (email and mail), interviews (telephone, face-to-face or focus group), observations, documents and records, and experiments.

1. Literature sources: This involves the collection of data from already published text available in the public domain. Literature sources can include: textbooks, government or private companies’ reports, newspapers, magazines, online published papers and articles. This method of data collection is referred to as secondary data collection. In comparison to primary data collection, it is inexpensive and not time consuming

2. Surveys: Survey is another method of gathering information for research purposes. Information is gathered through questionnaire, mostly based on individual or group experiences regarding a particular phenomenon. There are several ways by which this information can be collected. Most notable ways are: web-based questionnaire and paper-based questionnaire (printed form). The results of this method of data collection are generally easy to analyse.

3. Interviews: Interview is a qualitative method of data collection whose results are based on intensive engagement with respondents about a particular study. Usually, interviews are used in order to collect in-depth responses from the professionals being interviewed. Interview can be

structured (formal), semi-structured or unstructured (informal). In essence, an interview method of data collection can be conducted through face-to-face meeting with the interviewee(s) or through telephone.

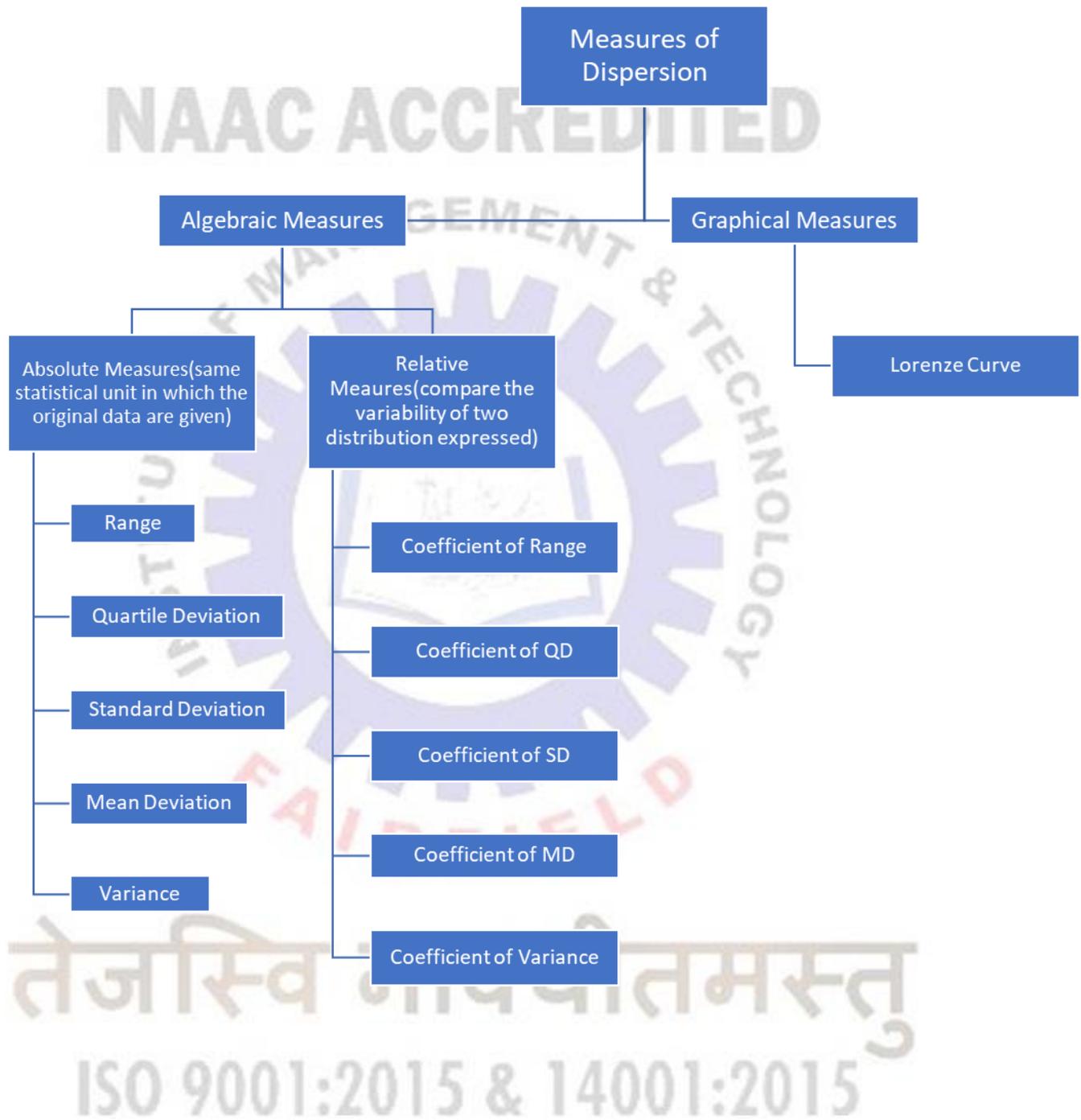
4. Observations: Observation method of information gathering is used by monitoring participants in a specific situation or environment at a given time and day. Basically, researchers observe the behavior of the surrounding environments or people that are being studied. This type of study can be controlled, natural or participant. Controlled observation is when the researcher uses a standardized procedure of observing participants or the environment. Natural observation is when participants are being observed in their natural conditions. Participant observation is where the researcher becomes part of the group being studied.

5. Documents and records: This is the process of examining existing documents and records of an organization for tracking changes over a period of time. Records can be tracked by examining call logs, email logs, databases, minutes of meetings, staff reports, information logs, etc. For instance, an organization may want to understand why there are lots of negative reviews and complains from customer about its products or services. In this case, the organization will look into records of their products or services and recorded interaction of employees with customers.

6. Experiments: Experimental research is a research method where the causal relationship between two variables is being examined. One of the variables can be manipulated, and the other is measured. These two variables are classified as dependent and independent variables. In experimental research, data are mostly collected based on the cause and effect of the two variables being studied. This type of research is common among medical researchers, and it uses quantitative research approach. If you are interested in my services, drop me a message or what you need. I will get back to you as soon as possible.

**Q2: Explain measures of Measures of Dispersion with formulae's.**

**Ans:** Dispersion is the measure of the variability of the items



**Range:** A range is the most common and easily understandable measure of **dispersion**. It is the difference between two extreme observations of the data set

$$\text{Range} = \text{Largest Value} - \text{Smallest Value (L-S)}$$

$$\text{Coefficient of Range} = \text{L-S} / \text{L+S}$$

**Quartile Deviation:** The **Quartile deviation** or semi interquartile range is the majority used in a case where one wants to learn or say a study about the **dispersion** of the observations or the samples of the given data sets that lie in the main or middle body of the given series

$$\text{Quartile Deviation or Semi Inter-Quartile Range} = \text{Q3-Q1} / 2$$

$$\text{Inter-Quartile Range} = \text{Q3-Q1}$$

$$\text{Coefficient of QD} = \text{Q3-Q1} / \text{Q3+Q1}$$

**Mean Deviation:** **Mean deviation** is defined mathematically as the ratio of the summation of absolute values of **dispersion** to the number of observations. In simple words, **mean deviation** represents the **dispersion** of all the data items in the series relative to the measure of central tendency, taken as median or **mean** in our course

$$\text{Mean Deviation} = \sum |X - \bar{X}| / N$$

$$\text{Coefficient of Mean Deviation} = \text{Mean Deviation} / \text{Mean}$$

**Standard Deviation:** **SD** is a measure which shows how much variation (such as spread, dispersion, spread,) from the mean exists. The standard deviation indicates a “typical” deviation from the mean. It is a popular measure of variability because it returns to the original units of measure of the data set. As like the variance, if the data points are close to mean, there is a small variation whereas the data points are highly spread out from the mean, then it has a high variance

$$S = \sqrt{\frac{\sum (X - \bar{X})^2}{N}}$$

where S = the standard deviation of a sample,  
 $\sum$  means “sum of”  
 $X$  = each value in the data set,  
 $\bar{X}$  = mean of all values in the data set,  
 $N$  = number of values in the data set.

$$\text{Standard Deviation} =$$

$$\text{Coefficient of SD} = \text{Standard Deviation} / \text{Mean}$$

**Variance:** **Variance** is the measure of how notably a collection of data is spread out. If all the data values are identical, then it indicates the variance is zero. All non-zero variances are

considered to be positive. A little variance represents that the data points are close to the mean, and to each other, whereas if the data points are highly spread out from the mean and from one other indicates the high variance. In short, the variance is defined as the average of the squared distance from each point to the mean.

Variance Is basically the square of standard deviation

Coefficient of Variance =  $SD/Mean \times 100$

**Q 3: Find IQR, QD and Coefficient of QD?**

Class Interval	Frequency
0-10	5
10-20	3
20-30	6
30-40	3
40-50	3

**Sol:**

Class Interval	Frequency	CF
0-10	4	4
10-20	12	16
20-30	22	38
30-40	9	47
40-50	3	50

Steps:  $Q_1 = Nth/4 \text{ term} = 1*50 / 4 = 12.5^{th} \text{ term}$

$L + \frac{(N/4 - Cf)}{f} \times h$        $l=10, Cf=4, f=12, h=10$

Therefore,  $Q_1 = 17.08$

$Q_3 = 3Nth/4 \text{ term} = 37.5^{th} \text{ term}; l=20, Cf=16, f=22, h=10$

Therefore,  $Q_3 = 37.5$

$IQR = Q_3 - Q_1 = 37.5 - 17.08 = 20.42$

$QD = IQR/2 = 10.21$

$\text{Coefficient of QD} = \frac{Q_3 - Q_1}{Q_3 + Q_1} = 0.374$

**Q4: Calculate Standard Deviation by direct and shortcut methods from the following series. Also find coefficient of variation.**

Wages in Rs.	40	44	54	60	62	64	70	80	90	96
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**Solution**

(a) **Direct Method :** Direct method means to take deviations from the actual mean.

Wages (Rs.) (X)	$x = (X - \bar{X})$	$x^2 = (X - \bar{X})^2$
40	-26	676
44	-22	484
54	-12	144
60	-6	36
62	-4	16
64	-2	4
70	+4	16
80	+14	196
90	+24	576
96	+30	900
$\Sigma X = 660$	$\Sigma dx = 0$	$\Sigma dx^2 = 3048$

$$\bar{X} = \frac{\Sigma X}{N} = \frac{660}{10} = \text{Rs. } 60$$

$$\text{Now } \sigma = \sqrt{\frac{\Sigma x^2}{N}} = \sqrt{\frac{3048}{10}}$$

$$= \sqrt{304.8} = \text{Rs. } 17.46 \text{ approx.}$$

$$\text{C.V.} = \frac{\sigma}{\bar{X}} \times 100 = \frac{17.46}{60} \times 100 = 29.1\%$$

(b) **Short-cut Method.** It means to take deviations from assumed mean :

Wages X	$dx (X - A)$ (A = 60)	$dx^2$
40	-20	100
44	-16	256
54	-6	36
60	0	0
62	2	4
64	4	16
70	10	100
80	20	400
90	30	900
96	36	1296
$N = 10$	$\Sigma dx = 60$	$\Sigma dx^2 = 3408$

$$\bar{X} = A + \frac{\Sigma dx}{N} = 60 + \frac{60}{10} \quad \sigma = \sqrt{\frac{\Sigma dx^2}{N} - \left(\frac{\Sigma dx}{N}\right)^2}$$

$$\bar{X} = 60 + 6 = \text{Rs. } 66$$

$$= \sqrt{\frac{3408}{10} - \left(\frac{60}{10}\right)^2} = \sqrt{340.8 - 36}$$

$$= \sqrt{304.8} \text{ or Rs. } 17.46 \text{ approx}$$

$$\text{Coefficient of SD} = \frac{\sigma}{\bar{X}} = \frac{17.46}{66} = 0.264$$

**Q 5: Construct the cumulative distribution table for the number of heads when four coins tossed. Hence find the median of the distribution.**

**Answer**  
 Let  $X$  be the random variable 'number of heads obtained when four coins are tossed'.

$P(X = 0) = \frac{1}{16}$   
 $P(X = 1) = \frac{4}{16}$   
 $P(X = 2) = \frac{6}{16}$   
 $P(X = 3) = \frac{4}{16}$   
 $P(X = 4) = \frac{1}{16}$

The CDF of  $X$  is

$x$	0	1	2	3	4
$F(x)$	$\frac{1}{16}$	$\frac{5}{16}$	$\frac{11}{16}$	$\frac{15}{16}$	1

Median of  $X = \frac{1+2}{2} = 1.5$

$X$  can take the values 0, 1, 2, 3 and 4. There are 16 possible outcomes, HHHH, HHHT, and so on.

$P(X = 0) = P(TTTT)$   
 4 of the outcomes have just one head.  
 6 outcomes have exactly two heads.  
 4 outcomes have exactly three heads.  
 $P(X = 4) = P(HHHH)$   
 $F(1) < 0.5$  and  $F(2) > 0.5$

**Q 6: Explain Correlation, Coefficient of Correlation and types.**

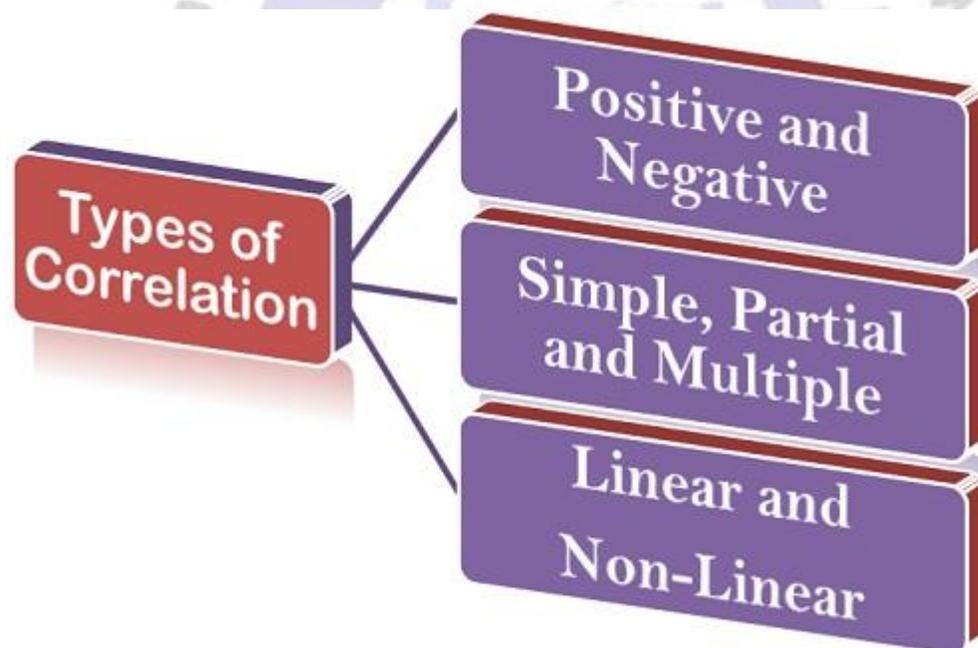
**Ans: Correlation:** Correlation analysis deals with the association between two or more variables.

**Correlation Coefficient:** Correlation analysis attempts to measure the strength or closeness of linear relationships between two variables by means of a single number called a correlation coefficient.

Degree of Correlation	Positive	Negative
Perfect	+1	-1
Very High	0.9 to 1	-0.9 to -1

Fairly High	0.75 to 0.9	-0.75 to -0.9
Moderate	0.50 to 0.75	-0.50 to -0.75
Low	0.25 to 0.50	-0.25 to -0.50
Very Low	0 to 0.25	-0.25 to 0
No	0	0

### Types of Correlation



1. **Positive and Negative Correlation:** Whether the correlation between the variables is positive or negative depends on its **direction of change**. The correlation is positive when both the variables **move in the same direction**, i.e. when one variable increases the other on an average also increases and if one variable decreases the other also decreases. The correlation is

said to be negative when both the variables **move in the opposite direction**, i.e. when one variable increases the other decreases and vice versa.

2. **Simple, Partial and Multiple Correlations:** Whether the correlation is simple, partial or multiple depends on the **number of variables studied**. The correlation is said to be simple when **only two variables** are studied. The correlation is either multiple or partial when three or more variables are studied. The correlation is said to be Multiple when **three variables are studied simultaneously**. Such as, if we want to study the relationship between the yield of wheat per acre and the amount of fertilizers and rainfall used, then it is a problem of multiple correlations.

Whereas, in the case of a partial correlation we study more than two variables, **but consider only two among them that would be influencing each other** such that the effect of the other influencing variable is kept constant. Such as, in the above example, if we study the relationship between the yield and fertilizers used during the periods when certain average temperature existed, then it is a problem of partial correlation.

3. **Linear and Non-Linear (Curvilinear) Correlation:** Whether the correlation between the variables is linear or non-linear depends on the **constancy of ratio of change between the variables**. The correlation is said to be linear when the amount of change in one variable to the amount of change in another variable tends to **bear a constant ratio**. For example, from the values of two variables given below, it is clear that the ratio of change between the variables is the same:

X:	10	20	30	40	50
Y:	20	40	60	80	100

The correlation is called as non-linear or curvilinear when the amount of change in one variable **does not bear a constant ratio** to the amount of change in the other variable. For example, if the amount of fertilizers is doubled the yield of wheat would not be necessarily be doubled.

Thus, these are three most important types of correlation classified on the basis of movement, number and the ratio of change between the variables. The researcher must study these carefully to determine the correlation methods to be used to identify the extent to which the variables are correlated.

**Q 7: Explain Regression and its equations. Compare correlation and Regression.**

**Ans: Regression:** Regression is the measure of the average relationship between two or more variables in terms of the original units of the data. **Regression** is a **statistical** method used in finance, investing, and other disciplines that attempts to determine the strength and character of the relationship between one dependent variable (usually denoted by Y) and a series of other variables (known as independent variables)

**Regression Equation:**

Regression equation for Y on X:

$$Y - \bar{Y} = b_{yx}(X - \bar{X})$$

$$b_{yx} = \frac{N\sum d_x d_y - \sum d_x \sum d_y}{N\sum d_x^2 - (\sum d_x)^2}$$

Regression equation for X on Y:

$$X - \bar{X} = b_{xy}(Y - \bar{Y})$$

$$b_{xy} = \frac{N\sum d_x d_y - \sum d_x \sum d_y}{N\sum d_y^2 - (\sum d_y)^2}$$

**Correlation and Regression Comparison**

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## Correlation

- In correlation analysis the **degree and direction** of relationship between the variables are studied.
- If **value of one variable** is known, the value of other variable **cannot** be estimated.
- Correlation coefficient lies **between -1 and 1**.
- Correlation coefficient is independent of change of origin and **scale**.
- With the help of correlation coefficient and standard deviations of **two random variable(X,Y)** regression coefficient can be obtained.

## Regression

- In regression analysis, the **nature** of relationship is studied.
- If **value of variable** is known, the value of other variable **can** be estimated using the functional relationships.
- Only one regression coefficient can be **greater than 1**.
- Regression coefficient is independent of change of origin **but not of scale**.

**Q 8:** Calculate Correlation Coefficient.

X	23	27	28	29	30	21	33	35	36
Y	18	20	22	27	29	27	29	28	29

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X	dx = X - A	dx <sup>2</sup>	Y	dy = Y - A	dy <sup>2</sup>	dxdy
23	-5	25	18	-4	16	20
27	-1	1	20	-2	4	2
28	0	0	22	0	0	0
29	1	1	27	5	25	5
30	2	4	29	7	49	14
31	3	9	27	5	25	15
33	5	25	29	7	49	35
35	7	49	28	6	36	42
36	8	64	29	7	49	56
<b>ΣX = 272</b>	<b>Σdx = 20</b>	<b>Σdx<sup>2</sup> = 178</b>	<b>ΣY = 229</b>	<b>Σdy = 31</b>	<b>Σdy<sup>2</sup> = 253</b>	<b>Σdxdy = 189</b>

$$r = \frac{N \sum dxdy - \sum dx \times \sum dy}{\sqrt{N \sum dx^2 - (\sum dx)^2} \times \sqrt{N \sum dy^2 - (\sum dy)^2}} = \frac{9 \times 189 - 20 \times 31}{\sqrt{9 \times 178 - (20)^2} \times \sqrt{9 \times 253 - (31)^2}} = \frac{1081}{1257.11} = 0.86$$

**r = 0.86**

**High degree of positive correlation**

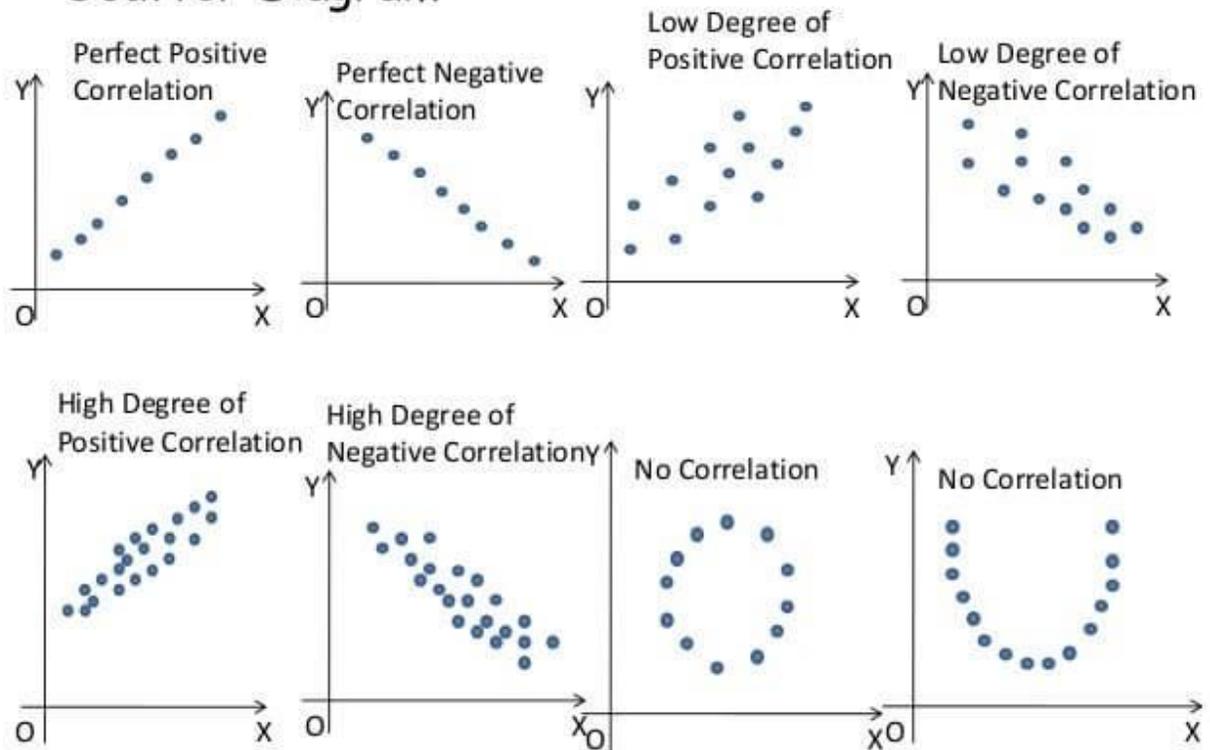
Ques 9:

a) Explain methods of correlation

Ans:

- Scatter Diagram Method:

# Scatter Diagram



- Pearson r correlation:** Pearson r correlation is the most widely used correlation statistic to measure the degree of the relationship between linearly related variables. For example, in the stock market, if we want to measure how two stocks are related to each other, Pearson r correlation is used to measure the degree of relationship between the two. The point-biserial correlation is conducted with the Pearson correlation formula except that one of the variables is dichotomous. The following formula is used to calculate the Pearson r correlation:
- Spearman rank correlation:** Spearman rank correlation is a non-parametric test that is used to measure the degree of association between two variables. The Spearman rank correlation test does not carry any assumptions about the distribution of the data and is the appropriate correlation analysis when the variables are measured on a scale that is at least ordinal

b)

2. Calculate the coefficient of correlation from the following data:  $\Sigma X = 50$ ,  $\Sigma Y = -30$ ,  $\Sigma X^2 = 290$ ,  $\Sigma Y^2 = 300$ ,  $\Sigma XY = -115$ ,  $N = 10$

**Solution :**  $\Sigma X = 50$ ,  $\Sigma Y = -30$ ,  $\Sigma X^2 = 290$ ,  $\Sigma Y^2 = 300$ ,  $\Sigma XY = -115$ ,  $N = 10$

Co-efficient of correlation

$$\begin{aligned}
 r(X, Y) &= \frac{N\Sigma XY - (\Sigma X)(\Sigma Y)}{\sqrt{N\Sigma X^2 - (\Sigma X)^2} \cdot \sqrt{N\Sigma Y^2 - (\Sigma Y)^2}} \\
 &= \frac{10(-115) - (50)(-30)}{\sqrt{10(290) - (50)^2} \sqrt{10(300) - (-30)^2}} \\
 &= \frac{-1150 + 1500}{(20)(\sqrt{2100})} = \frac{350}{(20)(45.83)} \\
 &= \frac{350}{916.6} = 0.382 \\
 r &= 0.382
 \end{aligned}$$

**Q 10: Calculate Coefficient of correlation by Spearman's Method**

Series X	19	28	26	23	27	13	26	31	21	22
Series Y	21	28	23	25	31	17	22	29	27	20

Sol:

Solution.						
S. No.	Series X	Series Y	Rank of data in series X ( $R_1$ )	Rank of data in series Y ( $R_2$ )	$D = R_1 - R_2$	$D^2$
1	19	21	9	8	+1	1
2	28	28	2	3	-1	1
3	26	23	4.5	6	-1.5	2.25
4	23	25	6	5	+1	1
5	27	31	3	1	+2	4
6	13	17	10	10	0	0
7	26	22	4.5	7	-2.5	6.25
8	31	29	1	2	-1	1
9	21	27	8	4	4	16
10	22	20	7	9	-2	4
$n = 10$						$\Sigma D^2 = 36.50$

$$\begin{aligned} \text{Coefficient of correlation (P)} &= 1 - \frac{6 \Sigma D^2}{N(N^2 - 1)} \\ P &= 1 - \frac{6 \times 36.50}{10(100 - 1)} \\ &= 1 - \frac{6 \times 36.50}{990} \\ &= 1 - \frac{7.3}{33} \text{ or } 1 - 0.22 \\ &= +0.78. \end{aligned}$$

The value of coefficient of correlation + 0.78 indicates high degree of positive correlation.

**Q11:** Define and discuss the linear programming technique, including assumptions of linear programming and accounting data used therein.

**Ans:** Linear programming is a quantitative technique for selecting an optimum plan. It is an efficient search procedure for finding the best solution to a problem containing many interactive variables. The desired objective is to maximize some function e.g., contribution margin, or to minimize some function, e.g., costs. Determination of the optimum objective is usually subject to various constraints or restrictions on possible alternatives. These constraints describe availabilities, limitations, and relationships of resources to alternatives.

The key assumption is linearity, which prevails in two respects. First, the contribution margin or cost associated with one unit of product or activity is assumed to be the same for all identical units. Second, resource inputs per unit of activity are assumed to be the same for all units. Another assumption inherent in linear programming is that all factors and relationships are deterministic.

Accounting data such as the contribution margin or cost factors would be used in determining the objective – to maximize the contribution margin or to minimize cost. Accounting data would also be used to establish the constraints. Such constraints might include one or more of the following: machine capacity, labor force, quantity of output demanded, time, or capital.

Once the data are available, the linear programming model (equations) might be solved graphically, if no more than two variables are involved, or by the simplex method. When the model contains many variables and constraints, the solution may require the use of a computer

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**Q12:** Discuss the components of a simplex tableau

**Ans:** Components of a simplex tableau:

- The objective row contains the coefficients of the objective function.
- The variable row contains the variables of the problem, including slack variables.
- The problem row contains the coefficient of the variables in the constraints with one row for each constraint. Variable not included in a constraint are assigned zero coefficients. New problem rows are computed with each iteration.
- The objective column represents the contribution margin per unit of the variables in the solution, and receives different entries at each iteration.
- The variable column contains the variables used to find the solution. In the first tableau, only slack and artificial variables are entered in this column, since a no-production situation is the starting point of the iteration process.
- The quantity column shows the constant values of the constraints in the first tableau, it shows the solution mix.
- The index row contains values which indicate whether an optimum solution has been reached; if there are any negative numbers in it, an optimum solution has not yet been reached. The value in the objective column represents the total contribution margin

**Q 13: a)**

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1. Determine the maximum value of  $Z = 11x + 7y$  subject to the constraints:  
 $2x + y \leq 6$ ,  $x \leq 2$ ,  $x \geq 0$ ,  $y \geq 0$ .

Sol. We have to maximize  $Z = 11x + 7y$  ... (i)

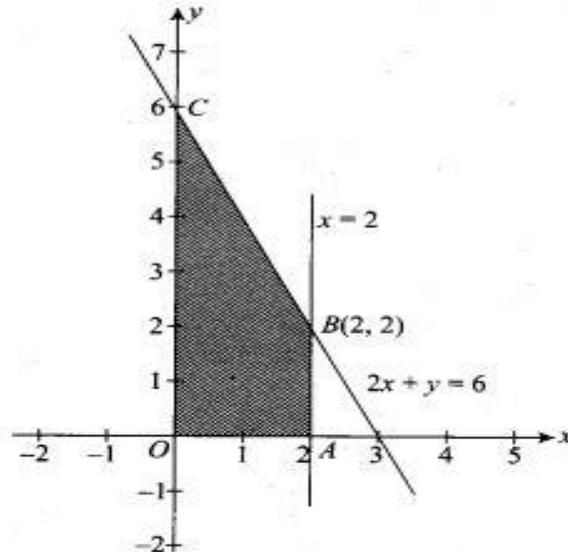
Subject to the constraints

$$2x + y \leq 6 \quad \dots \text{(ii)}$$

$$x \leq 2 \quad \dots \text{(iii)}$$

$$x \geq 0, y \geq 0 \quad \dots \text{(iv)}$$

These inequalities are plotted as shown in the following figure.



The shaded region shown in the figure as  $OABC$  is bounded and the corner points are  $O(0, 0)$ ,  $A(2, 0)$ ,  $B(2, 2)$  and  $C(0, 6)$ .

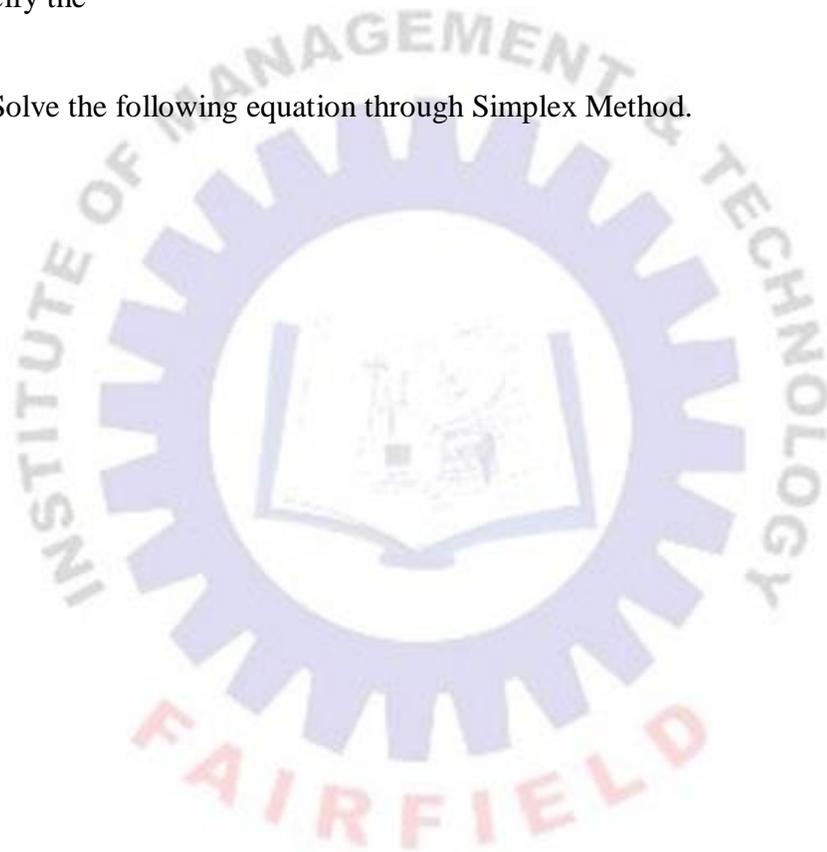
b) Explain assumptions of linear programming

Sol:

- The constraints and objective function are linear.
  - This requires that the value of the objective function and the response of each resource expressed by the constraints is proportional to the level of each activity expressed in the variables.
  - Linearity also requires that the effects of the value of each variable on the values of the objective function and the constraints are additive. In other words, there can be no interactions between the effects of different activities; i.e., the level of activity  $X_1$  should not affect the costs or benefits associated with the level of activity  $X_2$ .

- Divisibility -- the values of decision variables can be fractions. Sometimes these values only make sense if they are integers; then we need an extension of linear programming called integer programming.
- Certainty -- the model assumes that the responses to the values of the variables are exactly equal to the responses represented by the coefficients.
- Data -- formulating a linear program to solve a problem assumes that data are available to specify the

**Q14:** Solve the following equation through Simplex Method.



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Sol:

**Solve the Linear Programming Model Using Simplex Method**

**Maximize:**  $P = 40x_1 + 35x_2$

**Subject To :**  $x_1 + x_2 \leq 24$

$3x_1 + 2x_2 \leq 60$

$x_1, x_2 \geq 0$

$x_1 + x_2 + s_1 = 24$ $3x_1 + 2x_2 + s_2 = 60$ $-40x_1 - 35x_2 + P = 0$	<table border="1"> <thead> <tr> <th></th> <th><math>x_1</math></th> <th><math>x_2</math></th> <th><math>s_1</math></th> <th><math>s_2</math></th> <th><math>P</math></th> </tr> </thead> <tbody> <tr> <td><math>s_1</math></td> <td>1</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>24</td> </tr> <tr> <td><math>s_2</math></td> <td>3</td> <td>2</td> <td>0</td> <td>1</td> <td>0</td> <td>60</td> </tr> <tr> <td><math>P</math></td> <td>-40</td> <td>-35</td> <td>0</td> <td>0</td> <td>1</td> <td>0</td> </tr> </tbody> </table>		$x_1$	$x_2$	$s_1$	$s_2$	$P$	$s_1$	1	1	1	0	0	24	$s_2$	3	2	0	1	0	60	$P$	-40	-35	0	0	1	0
	$x_1$	$x_2$	$s_1$	$s_2$	$P$																							
$s_1$	1	1	1	0	0	24																						
$s_2$	3	2	0	1	0	60																						
$P$	-40	-35	0	0	1	0																						

**Pivoting Process (Will not make frequent stops along the way.)**

<table border="1"> <thead> <tr> <th></th> <th><math>x_1</math></th> <th><math>x_2</math></th> <th><math>s_1</math></th> <th><math>s_2</math></th> <th><math>P</math></th> </tr> </thead> <tbody> <tr> <td><math>s_1</math></td> <td>1</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>24</td> </tr> <tr> <td><math>s_2</math></td> <td><math>\langle 3 \rangle</math></td> <td>2</td> <td>0</td> <td>1</td> <td>0</td> <td>60</td> </tr> <tr> <td><math>P</math></td> <td><math>[-40]</math></td> <td>-35</td> <td>0</td> <td>0</td> <td>1</td> <td>0</td> </tr> </tbody> </table>		$x_1$	$x_2$	$s_1$	$s_2$	$P$	$s_1$	1	1	1	0	0	24	$s_2$	$\langle 3 \rangle$	2	0	1	0	60	$P$	$[-40]$	-35	0	0	1	0	<p>Pivot column is first column.</p> <p>Pivot row is second row.</p> <p>Pivot element is "3".</p>
	$x_1$	$x_2$	$s_1$	$s_2$	$P$																							
$s_1$	1	1	1	0	0	24																						
$s_2$	$\langle 3 \rangle$	2	0	1	0	60																						
$P$	$[-40]$	-35	0	0	1	0																						

$$\begin{array}{c} \text{First Pivot} \\ \begin{array}{c} s_1 \\ s_2 \\ P \end{array} \left[ \begin{array}{cccc|c} x_1 & x_2 & s_1 & s_2 & P \\ 1 & 1 & 1 & 0 & 0 & 24 \\ \langle 3 \rangle & 2 & 0 & 1 & 0 & 60 \\ [-40] & -35 & 0 & 0 & 1 & 0 \end{array} \right] \begin{array}{l} 24 \div 1 = 24 \\ 60 \div 3 = \langle 20 \rangle \\ \end{array} \xrightarrow{\frac{1}{3}R_2 \rightarrow R_2} \begin{array}{c} s_1 \\ s_2 \\ P \end{array} \left[ \begin{array}{cccc|c} x_1 & x_2 & s_1 & s_2 & P \\ 1 & 1 & 1 & 0 & 0 & 24 \\ \langle 1 \rangle & 2/3 & 0 & 1/3 & 0 & 20 \\ [-40] & -35 & 0 & 0 & 1 & 0 \end{array} \right]$$

$$-R_2 + R_1 \rightarrow R_1 \left[ \begin{array}{cccc|c} x_1 & x_2 & s_1 & s_2 & P \\ 0 & \langle 1/3 \rangle & 1 & -1/3 & 0 & 4 \\ 1 & 2/3 & 0 & 1/3 & 0 & 20 \\ 0 & [-25/3] & 0 & 40/3 & 1 & 800 \end{array} \right] \begin{array}{l} 4 \div (1/3) = \langle 12 \rangle \\ 20 \div (2/3) = 30 \end{array}$$

$$40R_2 + R_3 \rightarrow R_3 \left[ \begin{array}{cccc|c} x_1 & x_2 & s_1 & s_2 & P \\ 0 & \langle 1/3 \rangle & 1 & -1/3 & 0 & 4 \\ 1 & 2/3 & 0 & 1/3 & 0 & 20 \\ 0 & [-25/3] & 0 & 40/3 & 1 & 800 \end{array} \right]$$

**Second Pivot:** Pivot Column is 2<sup>nd</sup> Column, Pivot Row is 2<sup>nd</sup> Row, Pivot Element is "1/3".

$$3R_1 \rightarrow R_1 \left[ \begin{array}{cccc|c} x_1 & x_2 & s_1 & s_2 & P \\ 0 & \langle 1 \rangle & 3 & -1 & 0 & 12 \\ 1 & 2/3 & 0 & 1/3 & 0 & 20 \\ 0 & [-25/3] & 0 & 40/3 & 1 & 800 \end{array} \right] \begin{array}{l} -\frac{2}{3}R_1 + R_2 \rightarrow R_2 \\ \frac{25}{3}R_1 + R_3 \rightarrow R_3 \end{array} \rightarrow \begin{array}{c} s_1 \\ s_2 \\ P \end{array} \left[ \begin{array}{cccc|c} x_1 & x_2 & s_1 & s_2 & P \\ 0 & 1 & 3 & -1 & 0 & 12 \\ 1 & 0 & -2 & 1/3 & 0 & 12 \\ 0 & 0 & 25 & 5 & 1 & 900 \end{array} \right]$$

**Optimal Solution:**  $P=900$  at  $x_1=12, x_2=12$  ( $s_1=0, s_2=0$  because they are nonbasic)

Ques 15: a)

**MECHSHALA**

Q. Construct the dual for the following minimization problem.

Min.  $Z = 5X_1 + 8X_2 + 4X_3$

Constraints:-

$2X_1 + 3X_2 - X_3 \geq 10$	<b>(n) variable= 3</b> <b>(m) Constraints = 5</b>
$X_1 + X_2 + 3X_3 \geq 5$	
$2X_1 + 5X_2 - 2X_3 \leq 7$	$-2X_1 - 5X_2 + 2X_3 \geq -7$
$3X_1 - X_2 + 3X_3 \geq 9$	
$X_1 + 5X_2 \geq 6$	
$X_1, X_2, X_3 \geq 0$	

**SOLUTION:-**

DUAL

Max.  $Z^* = 10Y_1 + 5Y_2 - 7Y_3 + 9Y_4 + 6Y_5$

Constraints:-

$2Y_1 + Y_2 - 2Y_3 + 3Y_4 + Y_5 \leq 5$
$3Y_1 + Y_2 - 5Y_3 - Y_4 + 5Y_5 \leq 8$
$-Y_1 + 3Y_2 + 2Y_3 + 3Y_4 \leq 4$
$Y_1, Y_2, Y_3, Y_4, Y_5 \geq 0$

b) Explain advantages and disadvantages of linear programming.

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Sol:

# Advantages & Disadvantages

## Advantages of Linear Programming:

- The main advantage of linear programming is its simplicity and easy way of understanding.
- Linear programming makes optimal use of available resources
- Linear programming is adaptive and more flexibility to analyze the problems.
- The better quality of decision is provided.

## Disadvantage of Linear Programming:

- Linear programming works only with the variables that are linear.
- It deals with the problem having single Objective
- Non linear function cannot be solved over here.
- Impossibility of solving some problem which has more than two variables in graphical method.

**Ques 16:** Explain Transportation problem and Compare Transportation problem and Assignment Problem

Sol:

- **Transportation problem** is a special kind of **Linear Programming Problem (LPP)** in which goods are transported from a set of sources to a set of destinations subject to the supply and demand of the sources and destination respectively such that the total cost of transportation is minimized. It is also sometimes called as Hitchcock problem.

- **Types of Transportation problems:**

**Balanced:** When both supplies and demands are equal then the problem is said to be a balanced transportation problem.

**Unbalanced:** When the supply and demand are not equal then it is said to be an unbalanced transportation problem. In this type of problem, either a dummy row or a

dummy column is added according to the requirement to make it a balanced problem. Then it can be solved similar to the balanced problem.

Transportation Model	Assignment Model
The problem contains specific demand and requirement in columns and rows	The demand and availability in each column or row is one
Total demand must be equal to the total availability	It is a square matrix. The number of rows must be equal to the number of columns
The optimal solution involves the condition $m+n-1$ where: m – rows n – columns	The optimal solutions involve one (1) assignment in each row and each column
There is no restriction in the number of allotments in any row or column	There should be only one (1) allotment in each row and each column
It is a problem of allocating multiple resources to multiple markets	It is a problem of allocation resources to job j

**Ques 17: Solve the following Transportation problem using Northwest Corner method**

		Destination				
		D1	D2	D3	D4	Supply
Source	O1	3	1	7	4	300
	O2	2	6	5	9	400
	O3	8	3	3	2	500
Demand:		250	350	400	200	1200

**Sol:**

		Destination				
		D1	D2	D3	D4	Supply
Source	O1	3	1	7	4	300
	O2	2	6	5	9	400
	O3	8	3	3	2	500
Demand:		250	350	400	200	1200

- Explanation: Given three sources O1, O2 and O3 and four destinations D1, D2, D3 and D4. For the sources O1, O2 and O3, the supply is 300, 400 and 500 respectively. The destinations D1, D2, D3 and D4 have demands 250, 350, 400 and 200 respectively.
- Solution: According to North West Corner method, (O1, D1) has to be the starting point i.e. the north-west corner of the table. Each and every value in the cell is considered as the cost per transportation. Compare the demand for column D1 and supply from the source O1 and allocate the minimum of two to the cell (O1, D1) as shown in the figure. The demand for Column D1 is completed so the entire column D1 will be canceled. The supply from the source O1 remains  $300 - 250 = 50$ .

		Destination				
		D1	D2	D3	D4	Supply
Source	O1	250	1	7	4	<del>300</del> 50
	O2	2	6	5	9	400
	O3	8	3	3	2	500
Demand:		<del>250</del> 0	350	400	200	1200

- Now from the remaining table i.e. excluding column D1, check the north-west corner i.e. (O1, D2) and allocate the minimum among the supply for the respective column and the rows. The supply from O1 is 50 which is less than the demand for D2 (i.e. 350), so

allocate **50** to the cell (**O1, D2**). Since the supply from row **O1** is completed cancel the row **O1**. The demand for column **D2** remain  $350 - 50 = 50$ .

		Destination				Supply
		D1	D2	D3	D4	
Source	O1	250	50			<del>300</del> 0
	O2					400
	O3					500
Demand:		<del>250</del> 0	<del>350</del> 300	400	200	1200

- From the remaining table the north-west corner cell is (**O2, D2**). The minimum among the supply from source **O2** (i.e 400) and demand for column **D2** (i.e 300) is **300**, so allocate **300** to the cell (**O2, D2**). The demand for the column **D2** is completed so cancel the column and the remaining supply from source **O2** is  $400 - 300 = 100$

		Destination				Supply
		D1	D2	D3	D4	
Source	O1	250	50			<del>300</del> 0
	O2		300			<del>400</del> 100
	O3					500
Demand:		<del>250</del> 0	<del>350</del> 0	400	200	1200

- Now from remaining table find the north-west corner i.e. (O2, D3) and compare the O2 supply (i.e. 100) and the demand for D2 (i.e. 400) and allocate the smaller (i.e. 100) to the cell (O2, D2). The supply from O2 is completed so cancel the row O2. The remaining demand for column D3 remains  $400 - 100 = 300$ .

		Destination				
		D1	D2	D3	D4	Supply
Source	O1	250	50			<del>300</del> 50
	O2		300	100		<del>400</del> 100
	O3					500
Demand:		<del>250</del> 0	<del>350</del> 300	<del>400</del> 300	200	1200

		Destination				
		D1	D2	D3	D4	Supply
Source	O1	250	50			<del>300</del> 50
	O2		300	100		<del>400</del> 100
	O3			300	200	<del>500</del> 200
Demand:		<del>250</del> 0	<del>350</del> 300	<del>400</del> 300	<del>200</del> 0	1200

- In the last remaining cell the demand for the respective columns and rows are equal which was cell (O3, D4). In this case, the supply from O3 and the demand for D4 was 200 which was allocated to this cell. At last, nothing remained for any row or column.

Now just multiply the allocated value with the respective cell value (i.e. the cost) and add all of them to get the basic solution i.e.  $(250 * 3) + (50 * 1) + (300 * 6) + (100 * 5) + (300 * 3) + (200 * 2) = 4400$

a) Solve the following transportation problem using least cost method

		Destination				Supply
		D1	D2	D3	D4	
Source	O1	3	1	7	4	300
	O2	2	6	5	9	400
	O3	8	3	3	2	500
Demand:		250	350	400	200	1200

Sol:

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		Destination				
		D1	D2	D3	D4	Supply
Source	O1	3	1	7	4	300
	O2	2	6	5	9	400
	O3	8	3	3	2	500
Demand:		250	350	400	200	1200

- Solution: According to the Least Cost Cell method, the least cost among all the cells in the table has to be found which is 1 (i.e. cell (O1, D2)). Now check the supply from the row O1 and demand for column D2 and allocate the smaller value to the cell. The smaller value is 300 so allocate this to the cell. The supply from O1 is completed so cancel this row and the remaining demand for the column D2 is  $350 - 300 = 50$ .

		Destination				
		D1	D2	D3	D4	Supply
Source	O1	3	300	7	4	<del>300</del> 0
	O2	2	6	5	9	400
	O3	8	3	3	2	500
Demand:		250	<del>350</del> 50	400	200	1200

- Now find the cell with the least cost among the remaining cells. There are two cells with the least cost i.e. (O2, D1) and (O3, D4) with cost 2. Lets select (O2, D1). Now find the demand and supply for the respective cell and allocate the minimum among them to the cell and cancel the row or column whose supply or demand becomes 0 after allocation.

		Destination				Supply
		D1	D2	D3	D4	
Source	O1	3	1	7	4	<del>300</del> 0
	O2	2	6	5	9	<del>400</del> 150
	O3	8	3	3	2	500
Demand:		<del>250</del> 0	<del>350</del> 50	400	200	1200

- Now the cell with the least cost is (O3, D4) with cost 2. Allocate this cell with 200 as the demand is smaller than the supply. So the column gets canceled.

		Destination				Supply
		D1	D2	D3	D4	
Source	O1	3	1	7	4	<del>300</del> 0
	O2	2	6	5	9	<del>400</del> 150
	O3	8	3	3	2	<del>500</del> 300
Demand:		<del>250</del> 0	<del>350</del> 50	400	<del>200</del> 0	1200

- There are two cells among the unallocated cells that have the least cost. Choose any at random say (O3, D2). Allocate this cell with a minimum among the supply from the respective row and the demand of the respective column. Cancel the row or column with zero value.

		Destination				Supply
		D1	D2	D3	D4	
Source	O1	3	1	7	4	300
	O2	2	6	5	9	400
	O3	8	3	3	2	500
Demand:		250	350	400	200	1200
		0	50	0	0	

Allocation: O1D2=300, O1D1=250, O3D2=50, O3D4=200

- Now the cell with the least cost is (O3, D3). Allocate the minimum of supply and demand and cancel the row or column with zero value.

		Destination				Supply
		D1	D2	D3	D4	
Source	O1	3	1	7	4	300
	O2	2	6	5	9	400
	O3	8	3	3	2	500
Demand:		250	350	400	200	1200
		0	50	150	0	

Allocation: O1D2=300, O1D1=250, O3D2=50, O3D3=250, O3D4=200

- The only remaining cell is (O2, D3) with cost 5 and its supply is 150 and demand is 150 i.e. demand and supply both are equal. Allocate it to this cell.

		Destination				Supply
		D1	D2	D3	D4	
Source	O1	3	1	7	4	<del>300</del> 0
	O2	<del>250</del> 2	6	<del>150</del> 5	9	<del>400</del> 150 0
	O3	8	<del>50</del> 3	<del>250</del> 3	<del>200</del> 2	<del>500</del> 300 250 0
Demand:		<del>250</del> 0	<del>350</del> 50 0	<del>400</del> 150 0	<del>200</del> 0	1200

- Now just multiply the cost of the cell with their respective allocated values and add all of them to get the basic solution i.e.  $(300 * 1) + (25 * 2) + (150 * 5) + (50 * 3) + (250 * 3) + (200 * 2) = 2400$

**Ques 18: Solve the following transportation problem using VAM.**

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		Destination				
		D1	D2	D3	D4	Supply
Source	O1	3	1	7	4	300
	O2	2	6	5	9	400
	O3	8	3	3	2	500
Demand:		250	350	400	200	1200

Sol:

		Destination				
		D1	D2	D3	D4	Supply
Source	O1	3	1	7	4	300
	O2	2	6	5	9	400
	O3	8	3	3	2	500
Demand:		250	350	400	200	1200

- For each row find the least value and then the second least value and take the absolute difference of these two least values and write it in the corresponding row difference as shown in the image below. In row O1, 1 is the least value and 3 is the second least value and their absolute difference is 2. Similarly, for row O2 and O3, the absolute differences are 3 and 1 respectively.
- For each column find the least value and then the second least value and take the absolute difference of these two least values then write it in the corresponding column difference

as shown in the figure. In column D1, 2 is the least value and 3 is the second least value and their absolute difference is 1. Similarly, for column D2, D3 and D4, the absolute differences are 2, 2 and 2 respectively.

		Destination				Supply	Row Difference
		D1	D2	D3	D4		
Source	O1	3	1	7	4	300	2
	O2	2	6	5	9	400	3
	O3	8	3	3	2	500	1
Demand:		250	350	400	200	1200	
Column Difference:		1	2	2	2		

- These value of row difference and column difference are also called as penalty. Now select the maximum penalty. The maximum penalty is 3 i.e. row O2. Now find the cell with the least cost in row O2 and allocate the minimum among the supply of the respective row and the demand of the respective column. Demand is smaller than the supply so allocate the column's demand i.e. 250 to the cell. Then cancel the column D1.

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		Destination				Supply	Row Difference
		D1	D2	D3	D4		
Source	O1	3	1	7	4	300	2
	O2	2	6	5	9	<del>400</del> 150	3
	O3	8	3	3	2	500	1
Demand:		<del>250</del> 0	350	400	200	1200	
Column Difference:		1	2	2	2		

		Destination				Supply	Row Difference
		D1	D2	D3	D4		
Source	O1	3	1	7	4	300	2 3
	O2	2	6	5	9	<del>400</del> 150	3 1
	O3	8	3	3	2	500	1 1
Demand:		<del>250</del> 0	350	400	200	1200	
Column Difference:		1	2	2	2		
		-	2	2	2		

- Again select the maximum penalty which is 3 corresponding to row O1. The least-cost cell in row O1 is (O1, D2) with cost 1. Allocate the minimum among supply and demand from the respective row and column to the cell. Cancel the row or column with zero value.

		Destination				Supply	Row Difference	
		D1	D2	D3	D4			
Source	O1	<del>2</del>	300 1	7	4	<del>300</del> 0	2	3
	O2	250 2	6	5	9	<del>400</del> 150	3	1
	O3	8	3	3	2	500	1	1
Demand:		<del>250</del> 0	<del>350</del> 50	400	200	1200		
Column Difference:		1	2	2	2			
		-	2	2	2			

		Destination				Supply	Row Difference		
		D1	D2	D3	D4				
Source	O1	<del>2</del>	300 1	7	4	<del>300</del> 0	2	3	-
	O2	250 2	6	5	9	<del>400</del> 150	3	1	1
	O3	8	3	3	2	500	1	1	1
Demand:		<del>250</del> 0	<del>350</del> 50	400	200	1200			
Column Difference:		1	2	2	2				
		-	2	2	2				
		-	3	2	7				

- Now select the maximum penalty which is 7 corresponding to column D4. The least cost cell in column D4 is (O3, D4) with cost 2. The demand is smaller than the supply for cell (O3, D4). Allocate 200 to the cell and cancel the column.

		Destination				Supply	Row Difference		
		D1	D2	D3	D4				
Source	O1		300			<del>300</del> 0	2	3	-
	O2	250				<del>400</del> 150	3	1	1
	O3					<del>500</del> 300	1	1	1
Demand:		<del>250</del> 0	<del>350</del> 50	400	<del>200</del> 0	1200			
Column Difference:		1	2	2	2				
		-	2	2	2				
		-	3	2	7				



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		Destination				Supply	Row Difference			
		D1	D2	D3	D4					
Source	O1	2	300 1	7	4	<del>300</del> 0	2	3	-	-
	O2	250 2	6	5	9	<del>400</del> 150	3	1	1	1
	O3	8	3	3	200 2	<del>500</del> 300	1	1	1	0
Demand:		<del>250</del> 0	<del>350</del> 50	400	<del>200</del> 0	1200				
Column Difference:		1	2	2	2					
		-	2	2	2					
		-	3	2	7					
		-	3	2	-					

		Destination				Supply	Row Difference			
		D1	D2	D3	D4					
Source	O1	2	300 1	7	4	<del>300</del> 0	2	3	-	-
	O2	250 2	6	5	9	<del>400</del> 150	3	1	1	1
	O3	8	50 3	3	200 2	<del>500</del> 300 250	1	1	1	0
Demand:		<del>250</del> 0	<del>350</del> 50	400	<del>200</del> 0	1200				
Column Difference:		1	2	2	2					
		-	2	2	2					
		-	3	2	7					
		-	3	2	-					

		Destination				Supply	Row Difference			
		D1	D2	D3	D4					
Source	O1	<del>2</del>	<del>1</del> 300	<del>7</del>	<del>4</del>	<del>300</del> 0	2	3	-	-
	O2	<del>2</del> 250	<del>6</del>	<del>5</del>	<del>9</del>	<del>400</del> 150	3	1	1	1
	O3	<del>8</del>	<del>3</del> 50	<del>5</del> 250	<del>2</del> 200	<del>500</del> 300	1	1	1	0
Demand:		<del>250</del> 0	<del>350</del> 50 0	<del>400</del> 150	<del>200</del> 0	1200 0				
Column Difference:		1	2	2	2					
		-	2	2	2					
		-	3	2	7					
		-	3	2	-					

		Destination				Supply	Row Difference			
		D1	D2	D3	D4					
Source	O1	<del>2</del>	<del>1</del> 300	<del>7</del>	<del>4</del>	<del>300</del> 0	2	3	-	-
	O2	<del>2</del> 250	<del>6</del>	<del>5</del> 150	<del>9</del>	<del>400</del> 150 0	3	1	1	1
	O3	<del>8</del>	<del>3</del> 50	<del>5</del> 250	<del>2</del> 200	<del>500</del> 300	1	1	1	0
Demand:		<del>250</del> 0	<del>350</del> 50 0	<del>400</del> 150 0	<del>200</del> 0	1200 0				
Column Difference:		1	2	2	2					
		-	2	2	2					
		-	3	2	7					
		-	3	2	-					

- No balance remains. So multiply the allocated value of the cells with their corresponding cell cost and add all to get the final cost i.e.  $(300 * 1) + (250 * 2) + (50 * 3) + (250 * 3) + (200 * 2) + (150 * 5) = 2850$

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**Ques 19:** A company has 6 machines on which to do 5 jobs. Each job can be assigned to one and only one machine. The cost of each job on each machine is given in the following table. Determine the optimum assignment.

Job	Machine		
	A	B	C
1	9	26	15
2	13	27	6
3	35	20	15
4	18	30	20

**Sol:**

- This is an unbalanced assignment problem because the number of jobs (i.e., row) is not equal to the number of machines (i.e., column). To balance the problem, we create a dummy job (with zeros as the cost elements), namely machine 4, as shown in table below, the balanced problem can now be solved using Hungarian method of assignment

Job	Machine			
	A	B	C	D
1	9	26	15	0
2	13	27	6	0
3	35	20	15	0

4	18	30	20	0
---	----	----	----	---

Row Reduction=Minimum element – other element of each row and column

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Job	Machine			
	A	B	C	D
1	9	26	15	0
2	13	27	6	0
3	35	20	15	0
4	18	30	20	0

Job	Machine			
	A	B	C	D
1	0	6	9	0
2	4	7	0	0
3	26	0	9	0
4	9	10	14	0

- **Optimal assignment:** where we get single zero, while focus on row then cancel the remaining element. After that focus on the column optimal assignment .....

Job	Machine			
	A	B	C	D
1	0	6	9	<del>0</del>
2	4	7	0	<del>0</del>
3	26	0	9	<del>0</del>
4	9	10	14	0

- Now, we don't have any zero for cancellation
- Then check the condition of optimal assignment
- No. of assignment 4 = matrix order i.e., 4
- Optimal assignment (where we have zero in the table)
- ❖ 1-m1
- ❖ 2-m3
- ❖ 3-m2
- ❖ 4-m4
- ❖ Therefore answer is 35 hours (9+6+20+0)

**Ques 20:** Explain Assignment problem and assumptions in transportation problem?

**Sol:**

- Assignment problem is a special type of linear programming problem which deals with the allocation of the various resources to the various activities on one to one basis. It does it in such a way that the cost or time involved in the process is minimum and profit or sale is maximum. Though there problems can be solved by simplex method or by transportation method but assignment model gives a simpler approach for these problems.
- In a factory, a supervisor may have six workers available and six jobs to fire. He will have to take decision regarding which job should be given to which worker. Problem forms one to one basis. This is an assignment problem.



## ➤ Assumptions in the transportation Model :

1. Total qty of the item available at different sources is equal to the total requirement at different destinations.
2. Item can be transported conveniently from all sources to destinations.
3. The unit transportation cost of the item from all sources to destinations is certainly & precisely known.
4. The transportation cost on given route is directly proportional to the no. of units shipped on that route.
5. The objective is to minimize the total transportation cost for the organization as a whole & not for individual supply & distribution centre.



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## BBA 106 – ECOMMERCE

### II- SEMESTER

NAAC ACCREDITED

#### Unit 1.

##### Q1. What is the Nature and Scope of Ecommerce?

**Ans:** Electronic commerce, normally known as ecommerce, is the purchasing and selling of product or administration over electronic frameworks, for example, the Internet and other PC systems. Electronic commerce draws on such innovations as electronic funds transfer, supply chain management, Internet marketing, online exchange preparing, Electronic Data Interchange (EDI), inventory frameworks, and computerized information assortment frameworks. Present-day electronic commerce normally utilizes the World Wide Web in any event at one point in the exchange's life-cycle, despite the fact that it might include a more extensive scope of advancements, for example, email, cell phones and phones too.

Electronic commerce is by and large viewed as the business part of e-business. It likewise comprises the trading of information to encourage the financing and installment parts of business exchanges. Indeed, even today, some significant time after the dot com, electronic commerce (e-commerce) stays a moderately new, rising and always changing region of business the executives and information technology. There has been and keeps on being a lot of exposure and talks about ecommerce. Library lists and retires are loaded up with books and articles regarding the matter. Be that as it may, there stays a feeling of perplexity, doubt and misjudging encompassing the territory, which has been exacerbated by the various settings wherein electronic business is utilized, combined with the bunch related popular expressions and abbreviations.

In the rising worldwide economy, online business and e-business have progressively become a fundamental part of the business technique and a solid impetus for monetary advancement. The coordination of Information and Communications Technology (ICT) in business has changed connections inside associations and those between and among associations and people. In particular, the utilization of ICT in business has upgraded profitability, empowered more prominent client cooperation, and empowered mass customization, other than lessening costs.

The name of the game is vital positioning, the capacity of an organization to decide developing chances and use the important human capital abilities to benefit as much as possible from these open doors through an e-business procedure that is basic, functional and practicable inside the setting of a worldwide data milieu and new financial condition. With its impact of making everything fair, ecommerce combined with the fitting system and arrangement approach empowers little and medium scale ventures to rival huge and capital-rich organizations.

On another plane, developing nations are given expanded access to the worldwide commercial center, where they contend with and supplement the more developed economies. Most, if not every, developing nations are now taking an interest in ecommerce, either as vendors or purchasers. In any case, to encourage online business development in these nations, the generally immature data foundation must be improved.

## **E Commerce Advantages and Disadvantages**

### **Advantages of eCommerce**

There are many obvious and not-so-obvious pros to doing business online. Understanding exactly what they are can help you leverage them to your advantage:

#### **1. A Larger Market**

eCommerce allows you to reach customers all over the country and around the world. Your customers can make a purchase anywhere and anytime, especially more people are getting used to shopping on their mobile devices.

#### **2. Customer Insights Through Tracking And Analytics**

Whether you're sending visitors to your eCommerce website through SEO, PPC ads or a good old postcard, there is a way to track your traffic and customers' entire user journey to get insights into keywords, user experience, marketing message, pricing strategy, and more.

#### **3. Fast Response To Consumer Trends And Market Demand**

The streamlined logistics, especially for merchants who do "drop ship," allow businesses to respond to market and eCommerce trends and consumer demands in a nimble manner. Merchants can also create promotions and deals on the fly to attract customers and generate more sales.

#### **4. Lower Cost**

With the advance in eCommerce platform technologies, it has become very easy and affordable to set up and maintain an eCommerce store with a low overhead. Merchants no longer have to

spend a large budget on TV ads or billboard, nor worry about the expense for personnel and real estate.

### **5. More Opportunities To "Sell"**

Merchants can only provide a limited amount of information on a product in a physical store. On the other hand, eCommerce websites allow the space to include more information such as demo videos, reviews, and customer testimonials to help increase conversion.

### **6. Personalized Messaging**

eCommerce platforms give merchants the opportunity to serve up personalized content and product recommendations to registered customers. These targeted communications can help increase conversion by showing the most relevant content to each visitor.

### **7. Increased Sales With Instant Gratification**

For businesses that sell digital goods, eCommerce allows the delivery of products within seconds of making a purchase. This satisfies consumers' need for instant gratification and helps increase sales, especially for low-cost items that are often "impulse buys."

### **8. Ability to Scale Up (Or Down) Quickly And Unlimited "Shelf Space"**

The growth of an online business is not limited by the availability of physical space. Even though logistics can become an issue as one grows, it's less of a challenge compared to those for running a brick-and-mortar store. eCommerce merchants can scale up or down their operation quickly, and take advantage of the unlimited "shelf space," as a response to market trend and consumer demands.

### **Disadvantages of eCommerce**

Running an eCommerce business is not all rainbows and unicorns. There are challenges unique to this business model -- knowing them will help you navigate the choppy waters and avoid common pitfalls:

#### **1. Lack Of Personal Touch**

Some consumers value the personal touch they get from visiting a physical store and interacting with sales associates. Such personal touch is particularly important for businesses selling high-end products as customers not only want to buy the merchandise but also have a great experience during the process.

#### **2. Lack Of Tactile Experience**

No matter how well a video is made, consumers still can't touch and feel a product. Not to mention, it's not an easy feat to deliver a brand experience, which could often include the sense of touch, smell, taste, and sound, through the two-dimensionality of a screen.

### **3. Price And Product Comparison**

With online shopping, consumers can compare many products and find the lowest price. This forces many merchants to compete on price and reduce their profit margin.

### **4. Need For Internet Access**

This is pretty obvious, but don't forget that your customers do need Internet access before they can purchase from you! Since many eCommerce platforms have features and functionalities that require high-speed Internet access for an optimal customer experience, there's a chance you're excluding visitors who have slow connections.

### **5. Credit Card Fraud**

Credit card fraud is a real and growing problem for online businesses. It can lead to chargebacks that result in the loss of revenue, penalties, and bad reputation.

### **6. IT Security Issues**

More and more businesses and organizations have fallen prey to malicious hackers who have stolen customer information from their database. Not only could this have legal and financial implications but also lessen the trust customers have in the company.

### **7. All the Eggs In One Basket**

eCommerce businesses rely heavily (or solely) on their websites. Even just a few minutes of downtime or technology hiccups can cause a substantial loss of revenue and customer dissatisfaction.

### **8. Complexity In Taxation, Regulations, and Compliance**

If an online business sells to customers in different territories, they'll have to adhere to regulations not only in their own states/countries but also in their customers' place of residence. This could create a lot of complexities in accounting, compliance, and taxation.

## **Q2. What are the top Reasons Consumers Prefer Online Payments?**

**Ans:** Consumers are accustomed to being instantly connected — to information, to entertainment, to one another via text message and social media, and to items they want to buy. With this expectation that nearly every need can be immediately solved with the help of

technology, it's not wonder that they've become so privy to online payments — and the businesses that accept them.

Here's a look at the top reasons people prefer online payments:

**1) They eliminate geographical boundaries.** When a person travels to a different country or continent, they have to adapt what's in their wallet. This may include exchanging currency, and even using a different credit card than they would typically use. Online payments eliminate the obstacles to participating in a global marketplace.

Many payment processors equip businesses to accept a range of different currencies, automatically calculate the proper exchange rate based on the type of currency — and even adapt the language and information prompted in checkout forms to accommodate the different languages buyers might speak, based on the currency used.

**2) They've never been more convenient.** Payment technology has evolved to the point that consumers can complete an online payment even if they don't have a card or physical wallet on hand. In addition to the increasing popularity of mobile wallets, like Apple Pay, research by Javelin Strategy indicates that simpler forms of alternative funding (think PayPal or BillMeLater) remain well received by online consumers. In fact, more than 80 percent of respondents to Javelin's study said they'd used one of these card-free payment tools in the last year to make an online payment.

**3) They give consumers more time.** Online payments aren't just convenient in the sense of transaction speed — they eliminate the need for consumers to travel to a store, invest their time, and wait in line to pay. Studies on the psychological impact of waiting in line reveal just how precious time is to consumers: They tend to overestimate how much waiting will deplete their time by nearly 40 percent. Whether the amount of time a customer loses from waiting in line is real or imagined, perception is reality: Online payments deliver a tangible benefit, simply by offering the buyer a choice of how to spend their time.

**4) They provide an additional layer of purchase protection.** Buying from a small business, whether in person or online, requires that customers establish some degree of trust with a merchant with whom they may have no previous experience. Regardless of how clearly a business communicates its return, exchange, and customer satisfaction policies, there may be a sense of hesitancy for consumers. Online payments can overcome this obstacle. When online payments are made using a credit card that guarantees the lowest price for a stated number of days, extends manufacturer warranties, and offers a cardholder the right to dispute a purchase,

for example, the customer has peace of mind that they will be protected, regardless of the merchant's policy.

**5) They replicate their existing financial habits.** Online banking has become a tool that more than half of Americans rely on to transfer funds, pay bills, and track their budgets, according to Pew Research Center. Online payments replicate the financial habits and behaviors that have become the “new normal” for so many consumers.

**6) They provide cost-free benefits.** In addition to all of the benefits customers can gain from online payments, they cost consumers nothing in return. In a world where so few things are free, online payments offer consumers a value-added convenience, with no additional investment required. Though businesses may incur a small fee for accepting credit cards, the fact that consumers are given the option to pay in the means they prefer will likely negate the nominal fee that's involved in the transaction.

Online payments give consumers the hassle-free experience they want at no cost —and plenty of timesaving benefits. In tandem, they provide small businesses that accept them with the operational efficiencies they need to meet (and hopefully exceed) customer expectations.

### **Q3. What are the different categories of e-commerce?**

**Ans:** Generally speaking, when most people think of e-commerce, they think of the purchase of goods or services by use of the internet. However, there is a more specific way to refer to the type of online transaction by the means of mentioning which e-commerce category the transfer falls under. There are six basic types of e-commerce — Business-to-Business (B2B), Business-to-Consumer (B2C), Consumer-to-Consumer (C2C), Consumer-to-Business (C2B), Business-to-Administration (B2A) and Consumer-to-Administration (C2A) — and all of them represent a different purchasing dynamic.

#### **BUSINESS-TO-BUSINESS (B2B)**

B2B e-commerce refers to all electronic transactions of goods and sales that are conducted between two companies. This type of e-commerce typically explains the relationship between the producers of a product and the wholesalers who advertise the product for purchase to consumers. Sometimes this allows wholesalers to stay ahead of their competition.

## **BUSINESS-TO-CONSUMER (B2C)**

Perhaps the most common form of e-commerce, B2C e-commerce deals with electronic business relationships between businesses and consumers. Many people enjoy this avenue of e-commerce because it allows them to shop around for the best prices, read customer reviews and often find different products that they wouldn't otherwise be exposed to in the retail world. This e-commerce category also enables businesses to develop a more personalized relationship with their customers.

## **CONSUMER-TO-CONSUMER (C2C)**

This level of e-commerce encompasses all electronic transactions that take place between consumers. Generally, these transactions are provided by online platforms (such as PayPal), but often are conducted through the use of social media networks (Facebook marketplace) and websites (Craigslist).

## **CONSUMER-TO-BUSINESS (C2B)**

Not the most traditional form of e-commerce, C2B e-commerce is when a consumer makes their services or products available for companies to purchase. An example of this would be a graphic designer customizing a company logo or a photographer taking photos for an e-commerce website.

## **BUSINESS-TO-ADMINISTRATION (B2A)**

This e-commerce category refers to all transactions between companies and public administration. This is an area that involves many services, particularly in areas such as social security, employment and legal documents.

## **CONSUMER-TO-ADMINISTRATION (C2A)**

Another popular e-commerce category, C2A e-commerce encompasses all electronic transactions between individuals and public administration. Examples of this include taxes (filing tax returns) and health (scheduling an appointment using an online service).

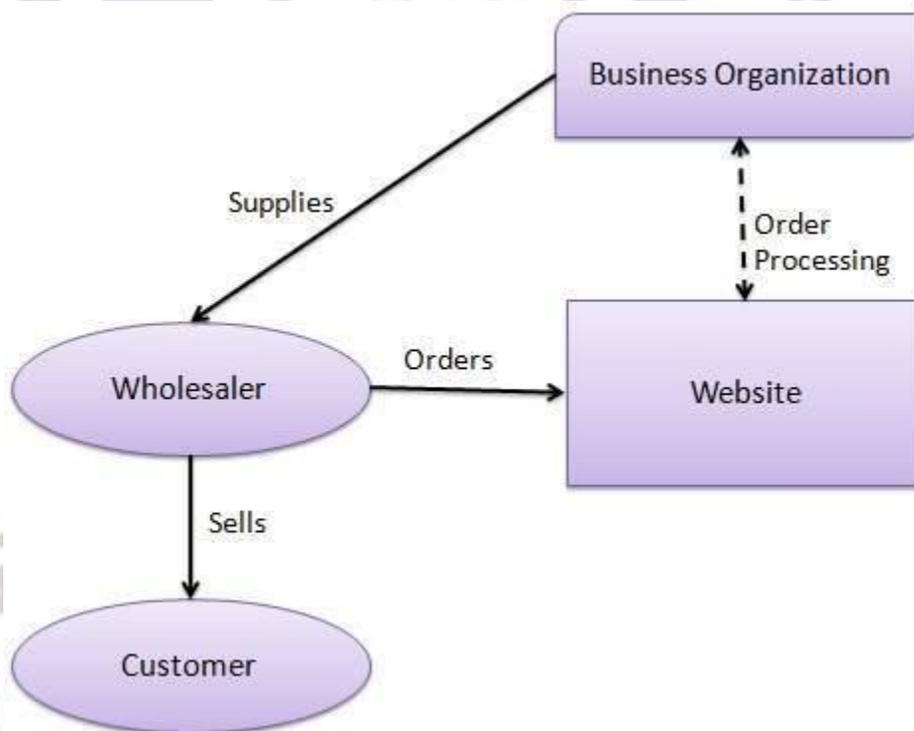
## **E-Commerce - Business Models**

E-commerce business models can generally be categorized into the following categories.

- Business - to - Business (B2B)
- Business - to - Consumer (B2C)
- Consumer - to - Consumer (C2C)
- Consumer - to - Business (C2B)
- Business - to - Government (B2G)
- Government - to - Business (G2B)
- Government - to - Citizen (G2C)

### Business - to - Business

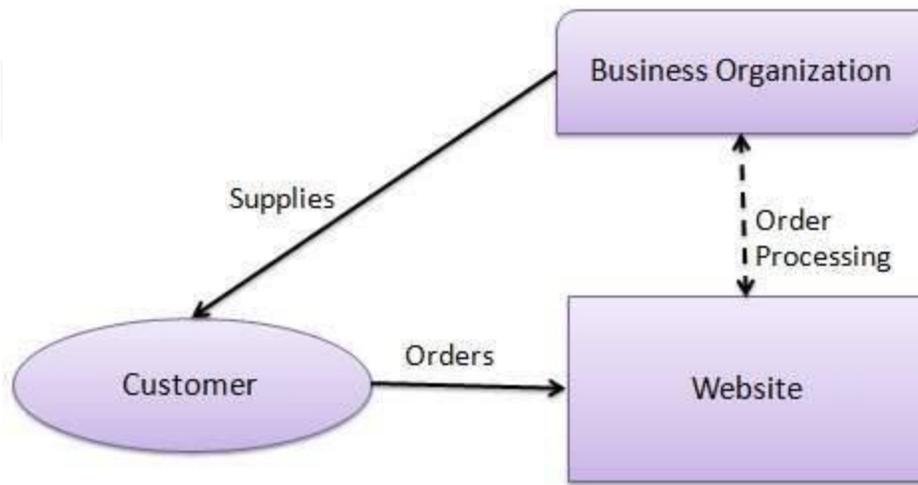
A website following the B2B business model sells its products to an intermediate buyer who then sells the product to the final customer. As an example, a wholesaler places an order from a company's website and after receiving the consignment, sells the endproduct to the final customer who comes to buy the product at one of its retail outlets.



### Business - to - Consumer

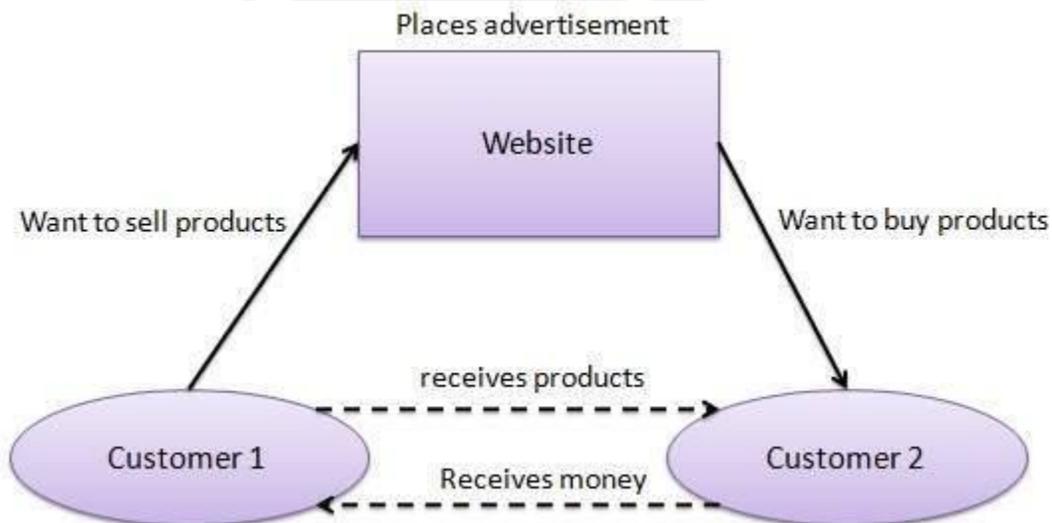
A website following the B2C business model sells its products directly to a customer. A customer can view the products shown on the website. The customer can choose a product and

order the same. The website will then send a notification to the business organization via email and the organization will dispatch the product/goods to the customer.



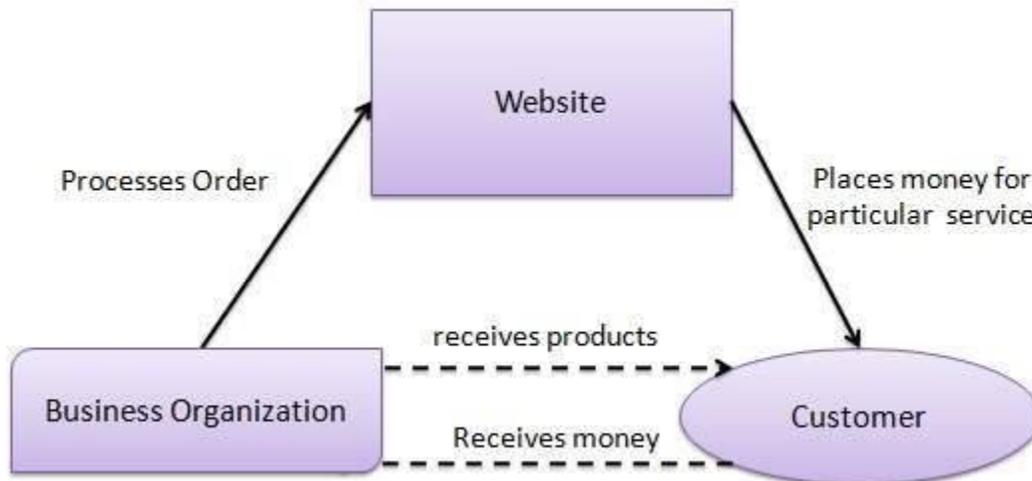
### Consumer - to - Consumer

A website following the C2C business model helps consumers to sell their assets like residential property, cars, motorcycles, etc., or rent a room by publishing their information on the website. Website may or may not charge the consumer for its services. Another consumer may opt to buy the product of the first customer by viewing the post/advertisement on the website.



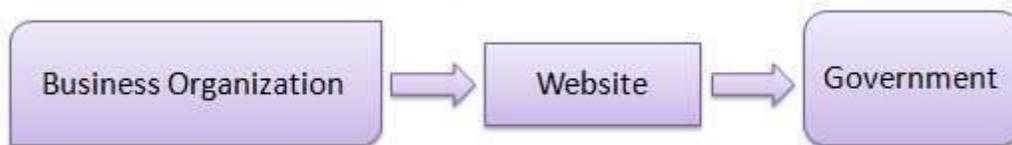
### Consumer - to - Business

In this model, a consumer approaches a website showing multiple business organizations for a particular service. The consumer places an estimate of amount he/she wants to spend for a particular service. For example, the comparison of interest rates of personal loan/car loan provided by various banks via websites. A business organization who fulfills the consumer's requirement within the specified budget, approaches the customer and provides its services.



### Business - to - Government

B2G model is a variant of B2B model. Such websites are used by governments to trade and exchange information with various business organizations. Such websites are accredited by the government and provide a medium to businesses to submit application forms to the government.



### Government - to - Business

Governments use B2G model websites to approach business organizations. Such websites support auctions, tenders, and application submission functionalities.



Government - to - Citizen

Governments use G2C model websites to approach citizen in general. Such websites support auctions of vehicles, machinery, or any other material. Such website also provides services like registration for birth, marriage or death certificates. The main objective of G2C websites is to reduce the average time for fulfilling citizen's requests for various government services.



#### **Q4. Most Common Challenges Faced by eCommerce Businesses?**

Ans : Most Common Challenges Faced by eCommerce Businesses

##### **1. Finding the right products to sell**

Shopping cart platforms like Shopify have eliminated many barriers of entry. Anyone can launch an online store within days and start selling all sorts of products.

Amazon is taking over the eCommerce world with their massive online product catalog. Their marketplace and fulfillment services have enabled sellers from all over the world to easily reach paying customers.

All of this has made it very difficult for retailers to source unique products unless you they decide to manufacture your own.

##### **2. Attracting the perfect customer**

Online shoppers don't shop the same way as they used to back in the day. They use Amazon to search for products (not just Google). They ask for recommendations on Social Media. They use their smartphones to read product reviews while in-store and pay for purchases using all sorts of payment methods.

Lots has changed including the way they consume content and communicate online. They get easily distracted with technology and social media.

Retailers must figure out where their audience is and how to attract them efficiently without killing their marketing budget.

### **3. Generating targeted traffic**

Digital marketing channels are evolving. Retailers can no longer rely on one type of channel to drive traffic to their online store.

They must effectively leverage SEO, PPC, email, social, display ads, retargeting, mobile, shopping engines and affiliates to help drive qualified traffic to their online store. They must be visible where their audience is paying attention.

### **4. Capturing quality leads**

Online retailers are spending a significant amount of money driving traffic to their online store.

With conversion rates ranging between 1% to 3%, they must put a lot of effort in generating leads in order to get the most out of their marketing efforts.

The money is in the list. Building an email subscribers list is key for long term success. Not only will help you communicate your message, but it will also allow you to prospect better using tools such as Facebook Custom Audiences.

Not all leads are created equally. Retailers must craft the right message for the right audience in order to convert them into leads with hopes of turning them into customers.

### **5. Nurturing the ideal prospects**

Having a large email list is worthless if you're not actively engaging with subscribers.

A small percentage of your email list will actually convert into paying customers. Nonetheless, retailers must always deliver value with their email marketing efforts.

Online retailers put a lot of focus on communicating product offering as well as promotions, but prospects need more than that. Value and entertainment goes a long way but that requires more work.

### **6. Converting shoppers into paying customers**

Driving quality traffic and nurturing leads is key if you want to close the sale. At a certain point, you need to convert those leads in order to pay for your marketing campaigns.

Retailers must constantly optimize their efforts in converting both email leads as well as website visitors into customers. Conversion optimization is a continuous process.

### **7. Retaining customers**

Attracting new customers is more expensive than retaining the current ones you already have. Retailers must implement tactics to help them get the most out of their customer base in increase customer lifetime value.

### **8. Achieving profitable long-term growth**

Increasing sales is one way to grow the business but in the end, what matters most is profitability. Online retailers must always find ways to cut inventory costs, improve marketing efficiency, reduce overhead, reduce shipping costs and control order returns.

### **9. Choosing the right technology & partners**

Some online retailers may face growth challenges because their technology is limiting them or they've hired the wrong partners/agencies to help them manage their projects.

Retailers wanting to achieve growth must be built on a good technology foundation. They must choose the right shopping cart solution, inventory management software, email software, CRM systems, analytics and so much more.

In addition, hiring the wrong partners or agencies to help you implement projects or oversee marketing campaigns may also limit your growth. Online retailers must choose carefully who to work with.

### **10. Attracting and hiring the right people to make it all happen**

Let's face it, online retailers may have visions and aspirations but one true fact remains, they need the right people to help them carry out their desires.

Attracting the right talent is key in order to achieve desirable online growth. Also, having the right leader plays an even bigger role.

Retailers should be out there getting their name out within the online community by attending eCommerce conferences, speaking at events and networking. Employees want to work for companies that care about them and their future. Having a sense of purpose is key.

### **Q5. Explain the status of E-commerce Industry in India**

Ans :

## E-commerce Industry in India



### Introduction

The e-commerce has transformed the way business is done in India. The Indian e-commerce market is expected to grow to US\$ 200 billion by 2026 from US\$ 38.5 billion as of 2017. Much growth of the industry has been triggered by increasing internet and smartphone penetration. The ongoing digital transformation in the country is expected to increase India's total internet user base to 829 million by 2021 from 636.73 million in FY19. India's internet economy is expected to double from US\$ 125 billion as of April 2017 to US\$ 250 billion by 2020, majorly backed by e-commerce. India's E-commerce revenue is expected to jump from US\$ 39 billion in 2017 to US\$ 120 billion in 2020, growing at an annual rate of 51 per cent, the highest in the world.

### Market Size

Propelled by rising smartphone penetration, the launch of 4G networks and increasing consumer wealth, the Indian e-commerce market is expected to grow to US\$ 200 billion by 2026 from US\$ 38.5 billion in 2017. Online retail sales in India are expected to grow by 31 per cent to touch US\$ 32.70 billion in 2018, led by Flipkart, Amazon India and Paytm Mall.

During April-June quarter 2019, smartphone shipment in India grew 9.9 per cent year-on-year to 36.9 million shipments. It is expected to reach 160 million in 2019.

During 2018, electronics is currently the biggest contributor to online retail sales in India with a share of 48 per cent, followed closely by apparel at 29 per cent.

### Investments/ Developments

Some of the major developments in the Indian e-commerce sector are as follows:

- In August 2019, Amazon acquired 49 per cent stake in a unit of Future Group.
- Reliance to invest Rs 20,000 crore (US\$ 2.86 billion) in its telecom business to expand its broadband and E-commerce presence and to offer 5G services.
- In September 2019, PhonePe launched super-app platform 'Switch' to provide a one stop solution for customers integrating several other merchants apps.
- In November 2019, Nykaa opened its 55th offline store marking success in tier II and tier III cities.
- Flipkart, after getting acquired by Walmart for US\$ 16 billion, is expected to launch more offline retail stores in India to promote private labels in segments such as fashion and electronics. In September 2018, Flipkart acquired Israel based analytics start-up Upstream Commerce that will help the firm to price and position its products in an efficient way.
- As of March 2019, Flipkart launched its internal fund of about US\$ 60-100 million to invest from early stage to seed innovations related to e-commerce industry.
- Paytm has launched its bank - Paytm Payment Bank. Paytm bank is India's first bank with zero charges on online transactions, no minimum balance requirement and free virtual debit card
- As of June 2018, Google is also planning to enter into the E-commerce space by November 2018. India is expected to be its first market.
- Reliance retail is going to launch online retail this year. It has already launched its food and grocery app for beta testing among its employees.
- E-commerce industry in India witnessed 21 private equity and venture capital deals worth US\$ 2.1 billion in 2017 and 40 deals worth US\$ 1,129 million in the first half of 2018.
- Google and Tata Trust have collaborated for the project 'Internet Saathi' to improve internet penetration among rural women in India.

### **Government initiatives**

Since 2014, the Government of India has announced various initiatives namely, Digital India, Make in India, Start-up India, Skill India and Innovation Fund. The timely and effective implementation of such programs will likely support the e-commerce growth in the country. Some of the major initiatives taken by the government to promote the e-commerce sector in India are as follows:

- Government e-Marketplace (GeM) signed a Memorandum of Understanding (MoU) with Union Bank of India to facilitate a cashless, paperless and transparent payment system for an array of services in October 2019.
- In February 2019, the Government of India released the Draft National e-Commerce Policy which encourages FDI in the marketplace model of e-commerce
- In order to increase the participation of foreign players in the e-commerce field, the Indian Government hiked the limit of foreign direct investment (FDI) in the E-commerce marketplace model for up to 100 per cent (in B2B models).
- The heavy investment of Government of India in rolling out the fiber network for 5G will help boost ecommerce in India
- In the Union Budget of 2018-19, government has allocated Rs 8,000 crore (US\$ 1.24 billion) to Bharat Net Project, to provide broadband services to 150,000 gram panchayats
- As of August 2018, the government is working on the second draft of e-commerce policy, incorporating inputs from various industry stakeholders.

### **Achievements**

Following are the achievements of the government in the past four years:

- Internet subscribers in India stood at 665.31 million in June 2019.
- In the festive sale (September 29-October 4, 2019), the e-tailers in India achieved US\$ 3 billion of Gross Merchandise Value (GMV).
- Amazon India launched the Amazon Marketplace Appstore which will provide solutions to sellers .
- Value of Unified Payments Interface (UPI) transactions recorded 1.15 billion transaction worth more than Rs 1.913 trillion (US\$ 27 billion) in October 2019.
- Under Internet Saathi project over 26 million women were benefitted in India and it reached 2.6 lakh villages and reached 20 states.
- Under the Digital India movement, government launched various initiatives like Udaan, Umang, Start-up India Portal etc.
- Under the project 'Internet Saathi', the government has influenced over 16 million women in India and reached 166,000 villages

- Udaan, a B2B online trade platform that connect small and medium size manufacturers and wholesalers with online retailers and also provide them logistics, payments and technology support, has sellers in over 80 cities of India and delivers to over 500 cities.
- According to the UN's eGovernance index, India has jumped 11 positions to 107 in 2016 from 2018 in 2014.
- The government introduced Bharat Interface for Money (BHIM), a simple mobile based platform for digital payments.

### **Road Ahead**

The e-commerce industry been directly impacting the micro, small & medium enterprises (MSME) in India by providing means of financing, technology and training and has a favourable cascading effect on other industries as well. The Indian e-commerce industry has been on an upward growth trajectory and is expected to surpass the US to become the second largest e-commerce market in the world by 2034. Technology enabled innovations like digital payments, hyper-local logistics, analytics driven customer engagement and digital advertisements will likely support the growth in the sector. The growth in e-commerce sector will also boost employment, increase revenues from export, increase tax collection by ex-chequers, and provide better products and services to customers in the long-term.

E-retail market is expected to continue its strong growth, by registering a CAGR of over 35 per cent and to reach Rs 1.8 trillion (US\$ 25.75 billion) by FY20.

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ISO 9001:2015 & 14001:2015

## Unit 2

### Q1. Explain the use of HTML.

**Ans : HTML**

**HTML** stands for **Hyper Text Markup Language**, which is the most widely used language on Web to develop web pages. **HTML** was created by Berners-Lee in late 1991 but "HTML 2.0" was the first standard HTML specification which was published in 1995. HTML 4.01 was a major version of HTML and it was published in late 1999. Though HTML 4.01 version is widely used but currently we are having HTML-5 version which is an extension to HTML 4.01, and this version was published in 2012.

Originally, **HTML** was developed with the intent of defining the structure of documents like headings, paragraphs, lists, and so forth to facilitate the sharing of scientific information between researchers. Now, HTML is being widely used to format web pages with the help of different tags available in HTML language.

**HTML** is a MUST for students and working professionals to become a great Software Engineer specially when they are working in Web Development Domain. some of the key advantages of learning HTML:

1. **Create Web site** - You can create a website or customize an existing web template if you know HTML well.
2. **Become a web designer** - If you want to start a career as a professional web designer, HTML and CSS designing is a must skill.
3. **Understand web** - If you want to optimize your website, to boost its speed and performance, it is good to know HTML to yield best results.
4. **Learn other languages** - Once you understands the basic of HTML then other related technologies like javascript, php, or angular are become easier to understand.

### **Hello World using HTML.**

Just to give you a little excitement about HTML, I'm going to give you a small conventional **HTML Hello World** program, You can try it using Demo link.

```
<!DOCTYPE html>
<html>
  <head>
```

```
<title>This is document title</title>
</head>
<body>
  <h1>This is a heading</h1>
  <p>Hello World!</p>
</body>
</html>
```

## Applications of HTML

As mentioned before, HTML is one of the most widely used language over the web. I'm going to list few of them here:

**Web pages development** - HTML is used to create pages which are rendered over the web. Almost every page of web is having html tags in it to render its details in browser.

**Internet Navigation** - HTML provides tags which are used to navigate from one page to another and is heavily used in internet navigation.

**Responsive UI** - HTML pages now-a-days works well on all platform, mobile, tabs, desktop or laptops owing to responsive design strategy.

**Offline support** HTML pages once loaded can be made available offline on the machine without any need of internet.

**Game development-** HTML5 has native support for rich experience and is now useful in gaming development arena as well.

## Q2. Explain Basic HTML Tags.

**Ans: HTML** - Basic Tags

### 1. Heading Tags

Any document starts with a heading. You can use different sizes for your headings. HTML also has six levels of headings, which use the elements <h1>, <h2>, <h3>, <h4>, <h5>, and <h6>.

While displaying any heading, browser adds one line before and one line after that heading.

Example

```
<!DOCTYPE html>
<html>
  <head>
    <title>Heading Example</title>
```

```
</head>
<body>
  <h1>This is heading 1</h1>
  <h2>This is heading 2</h2>
  <h3>This is heading 3</h3>
  <h4>This is heading 4</h4>
  <h5>This is heading 5</h5>
  <h6>This is heading 6</h6>
</body>
```

```
</html>
```

## 2. Paragraph Tag

The `<p>` tag offers a way to structure your text into different paragraphs. Each paragraph of text should go in between an opening `<p>` and a closing `</p>` tag as shown below in the example –

Example

```
<!DOCTYPE html>
<html>
  <head>
    <title>Paragraph Example</title>
  </head>
  <body>
    <p>Here is a first paragraph of text.</p>
    <p>Here is a second paragraph of text.</p>
    <p>Here is a third paragraph of text.</p>
  </body>
</html>
```

## 3. Line Break Tag

Whenever you use the `<br />` element, anything following it starts from the next line. This tag is an example of an empty element, where you do not need opening and closing tags, as there is nothing to go in between them.

The `<br />` tag has a space between the characters `br` and the forward slash. If you omit this space, older browsers will have trouble rendering the line break, while if you miss the forward slash character and just use `<br>` it is not valid in XHTML.

Example

```
<!DOCTYPE html>
<html>
  <head>
    <title>Line Break Example</title>
  </head>
  <body>
    <p>Hello<br />
      You delivered your assignment ontime.<br />
      Thanks<br />
      Mahnaz</p>
  </body>
</html>
```

#### 4. Centering Content

You can use `<center>` tag to put any content in the center of the page or any table cell.

Example

```
<!DOCTYPE html>
<html>
  <head>
    <title>Centring Content Example</title>
  </head>
  <body>
    <p>This text is not in the center.</p>
    <center>
      <p>This text is in the center.</p>
    </center>
  </body>
</html>
```

#### 5. Horizontal Lines

Horizontal lines are used to visually break-up sections of a document. The `<hr>` tag creates a line from the current position in the document to the right margin and breaks the line accordingly. For example, you may want to give a line between two paragraphs as in the given example below

Example

```
<!DOCTYPE html>
<html>

<head>
  <title>Horizontal Line Example</title>
</head>
  <body>
    <p>This is paragraph one and should be on top</p>
    <hr />
    <p>This is paragraph two and should be at bottom</p>
  </body>
</html>
```

Again `<hr />` tag is an example of the empty element, where you do not need opening and closing tags, as there is nothing to go in between them.

The `<hr />` element has a space between the characters `hr` and the forward slash. If you omit this space, older browsers will have trouble rendering the horizontal line, while if you miss the forward slash character and just use `<hr>` it is not valid in XHTML

## 6. Preserve Formatting

Sometimes, you want your text to follow the exact format of how it is written in the HTML document. In these cases, you can use the preformatted tag `<pre>`.

Any text between the opening `<pre>` tag and the closing `</pre>` tag will preserve the formatting of the source document.

Example

```
<!DOCTYPE html>
<html>
```

```
<head>
```

```
<title>Preserve Formatting Example</title>
```

```
</head>
```

```
<body>
```

```
<pre>
```

```
function testFunction( strText ){  
    alert (strText)  
}
```

```
</pre>
```

```
</body>
```

```
</html>
```

Try using the same code without keeping it inside `<pre>...</pre>` tags

## 7. Nonbreaking Spaces

Suppose you want to use the phrase "12 Angry Men." Here, you would not want a browser to split the "12, Angry" and "Men" across two lines –

An example of this technique appears in the movie "12 Angry Men."

In cases, where you do not want the client browser to break text, you should use a nonbreaking space entity `&nbsp;`; instead of a normal space. For example, when coding the "12 Angry Men" in a paragraph, you should use something similar to the following code –

Example

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
<title>Nonbreaking Spaces Example</title>
```

```
</head>
```

```
<body>
```

```
<p>An example of this technique appears in the movie "12&nbsp;Angry&nbsp;Men."</p>
```

```
</body>
```

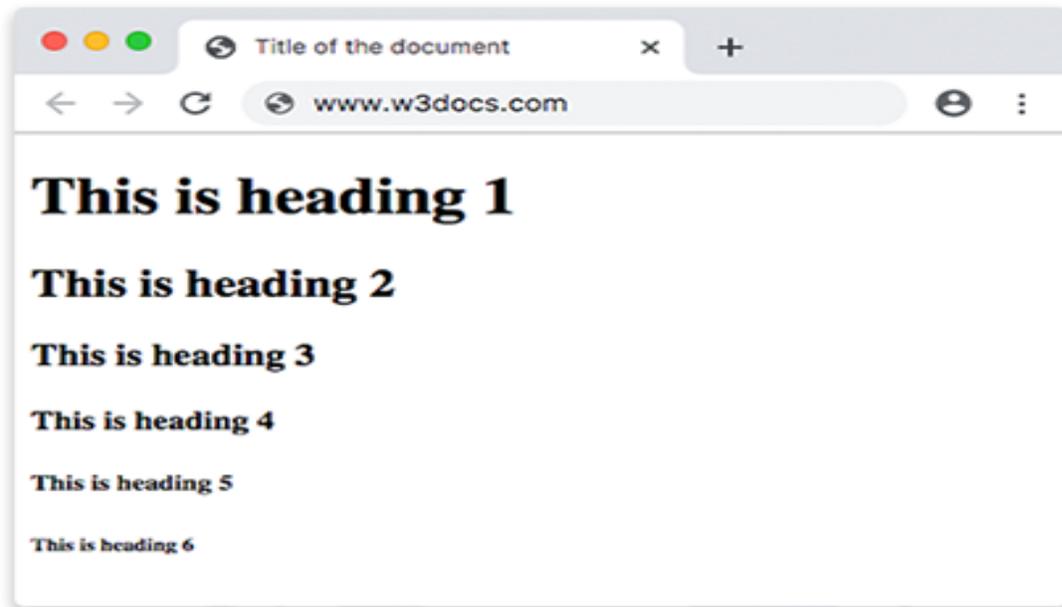
```
</html>
```

An example of this technique appears in the movie "12 Angry Men."

### Q3. Explain HTML Headings Tags

**Ans: HTML Headings**

The heading definition is a title at the head of a page or section of a book. It is very important to have different types of headings to structure the content of the web page. Headings help search engines to understand and index the structure of the web page.



Heading Tags

There are 6 levels of headings in HTML: `<h1>`, `<h2>`, `<h3>`, `<h4>`, `<h5>`, and `<h6>`.

The `<h1>` - `<h6>` tags are used to mark headings according to their importance. The `<h1>` tag stands for the most important heading of the web page and the `<h6>` stands for the least important and smallest one.

Example of `<h1>` - `<h6>` html heading tags:

```
<!DOCTYPE html>
<html>
  <head>
    <title>Title of the document</title>
  </head>
  <body>
    <h1>This is heading 1</h1>
```

```
<h2>This is heading 2</h2>
<h3>This is heading 3</h3>
<h4>This is heading 4</h4>
<h5>This is heading 5</h5>
<h6>This is heading 6</h6>
</body>
</html>
```

## Importance of Heading

HTML headings emphasize important topics and the document structure thus improving user engagement.

Use only one <h1> tag on any web page. The tag should describe what your page is about and contain a keyword, as it helps to improve rankings in Google.

Search Engines use headings for indexing the structure and content of the webpage.

## Heading Size

You can change the default size of the headings. Set a size for any heading with the style attribute, using the [CSS font-size property](#):

Example of changing the size of the heading with the font-size property:

```
<!DOCTYPE html>
<html>
<head>
<title>Title of the document</title>
<style>
h1 {
font-size: 50px;
}
</style>
</head>
<body>
<h1>This is heading 1</h1>
</body>
</html>
```

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#### Q4. Explain HTML Frame Tags

**Ans : HTML - Frames**

HTML frames are used to divide your browser window into multiple sections where each section can load a separate HTML document. A collection of frames in the browser window is known as a frameset. The window is divided into frames in a similar way the tables are organized: into rows and columns.

#### Disadvantages of Frames

There are few drawbacks with using frames, so it's never recommended to use frames in your webpages –

Some smaller devices cannot cope with frames often because their screen is not big enough to be divided up.

Sometimes your page will be displayed differently on different computers due to different screen resolution.

The browser's *back* button might not work as the user hopes.

There are still few browsers that do not support frame technology.

#### Creating Frames

To use frames on a page we use <frameset> tag instead of <body> tag. The <frameset> tag defines, how to divide the window into frames. The **rows** attribute of <frameset> tag defines horizontal frames and **cols** attribute defines vertical frames. Each frame is indicated by <frame> tag and it defines which HTML document shall open into the frame.

**Note** – The <frame> tag deprecated in HTML5. Do not use this element.

#### Example

Following is the example to create three horizontal frames –

```
<!DOCTYPE html>
```

```
<html>
```

```
  <head>
```

```
    <title>HTML Frames</title>
```

```
  </head>
```

```
<frameset rows = "10%,80%,10%">
  <frame name = "top" src = "/html/top_frame.htm" />
  <frame name = "main" src = "/html/main_frame.htm" />
  <frame name = "bottom" src = "/html/bottom_frame.htm" />
```

```
<noframes>
  <body>Your browser does not support frames.</body>
</noframes>
```

```
</frameset>
```

```
</html>
```

This will produce the following result –

### Example

Let's put the above example as follows, here we replaced rows attribute by cols and changed their width. This will create all the three frames vertically –

```
<!DOCTYPE html>
<html>

  <head>
    <title>HTML Frames</title>
  </head>

  <frameset cols = "25%,50%,25%">
    <frame name = "left" src = "/html/top_frame.htm" />
    <frame name = "center" src = "/html/main_frame.htm" />
    <frame name = "right" src = "/html/bottom_frame.htm" />

  <noframes>
    <body>Your browser does not support frames.</body>
```

</noframes>

</frameset>

</html>

This will produce the following result –

**The <frameset> Tag Attributes**



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## Q5. How to Insert Hyperlink in HTML Page?

**Ans:** With HTML, easily add hyperlinks to any HTML page. Link team page, about page, or even a test by creating it a hyperlink. You can also create a hyperlink for an external website. To make a hyperlink in an HTML page, use the `<a>` and `</a>` tags, which are the tags used to define the links.

The `<a>` tag indicates where the hyperlink starts and the `</a>` tag indicates where it ends.

Whatever text gets added inside these tags, will work as a hyperlink. Add the URL for the link in the `<a href=" " >`. Just keep in mind that you should use the `<a>...</a>` tags inside `<body>...</body>` tags.

Example `<!DOCTYPE html>`

```
<html>
```

```
  <head>
```

```
    <title>HTML Hyperlinks</title>
```

```
  </head>
```

```
  <body>
```

```
    <h1>Company</h1>
```

```
    <p>
```

```
      We're a <a href="/about/about_team.htm">team</a> of professionals working  
      hard to provide free learning content.
```

```
    </p>
```

```
  </body>
```

```
</html>
```

## Unit 3.

### Q1. What is Electronic Payment System?

**Ans:** An e-payment system is a way of making transactions or paying for goods and services through an electronic medium, without the use of checks or cash. It's also called an electronic payment system or online payment system.

The electronic payment system has grown increasingly over the last decades due to the growing spread of internet-based banking and shopping.

As the world advances more with technology development, we can see the rise of electronic payment systems and payment processing devices. As this increase, improve, and provide ever more secure online payment transactions the percentage of check and cash transactions will decrease.

### Digital Payment Requirements

The different security requirements of digital payments are mentioned below:

- Confidentiality.
- Integrity.
- Authentication.
- Availability.
- Authorization.
- Non-repudiation.

### What You Need to Know About Electronic Payment Systems

E-commerce sites use electronic payment, where electronic payment refers to paperless monetary transactions. Electronic payment has revolutionized the business processing by reducing the paperwork, transaction costs, and labor cost. Being user friendly and less time-consuming than manual processing, it helps business organization to expand its market reach/expansion. Listed below are some of the modes of electronic payments

- Credit Card
- Debit Card
- Smart Card
- E-Money
- Electronic Fund Transfer (EFT)

## Types of Electronic Payment Systems

some of the modes of electronic payments –

- Credit Card
- Debit Card
- Smart Card
- E-Money

### ➤ Credit Card

Payment using credit card is one of most common mode of electronic payment. Credit card is small plastic card with a unique number attached with an account. It has also a magnetic strip embedded in it which is used to read credit card via card readers. When a customer purchases a product via credit card, credit card issuer bank pays on behalf of the customer and customer has a certain time period after which he/she can pay the credit card bill. It is usually credit card monthly payment cycle. Following are the actors in the credit card system.

**The card holder** – Customer

**The merchant** – seller of product who can accept credit card payments.

**The card issuer bank** – card holder's bank

**The acquirer bank** – the merchant's bank

**The card brand** – for example , visa or Mastercard.

### ➤ Debit Card

Debit card, like credit card, is a small plastic card with a unique number mapped with the bank account number. It is required to have a bank account before getting a debit card from the bank. The major difference between a debit card and a credit card is that in case of payment through debit card, the amount gets deducted from the card's bank account immediately and there should be sufficient balance in the bank account for the transaction to get completed; whereas in case of a credit card transaction, there is no such compulsion.

Debit cards free the customer to carry cash and cheques. Even merchants accept a debit card readily. Having a restriction on the amount that can be withdrawn in a day using a debit card helps the customer to keep a check on his/her spending.

### ➤ Smart Card

Smart card is again similar to a credit card or a debit card in appearance, but it has a small microprocessor chip embedded in it. It has the capacity to store a customer's work-related and/or

personal information. Smart cards are also used to store money and the amount gets deducted after every transaction.

Smart cards can only be accessed using a PIN that every customer is assigned with. Smart cards are secure, as they store information in encrypted format and are less expensive/provides faster processing. Mondex and Visa Cash cards are examples of smart cards.

➤ **E-Money**

E-Money transactions refer to situation where payment is done over the network and the amount gets transferred from one financial body to another financial body without any involvement of a middleman. E-money transactions are faster, convenient, and saves a lot of time.

Online payments done via credit cards, debit cards, or smart cards are examples of emoney transactions. Another popular example is e-cash. In case of e-cash, both customer and merchant have to sign up with the bank or company issuing e-cash.

➤ **Electronic Fund Transfer**

It is a very popular electronic payment method to transfer money from one bank account to another bank account. Accounts can be in the same bank or different banks. Fund transfer can be done using ATM (Automated Teller Machine) or using a computer.

Nowadays, internet-based EFT is getting popular. In this case, a customer uses the website provided by the bank, logs in to the bank's website and registers another bank account.

He/she then places a request to transfer certain amount to that account. Customer's bank transfers the amount to other account if it is in the same bank, otherwise the transfer request is forwarded to an ACH (Automated Clearing House) to transfer the amount to other account and the amount is deducted from the customer's account.

Once the amount is transferred to other account, the customer is notified of the fund transfer by the bank.

➤ **Concept of e-Money**

Electronic **money (e-money)** is broadly defined as **an electronic** store of monetary value on a technical device that may be widely used for making payments to entities other than the **e-money** issuer. The device acts as a prepaid bearer instrument which does not necessarily involve bank accounts in transactions.

**Infrastructure Issues in Electronic Payment Systems**

Infrastructure is necessary for the successful implementation of electronic payments. Proper Infrastructure for electronic payments is a challenge.

For electronic payments to be successful, there is the need to have reliable and cost effective infrastructure that can be accessed by majority of the population.

Electronic payments communication infrastructure includes computer network. such as the internet and mobile network used for mobile phone.

In addition, banking activities and operations need to be automated. A network that links banks and other financial institutions for clearing and payment confirmation is a pre-requisite for electronic payment systems. mobile network and Internet are readily available in the developed world and users usually do not have problems with communication infrastructure.

In developing countries, many of the rural areas are unbanked and lack access to critical infrastructure that drives electronic payments.

Some of the debit cards technologies like Automated Teller Machines (ATMs) are still seen by many as unreliable for financial transactions as stories told by people suggested that they could lose their money through fraudulent deductions, debits and other lapses for which the technology had been associated with by many over the last few years.

Telecommunication and electricity are not available throughout the country, which negatively affect the development of e-payments. The development of information and communication technology is a major challenge for e-payments development.

#### ✓ **Risks in Electronic Payment Systems**

##### ➤ *Customer's risks*

- Stolen credentials or password
- Dishonest merchant
- Disputes over transaction
- Inappropriate use of transaction details

##### ➤ *Merchant's risks*

- Forged or copied instruments
- Disputed charges
- Insufficient funds in customer's account
- Unauthorized redistribution of purchased items

## **Q2. What do you mean by Electronic Fund Transfer?**

### **Electronic Fund Transfer**

Electronic Funds Transfer (EFT) is the electronic transfer of money from one bank account to another, either within a single financial institution or across

multiple institutions, via computer-based systems, without the direct intervention of bank staff. EFT transactions are known by a number of names. In the United States, they may be referred to as electronic checks or e-checks.

### **Types of EFT**

The term covers a number of different payment systems, for example:

Cardholder-initiated transactions, using a payment card such as a credit or debit card

Direct deposit payment initiated by the payer

Direct debit payments for which a business debits the consumer's bank accounts for payment for goods or services

Wire transfer via an international banking network such as SWIFT

Electronic bill payment in online banking, which may be delivered by EFT or paper check

Transactions involving stored value of electronic money, possibly in a private currency.

### **HOW EFT WORKS ?**

EFTs include direct-debit transactions, wire transfers, direct deposits, ATM withdrawals and online bill pay services. Transactions are processed through the Automated Clearing House (ACH) network, the secure transfer system of the Federal Reserve that connects all U.S. banks, credit unions and other financial institutions.

For example, when you use your debit card to make a purchase at a store or online, the transaction is processed using an EFT system. The transaction is very similar to an ATM withdrawal, with near-instantaneous payment to the merchant and deduction from your checking account.

Direct deposit is another form of an electronic funds transfer. In this case, funds from your employer's bank account are transferred electronically to your bank account, with no need for paper-based payment systems.

## Types of EFT payments

There are many ways to transfer money electronically. Below are descriptions of common EFT payments you might use for your business.

**Direct deposit** lets you electronically pay employees. After you run payroll, you will tell your direct deposit service provider how much to deposit in each employee's bank account. Then, the direct deposit provider will put that money in employee accounts on payday. Not all employers can make direct deposit mandatory, so make sure you brush up on direct deposit laws.

**Wire transfers** are a fast way to send money. They are typically used for large, infrequent payments. You might use wire transfers to pay vendors or to make a large down payment on a building or equipment.

**ATMs** let you bank without going inside a bank and talking to a teller. You can withdraw cash, make deposits, or transfer funds between your accounts.

**Debit cards** allow you to make EFT transactions. You can use the debit card to move money from your business bank account. Use your debit card to make purchases or pay bills online, in person, or over the phone.

**Electronic checks** are similar to paper checks, but used electronically. You will enter your bank account number and routing number to make a payment.

**Pay-by-phone systems** let you pay bills or transfer money between accounts over the phone.

**Personal computer banking** lets you make banking transactions with your computer or mobile device. You can use your computer or mobile device to move money between accounts.

### Q3. What are the various Security threats in E-Commerce Environment?

**Ans:** Security threats in E-Commerce environment

There are various types of e-commerce threats. Some are accidental, some are purposeful, and some of them are due to human error. The most common security threats are phishing attacks, money thefts, data misuse, hacking, credit card frauds, and unprotected services.

- **Inaccurate management**-One of the main reason for e-commerce threats is poor management. When security is not up to the mark, it poses a very dangerous threat to the networks and systems. Also, security threats occur when there are no proper budgets are allocated for the purchase of anti-virus software licenses.
- **Price Manipulation**-Modern e-commerce systems often face price manipulation problems. These systems are fully automated; right from the first visit to the final payment gateway. Stealing is the most common intention of price manipulation. It allows an intruder to slide or install a lower price into the URL and get away with all the data.
- **Snowshoe Spam**-Now spam is something which is very common. Almost each one of us deals with spam emails in our mailbox. The spam messages problem has never been actually solved, but now it is turning out to be a not so general issue. The reason for this is the very nature of a spam message. Spam is something which is sent by one person, but unfortunately, new development is taking place in the cyber world. It is called as snowshoe spam. Unlike regular spam it is not sent from one computer but is sent from many users. In such a case it becomes difficult for the anti-spam software to protect the spam messages.

security threats in E-Commerce environment

- **Malicious code threats**-These code threats typically involve viruses, worms, Trojan horses.
- Viruses are normally external threats and can corrupt the files on the website if they find their way in the internal network. They can be very dangerous as they destroy the computer systems completely and can damage the normal working of the computer. A virus always needs a host as they cannot spread by themselves.

- Worms are very much different and are more serious than viruses. It places itself directly through the internet. It can infect millions of computers in a matter of just a few hours.
- A Trojan horse is a programming code which can perform destructive functions. They normally attack your computer when you download something. So always check the source of the downloaded file.
- **Hactivism**-The full form of Hactivism is [hacking activism](#). At first, it may seem like you should hardly be aware of this cyber threat. After all, it is a problem not directly related to you. Why should you be bothered at all? However, that's not the case. Firstly hackers do not target directly to those associated only with politics. It can also be a socially motivated purpose. It is typically using social media platforms to bring to light social issues. It can also include flooding an email address with so much traffic that it temporarily shuts down.
- **Wi-Fi Eavesdropping**-It is also one of the easiest ways in e-commerce to steal personal data. It is like a “virtual listening” of information which is shared over a Wi-Fi network which is not encrypted. It can happen on the public as well as on personal computers.
- **Other threats**-Some other threats which include are data packet sniffing, IP spoofing, and port scanning. Data packet sniffing is also normally called as sniffers. An intruder can use a sniffer to attack a data packet flow and scan individual data packs. With IP spoofing it is very difficult to track the attacker. The purpose here is to change the source address and give it such a look that it should look as though it originated from another computer.

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## Q5. Explain Encryption vs Decryption: What's the Difference?

**Ans:** Cryptography

Cryptography is used to secure and protect data during communication. It is helpful to prevent unauthorized person or group of users from accessing any confidential data.

Encryption and decryption are the two essential functionalities of cryptography.

A message sent over the network is transformed into an unrecognizable encrypted message known as data encryption.

At the receiving end, the received message is converted to its original form known as decryption.

What is meant By Encryption

Encryption is a process which transforms the original information into an unrecognizable form. This new form of the message is entirely different from the original message. That's why a hacker is not able to read the data as senders use an encryption algorithm. Encryption is usually done using key algorithms.

Data is encrypted to make it safe from stealing. However, many known companies also encrypt data to keep their trade secret from their competitors.

What is meant by Decryption

Decryption is a process of converting encoded/encrypted data in a form that is readable and understood by a human or a computer. This method is performed by un-encrypting the text manually or by using keys used to encrypt the original data.

Why use Encryption and Decryption

1. Helps you to protect your confidential data such as passwords and login id
2. Provides confidentiality of private information
3. Helps you to ensure that that the document or file has not been altered
4. Encryption process also prevents plagiarism and protects IP
5. Helpful for network communication (like the internet) and where a hacker can easily access unencrypted data.

6. It is an essential method as it helps you to securely protect data that you don't want anyone else to have access.

➤ Electronic Signatures

Symbols or other data in digital form attached to an electronically transmitted document as verification of the sender's intent to sign the document.

➤ Digital signature

A digital code (generated and authenticated by public key encryption) which is attached to an electronically transmitted document to verify its contents and the sender's identity.

### Difference Between Digital Signature and Electronic Signature

Electronic signature and digital signature are often used interchangeably but the truth is that these two concepts are different. The main difference between the two is that digital signature is mainly used to secure documents and is authorized by certification authorities while electronic signature is often associated with a contract where the signer has got the intention to do so.

A digital signature is characterized by a unique feature that is in digital form like fingerprint that is embedded in a document. The signer is required to have a digital certificate so that he or she can be linked to the document.

Digital signature is often authorized by certification authorities that are responsible for providing digital certificates that can be compared to licenses or passports. A digital certificate is used to validate the document to ascertain its authenticity if it has not been forged. This plays a pivotal role in verifying the identity of the original person with the signature. The other key feature of a digital signature is that it is used to secure digital documents. There are some people who have a tendency of tempering with digital documents obtained online but with a digital signature, this can be impossible. The document is secured and can only be accessed by the authorized person for any alterations or amendments.

When a digital signature is applied to a certain document, the digital certificate is bound to the data being signed into one unique fingerprint. These two components of the digital signature are unique and this makes it more viable than wet signatures since its origins can be authenticated. This cryptographic operation helps to perform the following functions:

- Prove the authenticity of the document and its source

- Make sure that the document has not been tempered with
- Personal identity has been verified.

The other notable aspect about digital signature is that it is comprised of different types that are supported by mainly two document processing platforms that are adobe and Microsoft.

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## Unit 4.

### Q1. What are E-commerce Applications?

**Ans :** eCommerce development and its applications is an unavoidable sector in the present day to day life.

- **Retail and wholesale:** E-commerce has a number of applications In retail and wholesale.

E-retailing or on-line retailing is the selling of goods from Business-to-Consumer through electronic stores that are designed using the electronic catalog and shopping cart model.

Cybermall is a single Website that offers different products and services at one Internet location. It attracts the customer and the seller into one virtual space through a Web browser.

- **Marketing:** Another application e-commerce is Marketing. Data collection about customer behavior, preferences, needs and buying patterns is possible through Web and E-commerce. This helps marketing activities such as price fixation, negotiation, product feature enhancement and relationship with the customer.
- **Finance:** Financial companies are using E-commerce to a large extent. Customers can check the balances of their savings and loan accounts, transfer money to their other account and pay their bill through on-line banking or E-banking.
- E-commerce Applications
- Another application of E-commerce is on-line stock trading. Many Websites provide access to news, charts, information about company profile and analyst rating on the stocks.
- **Manufacturing:** E-commerce is also used in the supply chain operations of a company. Some companies form an electronic exchange by providing together buy and sell goods, trade market information and run back office information such as inventory control. This speeds up the flow of raw material and finished goods among the members of the business community. Various issues related to the strategic and competitive issues limit the implementation of the business models.
- Companies may not trust their competitors and may fear that they will lose trade secrets if they participate in mass electronic exchanges.

- **Auctions:** Customer-to-Customer E-commerce is direct selling of goods and services among customers. It also includes electronic auctions that involve bidding. Bidding is a special type of auction that allows prospective buyers to bid for an item.
- **Various type of ecommerce application available in the market.**
  - Online marketing and purchasing.
  - Retail and wholesale.
  - Finance.
  - Manufacturing.
  - Online Auction.
  - E-Banking.
  - Online publishing.
  - Online booking.
- We can classify Ecommerce by application into:
  - **Electronic markets** – here the buyer is presented a range of products and services available in a market so that they can compare prices and make the purchase
  - **Electronic Data Interchange (EDI)**– this is a standardized system where computers communicate with one another without printed documents like order forms or invoices; it eliminates delays and errors otherwise seen when paper handling is involved
  - **Internet Commerce** – the one we are most familiar with; the medium used to advertise, and sell innumerable products and services; the purchased goods are then shipped to the buyer.

### **Emerging Trends in E-Commerce**

1. Online Sales Growth is Unstoppable
2. Environmental Topics Influence Buyers
3. Mobile Shopping is Growing
4. Rise of Voice Commerce
5. Evolving Role of Social Media in Ecommerce
6. QR Code Payments Make a Comeback
7. Role of Artificial Intelligence

8. Augmented Reality Transforms How We Shop

9. Personalization is the Future

10. Visual Commerce Is on the Rise

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## Q2. What do you mean by m-commerce (mobile commerce)?

### m-commerce (mobile commerce)

M-commerce (mobile commerce) is the buying and selling of goods and services through wireless handheld devices such as smart phones and tablets.

As a form of e-commerce, m-commerce enables users to access online shopping platforms without needing to use a desktop computer.

Examples of m-commerce include in-app purchasing, mobile banking, virtual marketplace apps like the Amazon mobile app or a digital wallet such as Apple Pay, Android Pay and Samsung Pay.

### Applications of M-commerce

- Mobile Banking: Using a mobile website or application to perform all your banking functions. It is one step ahead of online banking and has become commonplace these days. For example, in Nigeria, the majority of banking transactions happen on mobile phones.
- Mobile Ticketing and Booking: Making bookings and receiving your tickets on the mobile. The digital ticket or boarding pass is sent directly to your phone after you make the payment from it. Even in India now IRTC and other services provide m-ticketing services.
- E-bills: This includes mobile vouchers, mobile coupons to be redeemed and even loyalty points or cards system.
- Auctions: Online auctions having now been developed to be made available via mobile phones as well.
- Stock Market Reports and even stock market trading over mobile applications.

### Advantages of M-commerce

- It provides a very convenient and easy to use the system to conduct business transactions.
- Mobile commerce has a very wide reach. A huge part of the world's population has a mobile phone in their pocket. So the sheer size of the market is tremendous.
- M-commerce also helps businesses target customers according to their location, service provider, the type of device they use and various other criteria. This can be a good marketing tool.

- The costs of the company also reduced. This is due to the streamlined processes, now transaction cost, low carrying cost and low order processing cost as well.

#### Disadvantages of M-commerce

- The existing technology to set up an m-commerce business is very expensive. It has great start-up costs and many complications arise.
- In developing countries, the networks and service providers are not reliable. It is not most suitable for data transfer.
- Then there is the issue of security. There are many concerns about the safety of the customer's private information. And the possibility of a data leak is very daunting.

#### What are the differences between e-commerce and m-commerce?

- E-commerce came into existence in the 1970s. Whereas, M-commerce was invented later during the 1990s
- Electronic commerce has a narrower reach than M-commerce, due to a large number of mobile users globally.
- E-commerce is generally a less costly method. The set up of the website and the use of the internet is both relatively cheaper methods. M-commerce, on the other hand, is more expensive due to the creation of the mobile app and the need to use cellular data (for the customers)

#### Mobile commerce applications examples

- Amazon - Amazon is one of the largest online marketplaces in the world, featuring hundreds of thousands of items on sale. Packing all of this content into a user-friendly and intuitive app was surely challenging. But Amazon's m-commerce app is light and fast, allowing its users to search and filter a wide range of products using various parameters with just a few clicks. Moreover, Amazon provides several payment gateways to build a smooth checkout experience. Users also get notified about their status in up-to-the-minute updates. The app also takes advantage of localization services to help users discover offers from businesses located nearby.
- Uber- Uber might not be the first thing that pops into your mind when thinking about m-commerce, but this leading on-demand car service app is, in fact, a great example of mobile commerce capabilities. By connecting riders with drivers, the app uses GPS technology to access the progress of the car on its way. It also allows users to compare

different vehicle types and pay for rides using their mobile wallets. After completing the ride, both the driver and the passenger can rate one another and leave their feedback.

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### Q3. What are the Economic, Social, Technological factors that affects Ecommerce?

Ans :

#### ➤ Economic Forces Affect E-Commerce Organizations

Economic forces are factors such as inflation, interest rates, labor and government monetary policies that influence levels of production and demand for goods and services.

These factors dictate the availability and affordability of production resources, as well as the abilities of consumers to afford your end products.

E-commerce involves transacting business through the use of automated information technology applications.

#### ➤ Social Factors that Affect E-Commerce Organizations

The main **ethical, social, and political issue** raised by information systems center around

1. information rights and obligations,
2. property rights and obligations,
3. accountability and control,
4. system quality, and
5. quality of life.

#### ➤ Technological Factors that Affect E-Commerce Organizations

1. **Mobile apps are changing consumer/retailer relationships.** Now, businesses can reach consumers everywhere. Even when customers aren't shopping, retailers can still be on their minds. The constant presence of a brand's app on a customer's phone reminds him or her that that brand is out there, as an option.
2. **Retailers are more on consumers' minds.** Promotions that once got filtered out by spam detectors or were scrolled over by consumers can now grab a user's attention right at his or her home screen. Retailers are harnessing these updates to keep customers updated and informed about new sales and promotions.
3. **Personalized customer experience is growing.** Brand websites, email, Facebook, Twitter and even Instagram are all being used by customers to connect with brands.
4. **Consumers like the convenience of faster delivery and lower prices.** In the near future, solutions to the delivery obstacle, at least, will come in the form of automated vehicles and drones. Ecommerce behemoths like Amazon are already looking to pave the way with such technology.

5. **Small businesses are taking over.** Social media, mobile, and cloud technology are enhancing entrepreneurs' ability to get businesses off the ground faster.

6. Legal and Ethical Issues of E-Commerce

7. In the Information Age, technology evolves fast and data travels even faster. It can be difficult for the law to keep up with new technologies and inventive ways to conduct e-business. Because of this, the law often lags behind, and lawmakers end up drafting laws to clean up Internet messes instead of preventing them. Take digital file sharing — dubbed piracy — for example, laws were not created to prevent digital piracy until millions of albums were stolen and the music industry was crippled. The lag in laws mean that e-business executives must rely on ethics as they move forward in e-commerce.

8. **Client Privacy**

Internet businesses have a legal obligation to protect the private information of their customers. E-commerce activity often involves collecting secure data such as names and phone numbers associated with email addresses. Many e-business activities also involve transactions, so customer banking or credit card information also ends up stored online. Legally, it is up to the e-business to store and protect or dispose of this sensitive data. The Children's Online Privacy Protection Act, for example, protects the online privacy rights of children. Under this law, parents have control of what personal information their children can give to e-businesses.

9. **Advertising Online**

Several online marketing issues spring from the inherent anonymity of the Internet. It is often difficult to know the real identity of an e-business owner.

A few online businesses take advantage of this in unethical or illegal ways.

Some e-businesses track the online activity of their customers so that they can show advertisements based on the customer's behavior. Behavioral advertising is not illegal, and it is not illegal to refrain from disclosing that an e-businesses tracks activity, although many people consider this nondisclosure unethical.

10. **Copyright Infringements**

Due to the Internet's free flow of information, plagiarism and copyright infringement is a continual problem.

The Digital Millennium Copyright Act addresses plagiarism and copyright infringement in the specific context of the Internet and e-business.

Under this law, it is illegal to use online technology to copy and distribute legally copyrighted material, such as photography, articles or books, music or videos.

#### **11. Net Neutrality**

Net neutrality is the hotly debated idea that Internet users should have equal access to all websites.

Most computers retrieve websites at the same speed, depending on the user's Internet account settings or service, no matter if the site is a multibillion-dollar company or a neighbor's blog.

But some Internet providers have the capability to deliver different websites at different speeds.

This is an issue because some websites could pay providers to deliver their content at faster speeds, while smaller business with less capital might not be able to afford the faster processing, and the Internet would lose its free-access-for-all feel.

The Federal Communications Commission currently supports net neutrality and bans providers from participating in any program that offers extra pay for higher speed access to any websites.

#### **12. Disintermediation and Reintermediation**

Intermediation is one of the most important and interesting e-commerce issue related to loss of jobs. The services provided by intermediaries are-

- (i) Matching and providing information.
- (ii) Value added services such as consulting.

The first type of service (matching and providing information) can be fully automated, and this service is likely to be in e-marketplaces and portals that provide free services. The value added service requires expertise and this can only be partially automated. The phenomenon by which Intermediaries, who provide mainly matching and providing information services are eliminated is called Disintermediation.

The brokers who provide value added services or who manage electronic intermediation (also known as infomediation), are not only surviving but may actually prosper, this phenomenon is called Reintermediation.

The traditional sales channel will be negatively affected by disintermediation. The services required to support or complement e-commerce are provided by the web as new opportunities for reintermediation. The factors that should be considered here are the enormous number of participants, extensive information processing, delicate negotiations, etc. They need a computer mediator to be more predictable.

### 13. Legal Issues

Where are the headlines about consumers defrauding merchants?

What about fraud e-commerce websites?

Internet fraud and its sophistication have grown even faster than the Internet itself.

There is a chance of a crime over the internet when buyers and sellers do not know each other and cannot even see each other.

During the first few years of e-commerce, the public witnessed many frauds committed over the internet.

### Q4. What are the various kinds of Fraud on the Internet?

**Ans:** E-commerce fraud popped out with the rapid increase in popularity of websites.

It is a hot issue for both cyber and click-and-mortar merchants.

The swindlers are active mainly in the area of stocks. The small investors are lured by the promise of false profits by the stock promoters.

Auctions are also conducive to fraud, by both sellers and buyers.

The availability of e-mails and pop up ads has paved the way for financial criminals to have access to many people.

Other areas of potential fraud include phantom business opportunities and bogus investments.

What is a Cyber Threat?

the threat is defined as a possibility. However, in the cybersecurity community, the threat is more closely identified with the actor or adversary attempting to gain access to a system.

Or a threat might be identified by the damage being done, what is being stolen or the Tactics, Techniques and Procedures (TTP) being used.

Types of Cyber Threats

Social Engineered Trojans

Unpatched Software (such as Java, Adobe Reader, Flash)

Phishing

Network traveling worms

Advanced Persistent Threats

Types of Cyber Threats

Advanced Persistent Threats

Phishing

Trojans

Botnets

Ransomware

Distributed Denial of Service (DDoS)

Wiper Attacks

Intellectual Property Theft

Theft of Money

Data Manipulation

Data Destruction

Spyware/Malware

Man in the Middle (MITM)

Drive-By Downloads

Malvertising

Rogue Software

Unpatched Software

Most Common Sources of Cyber Threats

Nation states or national governments

Terrorists

Industrial spies

Organized crime groups

Hactivists and hackers

Business competitors

Disgruntled insiders

**Q5. Write a short note on Cyber Law In India: IT Act 2000?**

**Ans:** Cyber Law In India: IT Act 2000

Cyber law is the part of the overall legal system that deals with the internet, cyberspace, and their respective legal issues. Cyber law covers legal issues which are related to the use of communicative, transactional, and distributive aspects of network information technologies and devices. It encompasses the legal, statutory, and constitutional provisions which affect computers and networks.

The Information Technology Act, 2000 came into force on 17 October 2000. This Act applies to whole of India, and its provisions also apply to any offense or contravention, committed even outside the territorial jurisdiction of Republic of India, by any person irrespective of his nationality. In order to attract provisions of this Act, such an offence or contravention should involve a computer, computer system, or computer network located in India.

The IT Act 2000 provides an extraterritorial applicability to its provisions by virtue of Section 1(2) read with Section 75. This Act has 90 Sections.

India's The Information Technology Act 2000 has tried to assimilate legal principles available in several such laws (relating to information technology) enacted earlier in several other countries, as also various guidelines pertaining to information technology law. The Act gives legal validity to electronic contracts, recognition of electronic signatures. This is a modern legislation which makes acts like hacking, data theft, spreading of virus, identity theft, defamation (sending offensive messages) pornography, child pornography, cyber terrorism, a criminal offence.

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## BBA 110 – BUSINESS COMMUNICATION

### II- SEMESTER

**Q1) Elucidate the possible impact of globalisation on multicultural communication in today's global scenario.**

**Ans:** In a global environment the ability to communicate effectively can be a challenge. Even when both parties speak the same language there can still be misunderstandings due to ethnic and cultural differences. Over the last decade, there have been countless examples from the business sector that demonstrate how poor communication can lead to poor organizational performance. Understanding the impact of globalization on cross-culture communication is imperative for organizations seeking to create a competitive advantage in the global market. Recent economic challenges further highlight the need for organizations to develop the internal communication capacity necessary to control and monitor external threats. As society becomes more globally connected the ability to communicate across cultural boundaries has gained increasing prominence. Global businesses must understand how to communicate with employees and customers from different cultures in order to fulfill the organization's mission and build value for stakeholders.

Communication is vital for businesses to effectively explain how their products and services differ from their competitors. Companies that are successfully able to communicate cross-culturally have a competitive advantage because they can devote more time and resources to conducting business and less time on internal and external communication issues. Communication is necessary for individuals to express themselves and to fulfill basic needs. The same holds true for businesses, governments, and countries. Without the ability to communicate and understand each other, there would be chaos. Communication that is based on cultural understanding is more apt to prevent misunderstandings caused by personal biases and prejudices.

When countries are able to exchange ideas and communicate in an open society everyone benefits. Kathleen Stephens, U.S. Ambassador to the Republic of Korea, summed it up by saying, "we must use our shared interests and values to compliment and transform each other's

growth”. The main purpose of this study is to develop a cross-cultural communication model that can be applied by companies that communicate with employees from different cultures. The aim is to identify the steps that leaders of organizations competing in a global environment should consider when communicating to different cultures.

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Cross-culture communication enhances an organization’s absorptive capacity because it provides a new of perspective for satisfying the needs of stakeholders. Communication is the life-blood of organizations and must be allowed to flow throughout the entire organization. However, when information flows are random and there is no apparent directive of how to apply the outside knowledge the organization will not benefit. Productivity decreases when organizational leaders are not able to communicate clear and concise expectations. Furthermore, conflict and tension arises when employees do not understand how their personal efforts contribute to the overall success of the organization.

Culture can affect how we perceive the actions of others. Our perception of others directly affects how we interpret their behaviour and actions. Effective cross-culture communication requires that we base our perceptions on facts and not merely on personal biases and prejudices.

Successful cross-cultural communication creates a dialogue, a continuous transfer of information. This exchange of information addresses our assumptions and clarifies points we do not understand. It also provides the opportunity for us to ask questions and confirm the information that was received. Having a dialogue reduces conflict because cultural misunderstandings can be dealt with when they arise. The dialogue only occurs when both parties agree to share information and ensure that the transfer of information is not blocked.

As global competition continues to increase, successful organizations must evolve to meet the changing needs of consumers. Innovation provides the opportunity for organizations to think outside the box and “produce better product, faster, cheaper and more efficiently than competitors . Creativity is directly linked to communication and innovation. Increased attention on innovation has caused organizational leaders to develop systems to manage the process and

support the efforts of employees. According to Dooley & O’Sullivan being able to identify the correct process for implementing innovation will directly impact the success. It is easier to implement innovation when the culture of the organization allows for employee feedback, planning, and evaluation.

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## Q2) Explain in detail the cross-cultural dimensions to business communication

**Ans :** **Cross-cultural communication** has become strategically important to companies due to the growth of global business, technology, and the Internet. Understanding cross-cultural communication is important for any company that has a diverse workforce or plans on conducting global business. This type of communication involves an understanding of how people from different cultures speak, communicate, and perceive the world around them.

Cross-cultural communication in an organization deals with understanding different business customs, beliefs and communication strategies. Language differences, high-context vs. low-context cultures, nonverbal differences, and power distance are major factors that can affect cross-cultural communication.

Let's take a look at how cross-cultural differences can cause potential issues within an organization. Jack is a manager at a New Mexico-based retail conglomerate. He has flown to Japan to discuss a potential partnership with a local Japanese company. His business contact, Yamato, is his counterpart within the Japanese company. Jack has never been to Japan before, and he's not familiar with their cultural norms. Let's look at some of the ways that a lack of cultural understanding can create a barrier for business success by examining how Jack handles his meeting with Yamato.

### **High- vs. Low-Context Culture**

The concept of **high- and low-context culture** relates to how an employee's thoughts, opinions, feelings, and upbringing affect how they act within a given culture. North America and Western Europe are generally considered to have **low-context cultures**. This means that businesses in these places have direct, individualistic employees who tend to base decisions on facts. This type of businessperson wants specifics noted in contracts and may have issues with trust.

**High-context cultures** are the opposite in that trust is the most important part of business dealings. There are areas in the Middle East, Asia and Africa that can be considered high context. Organizations that have high-context cultures are collectivist and focus on [interpersonal relationships](#). Individuals from high-context cultures might be interested in getting to know the person they are conducting business with in order to get a gut feeling on decision making. They may also be more concerned about business teams and group success rather than individual achievement.

Jack and Yamato ran into some difficulties during their business negotiations. Jack spoke quickly and profusely because he wanted to seal the deal as soon as possible. However, Yamato wanted to get to know Jack, and he felt that Jack spoke too much. Yamato also felt that Jack was only concerned with completing the deal for his own self-interest and was not concerned with the overall good of the company. Jack's nonverbal cues did not help the negotiations either.

### **Nonverbal Differences**

Gestures and eye contact are two areas of **nonverbal communication** that are utilized differently across cultures. Companies must train employees in the correct way to handle nonverbal communication as to not offend other cultures. For example, American workers tend to wave their hand and use a finger to point when giving nonverbal direction. Extreme gesturing is considered rude in some cultures. While pointing may be considered appropriate in some [contexts](#) in the United States, Yamato would never use a finger to point towards another person because that gesture is considered rude in Japan. Instead, he might gesture with an open hand, with his palm facing up, toward the person.

Eye contact is another form of nonverbal communication. In the U.S., eye contact is a good thing and is seen as a reflection of honesty and straightforwardness. However, in some Asian and Middle Eastern cultures, prolonged eye contact can be seen as rude or aggressive in many situations. Women may need to avoid it altogether because lingering eye contact can be viewed as a sign of sexual interest. During their meeting, Jack felt that Yamato was not listening to his talking points because Yamato was not looking Jack in the eyes. However, Yamato did not want Jack to think he was rude, so he avoided looking directly into Jack's eyes during his speech.

## Language Differences

The biggest issue dealing with cross-cultural communication is the difficulty created by language barriers. For example, Jack does not speak Japanese, so he is concerned with his ability to communicate effectively with Yamato. There are some strategies that Jack can use to help establish a rapport with Yamato. Jack can explain himself without words by using emotions, facial expressions, and other nonverbal cues. He can also use drawings and ask for an interpreter

## Hofstede's Six Dimensions of Culture

Psychologist Dr Geert Hofstede published his cultural dimensions model at the end of the 1970s, based on a decade of research. Since then, it's become an internationally recognized standard for understanding cultural differences.

Hofstede studied people who worked for IBM in more than 50 countries. Initially, he identified four dimensions that could distinguish one culture from another. Later, he added fifth and sixth dimensions, in cooperation with Drs Michael H. Bond and Michael Minkov. These are:

- Power Distance Index (high versus low).
- Individualism Versus Collectivism.
- Masculinity Versus Femininity.
- Uncertainty Avoidance Index (high versus low).
- Long- Versus Short-Term Orientation.
- Indulgence Versus Restraint.

### 1. Power Distance Index (PDI)

This refers to the degree of inequality that exists – and is accepted – between people with and without power.

A high PDI score indicates that a society accepts an unequal, hierarchical distribution of power, and that people understand "their place" in the system. A low PDI score means that power is

shared and is widely dispersed, and that society members do not accept situations where power is distributed unequally.

## **2. Individualism Versus Collectivism (IDV)**

This refers to the strength of the ties that people have to others within their community.

A high IDV score indicates weak interpersonal connection among those who are not part of a core "family." Here, people take less responsibility for others' actions and outcomes.

In a collectivist society, however, people are supposed to be loyal to the group to which they belong, and, in exchange, the group will defend their interests. The group itself is normally larger, and people take responsibility for one another's well-being.

## **3. Masculinity Versus Femininity (MAS)**

This refers to the distribution of roles between men and women. In masculine societies, the roles of men and women overlap less, and men are expected to behave assertively. Demonstrating your success, and being strong and fast, are seen as positive characteristics.

In feminine societies, however, there is a great deal of overlap between male and female roles, and modesty is perceived as a virtue. Greater importance is placed on good relationships with your direct supervisors, or working with people who cooperate well with one another.

The gap between men's and women's values is largest in [Japan](#) and [Austria](#), with MAS scores of 95 and 79 respectively. In both countries, men score highly for exhibiting "tough," masculine values and behaviors, but, in fact, women also score relatively highly for having masculine values, though on average lower than men.

## **4. Uncertainty Avoidance Index (UAI)**

This dimension describes how well people can cope with anxiety.

In societies that score highly for Uncertainty Avoidance, people attempt to make life as predictable and controllable as possible. If they find that they can't control their own lives, they may be tempted to stop trying. These people may refer to "mañana," or put their fate "in the hands of God."

People in low UAI-scoring countries are more relaxed, open or inclusive.

Bear in mind that avoiding uncertainty is not necessarily the same as avoiding risk. Hofstede argues that you may find people in high-scoring countries who are prepared to engage in risky behavior, precisely because it reduces ambiguities, or in order to avoid failure.

### **5. Long- Versus Short-Term Orientation**

This dimension was originally described as "Pragmatic Versus Normative (PRA)." It refers to the time horizon people in a society display. Countries with a long-term orientation tend to be pragmatic, modest, and more thrifty. In short-term oriented countries, people tend to place more emphasis on principles, consistency and truth, and are typically religious and nationalistic.

Application: The U.S. has a short-term orientation. This is reflected in the importance of short-term gains and quick results (profit and loss statements are quarterly, for example). It is also reflected in the country's strong sense of nationalism and social standards.

### **6. Indulgence Versus Restraint (IVR)**

Hofstede's sixth dimension, discovered and described together with Michael Minkov, is also relatively new, and is therefore accompanied by less data.

Countries with a high IVR score allow or encourage relatively free gratification of people's own drives and emotions, such as enjoying life and having fun. In a society with a low IVR score, there is more emphasis on suppressing gratification and more regulation of people's conduct and behavior, and there are stricter social norms.

### **Q3) Enumerate the various ethical and legal issues in business communication.**

**Ans:** In the complex global business condition of the 21st century, organizations of each size face a large number of ethical issues. Organizations have the obligation to create sets of principles and morals that each individual from the organization must comply with and put energetically. Basic ethical issues in business incorporate advancing behaviour dependent on respectability and that induces trust, however, progressively complex issues incorporate pleasing assorted variety, sympathetic basic leadership, and consistency and administration predictable with a company's fundamental beliefs.

## **ETHICAL ISSUES IN BUSINESS COMMUNICATION**

The most key or basic ethical issues that organizations must face are

### **1. Honesty and trust:**

An essential understanding of uprightness incorporates leading your business undertakings with genuineness and a pledge to treating each customer decently. At the point when customers think a company is displaying a relentless duty to ethical business rehearses, an abnormal state of trust can create between the business and the people it looks to serve. A relationship of trust among you and your customers may be a key factor in your company's prosperity.

### **2. Decision-Making Issues:**

A valuable technique for investigating ethical issues and recognizing the ethical strategies incorporates gather the certainties, assessing any elective activities, settling on a choice, testing the choice for decency and pondering the result. Ethical basic leadership procedures should fixate on securing representative and customer rights, ensuring all business activities are reasonable and simply, ensuring the benefit of everyone, and ensuring the individual qualities and convictions of laborers are secured.

### **3. Diversity Issues:**

Your present and potential representatives are a different pool of people who have the right to have their disparities regarded when they work at your business. An ethical reaction to decent variety starts with enrolling an assorted workforce, implements equivalent open door in all preparation programs and is satisfied when each worker can appreciate a conscious work [environment](#) condition that qualifies their commitments. Augmenting the estimation of every representative's commitment is a key component in your business' prosperity.

### **4. Compliance and Governance Issues:**

Organizations are relied upon to completely agree to ecological laws, government and state security guidelines, financial and fiscal detailing rules and all pertinent social equality laws. For instance, the Aluminum Company of America's way to deal with consistence guarantees nobody at the company may request that any worker violate the law or conflict with company esteems, arrangements and techniques. The company's promise to consistence is shored up by its way to

deal with corporate [administration](#) the company anticipates all ALCOA chiefs, officers and administrators to lead the business as per its business direct arrangements.

### **Legal issues in business:**

Business communication can take numerous structures, including attempts to sell something, marketing messages, public statements, and even company gatherings, contingent upon the audience and [communication](#) medium. Business communication capabilities will in general spotlight on structure connections and accomplishing beneficial outcomes however, the legal perspective should likewise be considered. Certain territories of business communication are carefully controlled by law, while others can prompt possibly hurtful common suit. Understanding the legal issues in which business communicators work is basic for business people, chiefs and bleeding-edge representatives alike.

#### **1. Disclaimers:**

Item and administration disclaimers shield organizations from possibly destructive case in case of abuse or misunderstanding by customers. Disclaimers can be utilized in court to demonstrate that customers were cautioned about perils and dangers before utilizing an item or administration. Disclaimers can be found on an assortment of media, including item bundling and business notices, or even in deals discussions. Most disclaimers are preventive measures however, some are legally ordered by administrative bodies. Money related consultants must incorporate disclaimers identified with the dangers inalienable in following their recommendation, for instance, while medicinal services items are required to list conceivably unsafe reactions.

#### **2. Disclosures:**

Legal issues are like disclaimers, yet less explicit. In spite of the fact that disclaimers are a kind of exposure, different sorts of diligence can be legally noteworthy too. Irreconcilable situation revelations for stock investigators and budgetary counselors are one model, as are references for research-based cases in marketing. Non-revelation understandings approach the issue of legal diligence from another edge. In non-revelation understandings, one gathering consent to abstain from sharing exclusive information outside of a legally binding relationship.

### **3. Marketing Communications:**

Promoting and deals [communications](#) must pursue legal rules for trustworthiness and precision. As indicated by the Small Business Administration's outline of promoting and marketing law, publicizing claims must be straightforward, non-beguiling and dependent on the accurate proof. As indicated by a similar review, promoting and marketing law reaches out to [control](#) tributes, item supports, publicizing to kids, cases of ecological duty and cases of residential creation. The Federal Trade Commission likewise carefully controls direct marketing exercises, including telemarketing and email marketing.

### **4. Reporting:**

Money related announcing can be viewed as a type of business communication since it includes formally showing information to speculators, controllers and the overall population. Utilizing tricky bookkeeping practices to distort company accounts is a profound legal issue possibly bringing about claims, fines or even criminal accusations, also harm to a company's image notoriety. This is a standout amongst the most firmly managed regions of business communications and is particularly significant for traded on an open market enterprise.

### **5. Internal Communications:**

Business communication bargains the same amount of with inward discoursed as [communication](#) with outside partners. The Equal Opportunity Employment Commission and the Department of Labor manage such issues as provocation, dangers, threatening workplaces and exploitative [communication](#) with representatives. Singular states further uphold their very own inside [communications](#) guidelines by means of state organizations, for example, the California Department of Fair Employment and Housing.

#### **Q4) Define the various approaches in relation to the importance of culture.**

Business communication specifically refers to the act of giving and/or receiving information within or outside a business for the benefit of the business. This exchange of information can occur between workers, managers, customers, potential customers, vendors and anyone else with whom a business communicates.

#### **Culture Affects the Formality of Business Communication**

Business communication can be formal or informal -- something that a business's culture can influence. Some businesses value informal business communication, such as face-to-face meetings, more than formal communication, like pre-arranged business meetings. In the hospitality industry, informal business communication is often emphasized because of its ability to connect with customers and guests on a more personal level.

### **Culture Affects the Mediums Used for Business Communication**

In addition to formality, culture can also affect the mediums used for business communication. Administrative businesses, for example, may value email as a communication medium more than a face-to-face conversation. The opposite is true for restaurants, however, which typically prefer face-to-face conversations.

### **Culture Affects Nearly All Aspects of Business Communication**

It's important to note that culture affects nearly all aspects of business communication. Some of the most noticeable influences involve the formality and mediums used in business communications, but a business's organizational culture can shape and mould nearly every aspect of its communication.

### **Communication Breakdown**

Ignoring culture in business communication can lead to problems and communication disruptions. Internal business communication can be disrupted or misinterpreted if workers don't share the same understanding of goals, expectations and processes. Understanding a culture can help businesses anticipate potential challenges or barriers in the adoption of new policies or processes before efforts break down. For example, some business cultures may thrive in an exchange and dialogue-based communication system while other cultures (for example, Japanese and Arab cultures) rely more heavily on subtext. If new information or ideas are suddenly imposed on employees accustomed to a more collaborative work culture, there may be a lack of buy-in and the project will fail.

The study of global communication is an interdisciplinary field that studies the continuous flows of information used in transferring values, opinions, knowledge, and culture across boundaries.

As already stated, the words 'emic' and 'etic' signify two different approaches used to study human cultures. However, like many of the terms used in anthropology, the study of humankind, the definition of these terms can tend to vary.

## APPROACHES TO CULTURE

### Emic Approach

The emic approach to studying human culture is one in which the members of the culture being studied are the main source of information used to understand the culture. More simply stated, it's when the words and beliefs of the culture's members take center stage. Rather than reading other scientists' accounts of the culture, the researcher will observe or even interview the members of the culture in order to understand why they live and believe as they do.

Adding to this, researchers using the emic approach seek to start with almost a blank slate. In other words, they try to put away their preconceived notions about what culture should look like and simply learn from the cultures they are observing.

For example, when a Western researcher observes a young tribesman being branded with the tribes' markings, they do not simply write it off as barbaric or torture. Instead, they try to look at it through the lens of the culture. Stated plainly, they try to get inside the head of the young man, realizing that to him it symbolized acceptance and manhood. For this reason, the emic approach is often called the 'insider approach.' Many researchers believe this is the best approach when studying previously unstudied, or newly discovered, people groups.

For ease in remembering, I like to link the 'm' in 'emic' to the idea that the actual members of a culture are the most important source of information when studying that culture.

### Etic Approach

Opposite of the emic approach, the etic approach to studying human culture employs existing theories and perspectives that originated from outside the culture being studied. In other words, it uses preconceived notions and theories about culture in general in order to study specific cultures.

An emic view of culture is ultimately a perspective focus on the intrinsic cultural distinctions that are meaningful to the members of a given society, often considered to be an ‘insider’s’ perspective. While this perspective stems from the concept of immersion in a specific culture, the emic participant isn’t always a member of that culture or society. Studies done from an emic perspective often include more detailed and culturally rich information than studies done from an etic point of view. Because the observer places themselves within the culture of intended study, they are able to go further in-depth on the details of practices and beliefs of a society that may otherwise have been ignored. However, the emic perspective has its downfalls. Studies done from an emic perspective can create bias on the part of the participant, especially if said individual is a member of the culture they are studying, thereby failing to keep in mind how their practices are perceived by others and possibly causing valuable information to be left out. The emic perspective serves the purpose of providing descriptive in-depth reports about how insiders of a culture understand their rituals.

**Q5) Technology and communication seem complementary to each other. Explain by throwing light on the cited statement.**

**Ans:** Technology has changed our lives influencing major sectors of the society such as transport, health, business, and communication. Advancements in science and technology have made a great impact on the way we communicate, leaving us with no choice but to embrace this inevitability. Over the years, communication methods have evolved from simple text messages and audio calls to more efficient video calls and chat platforms which offer other communication services. The impact of technology in communication has influenced both individuals and businesses.

The predominance of business communication technology has forced companies to invest heavily in technological communication services both to its employees and its clients. This has proved vital in marketing strategies among other customer provision services.

Major influences of technology in business

### **1. Easy way for product and service surveying**

Surveys are very important. They give companies feedback on the customers view on the products or services provided. Before the advancement of business technologies, surveys were very hard to conduct. Companies relied on mails from customers who barely made an effort give their feedback. Nowadays, surveys are simply done through the internet. This is a fast and efficient method that saves the company time and money.

### **2. *Social interaction with clients or customers***

Through business technology, companies can open official company websites through which customers are encouraged to visit. Through these websites, the company interacts with the customers. Customers can give their comments on particular issues and after that get a comprehensive response from the company's support team. The companies can also join social media platforms from which their customers can follow them such as Instagram or Facebook. These platforms can be used by the companies to announce the release of new products among others. For example, Nordstrom, an n American fashion retail business that has opened a Facebook account through which customers can follow the recent updates like discounts, new products among others.

### **3. *Video conferencing***

Allows long distant one-on-one communication among members of an organization or business. Video conferencing can be used in the business meeting.

### **4. *Use of digitalized networks to communicate***

Broadband and satellite transmissions enable efficient business communications through office phones or sending a file to a specific printer when you are miles away from the office.

*Technology has similarly influenced individuals' communication patterns;*

### **I. Text messaging services**

In the olden days, letters used to be written posted and took several weeks or months before reaching the recipient. These days texts enable you to send messages by the touch of a button at any corner of the world.

### **II. Social networking platforms**

Social network platforms have caused a 360 degrees shift in the way we interact. Through platforms such as Instagram, Facebook, Twitter among others users can communicate through comments, likes or even their profiles and status. These platforms break the barrier of religion, distance or race and allow global communication.

### **III. Free internet calls**

Through several social media sites free calls can be made without carrier charges by simply having an internet connection. Free internet calls are offered by sites such as WhatsApp or even Skype.

In conclusion, technology has, without the doubt, changed the way we interact and communicate with each other.

**Q6) Explain in detail the various barriers to communication hindering the pathway for effective business communication.**

Ans: There are many communication barriers which tend to distort the messages that pass between sender and receiver. It leads to misunderstanding and conflict among the organisational members.

Managers frequently cite that communication breakdown is one of their most important problems. However, communication problems are often symptoms of more deeply rooted

problems. For example, poor planning may be the cause of uncertainty about the direction of the firm.

Similarly, a poorly designed organisation structure may not clearly communicate organisational relationships. Vague performance standards may leave managers uncertain about what is expected of them.

The different barriers of communication are:-

1. Semantic Barriers
2. Psychological Barriers
3. Organisational Barriers
4. Personal Barriers
5. Mechanical Barriers
6. Status Barriers
7. Perceptual Barriers
8. Filtering of Information
9. Specialisation
10. Pressure of Time
11. Unclarified Assumption
12. Inattention.

***1. Semantic Barriers:***

This denotes barriers of language and symbols and their interpretation. Every language consists of symbols used to transmit meaning from one person to another. Even the Morse code and mathematical symbols are used in a language for communication purpose. The barriers are from the linguistic capability of the individual involved in the communication.

**The following are the different types of semantic barriers:**

**i. Poor Quality of Message:**

When a message is prepared, it must be consistent in all respects like – clarity, precision and usage of appropriate words to express the ‘idea’ to be transmitted. It should be in simple words, easily understood by the receiver. Otherwise it becomes non-specific and the receiver will have a difficulty in following it properly.

**ii. Faulty Transmission:**

When message is received from the superior to the subordinate, the individual receiving it must be able to translate it to different categories of subordinates having the constraints of level of understanding and their IQ. It does require proper interpretation of the message received to help disseminate the information to the subordinates.

**iii. Lack of Clarity:**

In all the messages, there are certain ideas, which need to be understood correctly. In other words, the meaning between the lines of the message must be well-perceived by the receiver. If it is not, there is every likelihood of the message being misunderstood leading to confusion.

**iv. Technical Language:**

It is often seen that technical language is used by specialist persons in their communication. This may not be known by a common man. As far as possible, when communicating to common people, it must be in a simple language, common to all. For example, take the case of a doctor, who prescribes medicine to a patient and writes ‘TDS’ (an abbreviation of three times a day). An ordinary patient may not be able to understand this unless it is written in a simple language, or the abbreviation is explained to him.

**2. Psychological Barriers:**

In interpersonal communication, the psychological state of mind of the sender, as well as that of the receiver makes lot of difference. When an individual is under emotion, his tone overpowers the script of the message. This creates an obstacle in normal communication leading to emotional barriers.

**Following are psychological barriers:**

**i. Premature Evaluation:**

This premature evaluation is the possible outcome of message before it is transmitted to the receiver. Such an evaluation may prematurely conclude the message may not bring the desired

result, thereby he withholds the message. This is an important psychological factor of communication barrier.

**ii. Inadequate Attention:**

Normally, in a communication this happens at the receiver's end due to carelessness and not listening properly what the person at the other end is telling. This takes place in fact to face communication or in attending telephones.

**iii. Transmission Losses and Poor Retention:**

When communication passes through various hands and levels in an organisation, the transmission of the message by various persons tends to become inaccurate or corrupt. This happens in written as well as vocal communication. In the latter, the receiver may not retain the message as it was transmitted to him due to poor retention capability, thus leading to confusion at a later stage.

**iv. Undue Stress on Written Message:**

In an organisation every executive believes that written message, instructions and orders would be better, since the chances of any miscarriage of the message are almost nil. When face to face communication of a message takes place between a superior and subordinate, it not only makes better understanding but is also effective. It does instil confidence in the subordinate in so far as execution of the orders instructions is concerned. No doubt, it is a better medium of communication than the written one.

**v. Lack of Trust in the Sender by the Receiver:**

When a communicator (sender) frequently alters the original communication, the receiver at the other end will normally delay the action warranted by the message. This happens due to uncertain decisions often taken by the sender. Thus, the communication becomes ineffective, for various alterations and additions. This is an example of lack of confidence on the part of the sender.

**vi. Failure to Communicate:**

At times, the superior/manager fails to communicate the desired information/order, etc. This may be the cause of flippant attitude of the sender or his apathy. For instance, the sender's over confidence that the message has already been conveyed to the people is likely to create confusion and embarrassment.

### ***3. Organisational Barriers:***

This depends upon the general organisational policy governing the communication network of the organisation. Such policy might be a written text explaining various aspects of communication, especially the upward, downward and lateral since it is desirable to bring an effective communication flow in the organisation.

**The barrier on this aspect is discussed below:**

#### **i. Restrictions Imposed by Rules of Organisation:**

Normally, the information is to be passed to higher ups through proper channel. This gets delayed while passing through the hierarchical ladder. Instructions in general for passing messages must be given. Also, specific instructions for handling important messages need to be explained to all in order to avoid delays.

#### **ii. Status/Hierarchical Positions Restrict the Flow of Communication:**

Status and/or position of an individual make a lot of difference in personal dealings. Superior/subordinate capacity in formal organisation also prevents free flow of communication. This happens especially in case of upward communication. A person from the lower rung in the hierarchy may find it difficult to approach directly the top executive of the organisation.

#### **iii. Complex Situation of the Organisation:**

Large organisations, where there are a number of levels in managerial posts for communication may get distorted. This takes place due to censoring of the message when transmitted in the upward direction; since people are usually hesitant to inform the superiors about the adverse aspects.

### ***4. Personal Barriers:***

**These barriers are those, which occur in communication, according to personal constraints at various levels of organisation such as:**

#### **i. Attitude of Superiors:**

Attitude of the superiors play as vital role in the communication process; whether it is upward or downward or in any other direction. Therefore, the attitude of superior, either favourable or unfavourable affects the flow of communication, i.e., from superior to subordinate and vice versa.

#### **ii. Insistence on Following Proper Channel:**

Superiors instruct their subordinates to follow the proper channel, while communicating. They do not want that a subordinate bypasses them and goes direct to the next higher authority. They

always want to be in touch with the communication process, so as to help them to know what is happening in their jurisdiction.

During emergency situation, there may be a need to bypass the superior; however, the superior may not like it. He may prevent it and instruct the subordinates to keep him in the picture with whatever information / message being passed to higher up, as and when occasion arises.

### **iii. Lack of Confidence in Subordinate:**

It is a general perception that subordinates are not competent enough to advise superiors, since they do not possess the capacity to do so. This apprehension makes the superior to have lack of confidence in subordinates. However, this idea may not be correct, as there are more able subordinates than their superiors in many respects.

### **iv. Preoccupation of Superior:**

A superior feels that there is no necessity to communicate him each and every matter, as he is always preoccupied with his own work. Supervisor's involvement with their subordinate is a major requirement for efficiency, which many superiors ignore due to lack of time as an excuse.

### **v. Lack of Awareness:**

Inadequate knowledge about the importance of communication and its usefulness in various ways, at times, the superiors may not give desired attention to it. This may lead to restricted or poor transmission of communication affecting the organisation. This can lead to inefficiency and mismanagement.

### **vi. Hesitation to Communicate:**

This happens to be a cause with subordinates not to communicate with their superiors. Subordinates show unwillingness to convey the superior certain information; since such part of information may have an adverse effect on them. Thus, the hesitation to communicate takes place.

## **5. Mechanical Barriers:**

Mechanical barriers are another group of factors putting barriers in the smooth flow of communication.

### **They are:**

- i. Inadequate arrangements for transmission of message
- ii. Poor office layout
- iii. Detective procedure and practices
- iv. Use of wrong medium.

### **i. Inadequate Arrangement for Transmission of Message:**

The arrangements include proper coding and decoding facilities. This is normally carried out through coding machines and trained staff to operate such machines. When important information is sent under different classification, top secret, secret, confidential, etc., adequate care has to be taken in its transmission. It should not be leaked out to unauthorised persons. Safety and security of classified information need to be handled by responsible staff.

### **ii. Poor Office Layout:**

A proper information centre is an inescapable necessity to transmit the messages with in the organisation and outside. Therefore, various types of information transmitting through like wireless sets, radio communication system, electronic machines- FAX, e-mail, etc., are required. The infrastructural facilities to accommodate these systems are very essential for effective communication. In their absence there can be various obstacles in the transmission of information.

### **iii. Defective Procedures and Practices:**

There must be defined procedures for docketing of incoming and outgoing messages properly maintained in an information centre. Also, proper arrangements to allot priority messages like immediate, most immediate, etc., and their subsequent transmissions, if all these are not looked into, the very purpose of communicating will be defeated.

### **iv. Use of Wrong Medium:**

This is another barrier in mechanical communication. It is the responsibility of the sender of the message to select the right medium. For example, let us take despatch of letters from one organisation to another at a distant place.

Whether the letter should go by an ordinary mail of Speed post, Courier, FAX or e-mail, depends on the exigency (urgency) of the action to be taken at the receiving end. This aspect needs to be decided by the sender himself at all times. Thus, the sender must select a proper medium of communication.

**Q7) Inter departmental communication is the essence of every business organisation. Elucidate.**

**Ans:** Communication is one of the organizational functions that helps a company to stay efficient and productive. One of the more important forms of organizational communication is inter-departmental communication, the Institute for Public Relations notes. The importance of communication between different departments in an organization becomes most evident when that communication breaks down. Implementing policies to strengthen inter-departmental communication help to underscore its importance and maintain an efficient flow of information.

#### Building Trust between Teams

Accurate and efficient communication between departments **builds trust within the organization**. When departments trust each other to deliver accurate information, this eliminates the extra fact-checking step that can slow down productivity. Departments should ensure that the information they are giving to other departments in the organization is reliable to help improve operational efficiency.

#### **Better Customer Service**

When inter-departmental communication is poor, customer service can suffer. For example, if a client continues to receive a bill for an invoice that was already paid because the accounts receivable department is not communicating properly with accounts payable, then there is the risk of losing repeat business. To retain clients and insure the flow of repeat business, you need to maintain a **high level of customer service**. When the departments in your company are efficiently sharing information, then clients can be properly attended to, and customer service improves.

#### **Increased Efficiency of Communication**

If your sales department loses business because the manufacturing group was unaware of an increase in product demand, then your company suffers a loss of revenue. The **accurate exchange of information** between departments improves the ability to meet sales projections, to get product to distribution points and to have contracts and documents reviewed by the proper people.

Information exchange allows for a productive exchange between engineering and marketing about the release of a new product and gets information on prospective employment candidates to the human resources department. Improving communication between departments improves the efficiency of the overall operation of your organization.

## **Avoiding Conflict and Finger Pointing**

A breakdown in communication at any point in the organization can result in conflict. If the shipping department does not get notification of an important shipment in time to make next day delivery, then that can cause a conflict among several departments in the organization. Finger-pointing and arguing accompany a breakdown in inter-departmental communication. When departments engage in conflict, the productivity of your entire organization is affected.

## **Opportunities for Professional Advancement**

Effective communicators get noticed. Make it your mission to enhance communications within your organization, with a special focus on making sure your department is actively communicating to other company departments. A worker or manager who can contribute the advantages of good communication – efficiency, trust and service – and avoid the pitfalls of unnecessary conflicts and finger-pointing is an employee whose work will be noticed by department heads.

Good communication may not be a guarantee of quick advancement, but poor communication can most certainly hold you back.

Information can flow in four directions in an organization: downward, upward, horizontally, and diagonally. The size, nature, and structure of the organization dictate which direction most of the information flows. In more established and traditional organizations, much of the communication flows in a vertical—downward and upward—direction. In informal firms, such as tech start-ups, information tends to flow horizontally and diagonally. This, of course, is a function of the almost flat organizational hierarchy and the need for collaboration. Unofficial communications, such as those carried in the company grapevine, appear in both types of organizations.

## **Downward Communication Flows**

Downward communication is when company leaders and managers share information with lower-level employees. Unless requested as part of the message, the senders don't usually expect (or particularly want) to get a response. An example may be an announcement of a new CEO or notice of a merger with a former competitor. Other forms of high-level downward communications include speeches, blogs, podcasts, and videos. The most common types of

downward communication are everyday directives of department managers or line managers to employees. These can even be in the form of instruction manuals or company handbooks.

Downward communication delivers information that helps to update the workforce about key organizational changes, new goals, or strategies; provide performance feedback at the organizational level; coordinate initiatives; present an official policy (public relations); or improve worker morale or consumer relations.

### **Upward Communication Flows**

Information moving from lower-level employees to high-level employees is upward communication, as when workers report to a supervisor or team leaders report to a department manager. Items typically communicated upward include progress reports, proposals for projects, budget estimates, grievances and complaints, suggestions for improvements, and schedule concerns. Sometimes a downward communication prompts an upward response, such as when a manager asks for a recommendation for a replacement part or an estimate of when a project will be completed.

An important goal of many managers today is to encourage spontaneous or voluntary upward communication from employees without the need to ask first. Some companies go so far as to organize contests and provide prizes for the most innovative and creative solutions and suggestions. Before employees feel comfortable making these kinds of suggestions, however, they must trust that management will recognize their contributions and not unintentionally undermine or ignore their efforts. Some organizations have even installed “whistle blower” hotlines that will let employees report dangerous, unethical, or illegal activities anonymously to avoid possible retaliation by higher-ups in the company.

### **Horizontal and Diagonal Communication Flows**

Horizontal communication involves the exchange of information across departments at the same level in an organization. The purpose of most horizontal communication is to request support or coordinate activities. People at the same level in the organization can work together to work on

problems or issues in an informal and as-needed basis. The manager of the production department can work with the purchasing manager to accelerate or delay the shipment of materials. The finance manager and inventory managers can be looped in so that the organization can achieve the maximum benefit from the coordination. Communications between two employees who report to the same manager is also an example of horizontal communication. Some problems with horizontal communication can arise if one manager is unwilling or unmotivated to share information, or sees efforts to work communally as threatening his position (territorial behaviour). In a case like that, the manager at the next level up will need to communicate downward to reinforce the company's values of cooperation.

Diagonal communication is cross-functional communication between employees at different levels of the organization. For example, if the vice president of sales sends an e-mail to the vice president of manufacturing asking when a product will be available for shipping, this is an example of horizontal communication. But if a sales representative e-mails the vice president of marketing, then diagonal communication has occurred. Whenever communication goes from one department to another department, the sender's manager should be made part of the loop. A manager may be put in an embarrassing position and appear incompetent if he isn't aware of everything happening in his department. Trust may be lost and careers damaged by not paying attention to key communication protocols.

Diagonal communication is becoming more common in organizations with a flattened, matrix, or product-based structure. Advantages include:

- Building relationships between senior-level and lower-level employees from different parts of the organization.
- Encouraging an informal flow of information in the organization.
- Reducing the chance of a message being distorted by going through additional filters.
- Reducing the workloads of senior-level managers.

### **External Communication Flows**

Communications do not start and stop within the organization. External communication focuses on audiences outside of the organization. Senior management—with the help of specialized

departments such as public relations or legal—almost always controls communications that relate to the public image or may affect its financial situation. First-level and middle-level management generally handle operational business communications such as purchasing, hiring, and marketing. When communicating outside the organization (regardless of the level), it is important for employees to behave professionally and not to make commitments outside of their scope of authority.

**Q8) What are the various possibilities of kinds of business letters required in every organization with the changing dynamics of the environment?**

**Ans:** The term “business letters” refers to any written communication that begins with a salutation, ends with a signature and whose contents are professional in nature. Historically, business letters were sent via postal mail or courier, although the internet is rapidly changing the way businesses communicate. There are many standard types of business letters, and each of them has a specific focus.

**Sales Letters**

Typical sales letters start off with a very strong statement to capture the interest of the reader. Since the purpose is to get the reader to do something, these letters include strong calls to action, detail the benefit to the reader of taking the action and include information to help the reader to act, such as including a telephone number or website link.

**Order Letters**

Order letters are sent by consumers or businesses to a manufacturer, retailer or wholesaler to order goods or services. These letters must contain specific information such as model number, name of the product, the quantity desired and expected price. Payment is sometimes included with the letter.

## **Complaint Letters**

The words and tone you choose to use in a letter complaining to a business may be the deciding factor on whether your complaint is satisfied. Be direct but tactful and always use a professional tone if you want the company to listen to you.

## **Adjustment Letters**

An adjustment letter is normally sent in response to a claim or complaint. If the adjustment is in the customer's favour, begin the letter with that news. If not, keep your tone factual and let the customer know that you understand the complaint.

## **Inquiry Letters**

Inquiry letters ask a question or elicit information from the recipient. When composing this type of letter, keep it clear and succinct and list exactly what information you need. Be sure to include your contact information so that it is easy for the reader to respond.

## **Follow-Up Letters**

Follow-up letters are usually sent after some type of initial communication. This could be a sales department thanking a customer for an order, a businessman reviewing the outcome of a meeting or a job seeker inquiring about the status of his application. In many cases, these letters are a combination thank-you note and sales letter.

## **Letters of Recommendation**

Prospective employers often ask job applicants for letters of recommendation before they hire them. This type of letter is usually from a previous employer or professor, and it describes the sender's relationship with and opinion of the job seeker.

## **Acknowledgment Letters**

Acknowledgment letters act as simple receipts. Businesses send them to let others know that they have received a prior communication, but action may or may not have taken place.

## **Cover Letters**

Cover letters usually accompany a package, report or other merchandise. They are used to describe what is enclosed, why it is being sent and what the recipient should do with it, if there is any action that needs to be taken. These types of letters are generally very short and succinct.

Business letters start with the date, salutation, have professional content in the body, and end with a signature of the person writing it and/or enclosures. This is a generalized format of different types of business letters.

Before starting a business letter, you should always remember to:

- Choose the topic according to the issue to be addressed
- Consider your audience and the type of content that will suit their profession
- Choose a fitting tone
- Write a one-line statement of purpose
- Stick to the format and mention details
- Organize the details
- Proofread the draft for simple sentences, proper grammar and punctuation and finish editing

The end result should be a clear and understandable business letter which is likely to get the job done. It is needless to say, the biggest advantage of writing is in the fact that all our thoughts can be put to paper, solved for mistakes be it on paper or online, and finally sent to the recipients.

### **Q9) What are the various possibilities of drafting employment related letters?**

**Ans:** Employment-related letters serve different purposes. A painstakingly composed letter can showcase your strengths to a potential employer, express your desire to accept a job offer or convey your gratitude for a career opportunity. The time and effort you invest in writing an employment-related letter can not only deliver the intended message, it also can allow a potential employer some insight into who you are as a professional.

#### **Cover Letters**

A cover letter serves as an introduction to who you are and what you can offer a potential employer. A well-written cover letter has the power to motivate readers to take an interest in your resume. To help you write a compelling cover letter, do some research about your employer first. Dig deep to find details that aren't readily available on their website. Write the first paragraph of the letter introducing yourself and your purpose for writing. Explain in another paragraph how your skills, abilities and knowledge make you a perfect fit for the position offered. Mention some details about the company you found through research in a third paragraph. Relate those details to yourself to explain how you and the company are compatible.

Ask the reader for a meeting to discuss your qualifications and experience in detail. Mention your contact information. Finish with an appropriate and professional closing.

### **Thank-You or Follow-Up Letters**

A thank-you or follow-up letter works best if you send it to your interviewer within two business days after the interview. Either snail mail or email is appropriate. Ensure that the letter is well written, free of errors and sincere. State in the letter that you appreciate the opportunity to interview for the position. Include a statement of interest in the job. List qualifications that make you a solid candidate for the position. Use bullets to help your qualifications stand out within the text. Also, state anything important about your knowledge, skills or abilities that you forgot to mention during the interview. Thank the interviewer once more for the opportunity, and convey your earnest desire to hear from him soon.

### **Acceptance Letters**

Once you decide to accept an offered position, write and submit a letter as your formal acceptance of the job. In the first line of the acceptance letter, mention your delight at being offered the specific position and state that you accept. Confirm the details of your start date, the annual salary amount and any other benefits offered. Also, include any additional information the employer has requested. It is appropriate to ask any questions you may have about the position or the benefits in the letter. Mention, in closing, that you are looking forward to becoming a member of the organization. Close the letter with an appropriate closing.

### **Other Employment-Related Letters**

A former employee may ask you to write an employment reference letter. Before writing the letter, ask the former employee to provide you with written information about the person to whom you will write, such as full name and job title and business address. This will help you avoid typos. Also, request a copy of his resume to help you craft the letter. Present the person as positively as you can within the letter. If you believe you cannot present a positive image of the person, politely decline the request. Decline a job offer with a letter. State that you appreciate the job offer, but you must decline. Explain the specific reasons for your decision or choose to keep the details private. As long as you ensure that you politely state that you do not want the job, but you appreciate the opportunity, no specific explanation is necessary. Close with a professional and polite closing.

## Resignation Letters

When an employee is determined to leave from his present job he takes the help of resignation letter to notify the respective employer. Such letter from employee states the intentional view about cancellation of job agreement.

Such letter includes the following matters:

1. Name of the post from which the employee has resigned
2. Reason for resignation.
3. Request for acceptance of resignation

### **Q10) What is the importance of using business letters and why are they essential for every business organisation?**

**Ans:** Business letters secure, promote and maintain business without complications, Business letters serve us a reference for the future. Every organization should have to classify its outgoing mail and incoming mail and file them classified on the basis of their subject matter in a chronological sequence. Business letters serve to maintain the correct information of the organization in the perception of the receiver. Business letters establish and maintain contacts over a wide area truly enlarging the scope and extent of business. Business letters can be used as legal documents in disputes. All business letters promote goodwill and enhance the prestige and the image of the organization.

We can enumerate the functions of a business letter thus:

**(a) Promotional Functions:** Business organisations have to grow and enlarge, improving the quality of their products, by producing new products and providing better services. The customers have to be kept informed through letters these developments. Business organisations have to expand their market by tapping new areas. All round expansion is possible only if the organisation keeps all the people concerned well informed through letters that promote sales and service.

**(b) Informational Functions:** Business letters provide valuable data about earlier policies, transactions and all other activities of the organisation. Modern business cannot depend on

memory as in olden days. Letters are ready references if they are available. New policies can be evolved by studying the earlier ones. It is not only essential to maintain good correspondence but also more essential to make them be available in the files.

(c) **Legal Functions:** Business letters can provide evidence in legal disputes, if any, that occur in a transaction. They are useful as legal documents in quotations and offers.

(d) **Goodwill Functions:** Business letters promote goodwill among parties transacting business. They build a good rapport between parties **in a business transaction.**

### **Advantages of Business Letter:**

**Communication through letters occupies the largest share in the total volume of communication because of the following advantages:**

- (1) Letters are less costly than other means of communication.
- (2) Letters can be sent to long distant places by post within a short time. Of course, letters may be sent by messengers within neighbouring areas.
- (3) Letters are drafted after proper thinking and planning and so the subject matter can be presented in a systematic and logical way.
- (4) The ideas conveyed in letters are clear and free from ambiguity.
- (5) The size of a letter may be big or small as required.
- (6) Letters simultaneously provide evidence and exact copies can be retained.
- (7) Same communication may-be made to a number of persons at a time, through duplicating or printing.
- (8) Many unpleasant and delicate matters which cannot be spoken face to face or through mechanical devices can be written in letters in a discreet language.
- (9) Letters are suitable for all types of communication.
- (10) There is standardisation in form and style readily acceptable by the business world. Even internationally accepted code language is used.

### **(1) Components:**

A business letter has the following components like any other form of communication.—A writer or correspondent—He is the communicator. He has the primary responsibility to make a letter purposeful and effective.

(a) He must know the form and the style of writing letters. Different types of letters have different styles. The secretary of an organisation, who is in charge of the office including the correspondence department, is supposed to be well conversant with the art. There are experienced correspondence clerks whose services are utilised for the purpose.

(b) He must have a command over the language and English is the main language used in the commercial world. (The second internationally accepted language is French.)

(c) He must be conversant with the facts on which he is writing a letter otherwise he cannot faithfully express the facts and the viewpoints.

(d) He must also know the technical terms and phrases necessary to be used in particular types of letters. He can take the help of different types of dictionaries available in the market.

(e) He must make planning before he sets forth to write a letter.

(f) In case he is writing a reply he must read the initiating letter very carefully.

(g) The drafting will depend much upon the nature of the recipient.

### **(2) The Addressee or the Recipient or the Reader:**

A letter is always directed to a recipient (or recipients). He is the communicatee or the addressee or the reader. If the letter is unimpressive, the recipient may not read it and so not necessarily a recipient is the reader. The drafting of a letter largely depends on the nature of the recipient. Moreover, a letter must reach the recipient, in the shortest possible time. That depends much upon the external factor—the efficiency of the postal system unless a letter is sent by a messenger. The form of a letter depends much upon the nature of the recipient.

### **(3) The Message:**

A letter carries a message or stimuli. It may be long or short, pleasant and unpleasant, general or particular, regular or urgent, meant for an individual or many, initial or responsive, etc. The style of writing depends much upon the nature of the message.

A business letter, therefore, acts as a representative of the company. It also motivates all the people involved in a business to a higher and better level of performance.

**Q11) Explain the meaning and significance of business communication?**

**Ans : Meaning:** Communication is the process of passing information and understanding from one person to another to bring about commoners of interest, purpose and efforts communication as not complete unless the receiver of the message has understood the message properly and his reaction or response is known to the sender.

**DEFINITION:** According to Neaman and Summer communication is defined as "an exchange of facts, ideas, opinions (or) emotions by two or more persons/"

According to Charless E Redfield "communication is the bread field of human interchange of facts and opinions and not the technologies of telephone, telegraph, radio etc".

According to the Keith and Gulcllini, communication is defined as "In its Everyday meaning, communication refers to the transmitting of information in the form of words or signals or signs from a source to a receiver".

Communication plays an **important role** in business organization. The success of an enterprise depends upon the effectiveness of communications, it is said to be the new system of the enterprise. Nothing happens in business until communication takes place. Every manager must communicate, in order to get things done through others. It has few established that manages spend about 75% to 95% of the working time in communicating with others. Communication is as indispensable for all meaning and controlling.

**1. Basis of decision-making and planning**

Communication is essential for decision for decision making and planning. It enables the management to secure information without which it may not be possible to take any decision without effective communication it may not be possible to issue instructions and orders to the subordinates effective communication helps in proper implementation of plants and policies of the management.

**2. Smooth and Efficient working of an organisation**

According to George R. Terry."It service as the lubricant, fostering for the smooth operations of management process." Communication makes possible the smooth and efficient working of an enterprise. It is only through communication that the management changes and regulate the actions of the subordinates in the desired direction.

### **3. Promotes co-operation and industrial Peace**

Effective communication creates mutual understanding and trust among the members of the organization. It promotes co-operation between the employer and the employees without communication, there cannot be sound industrial relations and industrial peace. It is only through communication suggestions to the management.

### **4. Motivations and morale**

Communication is the means by which the behavior of the subordinates is modified and change is effected in their actions. Through communication workers are motivated to achieve the goals of the enterprises and their morale is boosted. Although motivation communication.

Example: proper drafting of message, thing of communication and the way of communication etc.

### **5. Job Satisfaction**

Effective communication creates Job satisfaction among employees as it increases mutual trust and confident between management and the employees. The gap between management and the employees is reduced through efficient means of communication and since of belongingness is created among employees. They work with Zeal and Enthusiasm.

### **6. Increases productivity and reduces cost**

The effective communication saves time are effort. It increases productivity and reduces cost large scale production involves a large number of people to work together in a group and achieve the benefits of large scale production.

### **7. Public relations**

In the present business world, every business enterprise has to create and maintain a good corporate image in the society. It is only through communication that management was present a good corporate image.

Effective communication helps management in maintaining good relations with workers, customers, suppliers, share-holders, government and the community at large.

**Q12) What do you understand by oral communication? How it is beneficial and what could be its limitations?**

**Ans: Oral Communication:** An oral communication can be formal or informal. Generally business communication is a formal means of communication, like : meetings, interviews, group discussion, speeches etc. An example of Informal business communication would be – Grapevine.

### **Advantages of Oral Communication**

1. There is high level of understanding and transparency in oral communication as it is interpersonal.
2. There is no element of rigidity in oral communication. There is flexibility for allowing changes in the decisions previously taken.
3. The feedback is spontaneous in case of oral communication. Thus, decisions can be made quickly without any delay.
4. Oral communication is not only time saving, but it also saves upon money and efforts.
5. Oral communication is best in case of problem resolution. The conflicts, disputes and many issues/differences can be put to an end by talking them over.
6. Oral communication is an essential for teamwork and group energy.
7. Oral communication promotes a receptive and encouraging morale among organizational employees.
8. Oral communication can be best used to transfer private and confidential information/matter.

### **Disadvantages/Limitations of Oral Communication**

1. Relying only on oral communication may not be sufficient as business communication is formal and very organized.
2. Oral communication is less authentic than written communication as they are informal and not as organized as written communication.

3. Oral communication is time-saving as far as daily interactions are concerned, but in case of meetings, long speeches consume lot of time and are unproductive at times.
4. Oral communications are not easy to maintain and thus they are unsteady.
5. There may be misunderstandings as the information is not complete and may lack essentials.
6. It requires attentiveness and great receptivity on part of the receivers/audience.
7. Oral communication (such as speeches) is not frequently used as legal records except in investigation work.

**Q13) Explain briefly about written communication.**

**Ans : Written Communication:** Written means of business communication includes – agenda, reports, manuals etc.

**Advantages of Written Communication**

1. Written communication helps in laying down apparent principles, policies and rules for running of an organization.
2. It is a permanent means of communication. Thus, it is useful where record maintenance is required.
3. It assists in proper delegation of responsibilities. While in case of oral communication, it is impossible to fix and delegate responsibilities on the grounds of speech as it can be taken back by the speaker or he may refuse to acknowledge.
4. Written communication is more precise and explicit.
5. Effective written communication develops and enhances an organization’s image.
6. It provides ready records and references.
7. Legal defenses can depend upon written communication as it provides valid records.

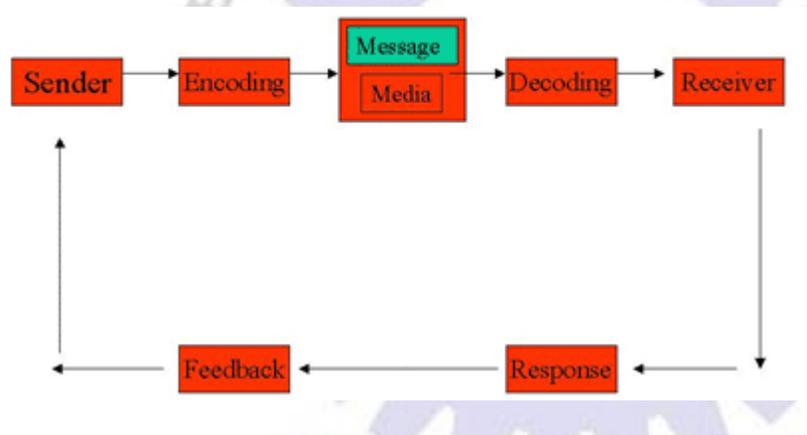
**Disadvantages of Written Communication**

1. Written communication does not save upon the costs. It costs huge in terms of stationery and the manpower employed in writing/typing and delivering letters.

2. Also, if the receivers of the written message are separated by distance and if they need to clear their doubts, the response is not spontaneous.
3. Written communication is time-consuming as the feedback is not immediate. The encoding and sending of message takes time.
4. Effective written communication requires great skills and competencies in language and vocabulary use. Poor writing skills and quality have a negative impact on organization's reputation.
5. Too much paper work and e-mails burden is involved.

**Q14) What are the main components of the process of communication?**

**Ans:** The main components of communication process are as follows:-



**Context** – Communication is affected by the context in which it takes place. This context may be physical, social, chronological or cultural. Every communication proceeds with context. The sender chooses the message to communicate within a context.

**Sender / Encoder** – Sender / Encoder is a person who sends the message. A sender makes use of symbols (words or graphic or visual aids) to convey the message and produce the required response. For instance – a training manager conducting training for new batch of employees. Sender may be an individual or a group or an organization. The views, background, approach, skills, competencies, and knowledge of the sender have a great impact on the message. The verbal and non verbal symbols chosen are essential in ascertaining interpretation of the message by the recipient in the same terms as intended by the sender.

**Message** – Message is a key idea that the sender wants to communicate. It is a sign that elicits the response of recipient. Communication process begins with deciding about the message to be conveyed. It must be ensured that the main objective of the message is clear.

**Medium** – Medium is a means used to exchange / transmit the message. The sender must choose an appropriate medium for transmitting the message else the message might not be conveyed to the desired recipients. The choice of appropriate medium of communication is essential for making the message effective and correctly interpreted by the recipient. This choice of communication medium varies depending upon the features of communication. For instance – Written medium is chosen when a message has to be conveyed to a small group of people, while an oral medium is chosen when spontaneous feedback is required from the recipient as misunderstandings are cleared then and there.

**Recipient / Decoder** – Recipient / Decoder is a person for whom the message is intended / aimed / targeted. The degree to which the decoder understands the message is dependent upon various factors such as knowledge of recipient, their responsiveness to the message, and the reliance of encoder on decoder.

**Feedback** – Feedback is the main component of communication process as it permits the sender to analyze the efficacy of the message. It helps the sender in confirming the correct interpretation of message by the decoder. Feedback may be verbal (through words) or non-verbal (in form of smiles, sighs, etc.). It may take written form also in form of memos, reports, etc.

**Q15) Which are the guiding principles for effective business communication? Also explain the 7C's concept.**

**Business communication** is the sharing of information between people within and outside the organization that is performed for the commercial benefit of the organization.

If communications are to be effective certain principles should be followed. These principles of effective communication are discussed below-

1. **Principle of Simplicity:** The message prepared for communication should be simple and easy to understand. Common words and simple sentences should be used.
2. **Principle of Clarity:** The message prepared for communication should be clear. An ambiguous message will not be able to make effective communication.
3. **Principle of Brevity:** The message should be concise in nature. The reader may feel disturbed in receiving a long message. So, only necessary information's should be given in the message.
4. **Principle of Planning:** Before preparing any message the communicator should plan for the message and after that, he should plan for selecting media and process of sending the message to the communicate.
5. **Principle of Accuracy:** The facts and information provided in the message should be accurate. Any wrong information in the message may create confusions. As a result, communication failure may occur.
6. **Principle of Attentiveness:** Effective listening is important in effective communication. So, the receiver should be attentive while receiving any message.
7. **Principle of relevancy:** The subject matter of communication should contains relevant information. Irrelevant and unnecessary things should be eliminated from the subject matter of communication.
8. **Principle of Feedback:** Sending of message is not whole thing for effective communication. To be effective a feedback from the receiver is essential.
9. **Principle of Time Consideration:** The communicator should consider the proper time for effective communication. If communication is not made in time, Its effectiveness is lost.
10. **Principle of Language Control:** Control of language is important for effective communication. The communicator should be careful in selecting words and forming sentences.

If the above principles are followed in preparing the message of any communication, the success of communication can be achieved and a failure can be avoided.

### 7C's Concept

1. **Completeness:** The communication must be complete. It should convey all facts required by the audience. The sender of the message must take into consideration the receiver's mind set and convey the message accordingly. A complete communication has following features:-

- Complete communication develops and enhances reputation of an organization.
- Moreover, they are cost saving as no crucial information is missing and no additional cost is incurred in conveying extra message if the communication is complete.
- A complete communication always gives additional information wherever required. It leaves no questions in the mind of receiver.
- Complete communication helps in better decision-making by the audience/readers/receivers of message as they get all desired and crucial information.
- It persuades the audience.

2. **Conciseness** –Conciseness means wordiness, i.e, communicating what you want to convey in least possible words without forgoing the other C's of communication. Conciseness is a necessity for effective communication. Concise communication has following features:

- It is both time-saving as well as cost-saving.
- It underlines and highlights the main message as it avoids using excessive and needless words.
- Concise communication provides short and essential message in limited words to the audience.
- Concise message is more appealing and comprehensible to the audience.
- Concise message is non-repetitive in nature.

3. **Consideration** –Consideration implies “stepping into the shoes of others”. Effective communication must take the audience into consideration, i.e, the audience's view points, background, mind-set, education level, etc. Make an attempt to envisage your audience, their requirements, emotions as well as problems. Ensure that the self-respect of the audience is maintained and their emotions are not at harm. Modify your words in message to suit the audience's needs while making your message complete. Features of considerate communication are as follows:

- Emphasize on “you” approach.
  - Empathize with the audience and exhibit interest in the audience. This will stimulate a positive reaction from the audience.
  - Show optimism towards your audience. Emphasize on “what is possible” rather than “what is impossible”. Lay stress on positive words such as jovial, committed, thanks, warm, healthy, help, etc.
4. **Clarity** –Clarity implies emphasizing on a specific message or goal at a time, rather than trying to achieve too much at once. Clarity in communication has following features:
- It makes understanding easier.
  - Complete clarity of thoughts and ideas enhances the meaning of message.
  - Clear message makes use of exact, appropriate and concrete words.
5. **Concreteness** –Concrete communication implies being particular and clear rather than fuzzy and general. Concreteness strengthens the confidence. Concrete message has following features:
- It is supported with specific facts and figures.
  - It makes use of words that are clear and that build the reputation.
  - Concrete messages are not misinterpreted.
6. **Courtesy** –Courtesy in message implies the message should show the sender’s expression as well as should respect the receiver. The sender of the message should be sincerely polite, judicious, reflective and enthusiastic. Courteous message has following features:
- Courtesy implies taking into consideration both viewpoints as well as feelings of the receiver of the message.
  - Courteous message is positive and focused at the audience.
  - It makes use of terms showing respect for the receiver of message.
  - It is not at all biased.
7. **Correctness** –Correctness in communication implies that there are no grammatical errors in communication. Correct communication has following features:

- The message is exact, correct and well-timed.
- If the communication is correct, it boosts up the confidence level.
- Correct message has greater impact on the audience/readers.
- It checks for the precision and accurateness of facts and figures used in the message.
- It makes use of appropriate and correct language in the message.

Awareness of these 7 C's of communication makes you an effective communicator

**Q16) Which are the possible barriers which creates hurdles in effective communication?**

**Explain.**

**Ans:** Barriers of Communication: This far we have seen what we mean by the process of communication. But, at times even after taking care of every other detail some misunderstandings arise. So, to eliminate these misunderstandings, we have to understand the most common barriers to effective communication.

**Linguistic Barriers**

The language barrier is one of the main barriers that limit effective communication. Language is the most commonly employed tool of communication. The fact that each major region has its own language is one of the Barriers to effective communication. Sometimes even a thick dialect may render the communication ineffective.

As per some estimates, the dialects of every two regions changes within a few kilometers. Even in the same workplace, different employees will have different linguistic skills. As a result, the communication channels that span across the organization would be affected by this.

Thus keeping this barrier in mind, different considerations have to be made for different employees. Some of them are very proficient in a certain language and others will be ok with these languages.

## **Psychological Barriers**

There are various mental and psychological issues that may be barriers to effective communication. Some people have stage fear, speech disorders, phobia, depression etc. All of these conditions are very difficult to manage sometimes and will most certainly limit the ease of communication.

## **Emotional Barriers**

The emotional IQ of a person determines the ease and comfort with which they can communicate. A person who is emotionally mature will be able to communicate effectively. On the other hand, people who let their emotions take over will face certain difficulties.

A perfect mixture of emotions and facts is necessary for an effective communication. Emotions like anger, frustration, humor, can blur the decision-making capacities of a person and thus limit the effectiveness of their communication.

## **Physical Barriers of Communication**

They are the most obvious barriers to effective communication. These barriers are mostly easily removable in principle at least. They include the barriers like noise, closed doors, faulty equipment used for communication, closed cabins, etc. Sometimes, in a large office, the physical separation between various employees combined with faulty equipment may result in severe barriers to effective communication.

## **Cultural Barriers**

As the world is getting more and more globalized, any large office may have people from several parts of the world. Different cultures have a different meaning for several basic values of society. Dressing, Religions or lack of them, food, drinks, pets, and the general behavior will change drastically from one culture to another.

Hence it is a must that we must take these different cultures into account while communication. This is what we call being culturally appropriate. In many multinational companies, special

courses are offered at the orientation stages that let people know about other cultures and how to be courteous and tolerant of others.

### **Organizational Structure Barriers**

As we saw there are many methods of communication at an organizational level. Each of these methods has its own problems and constraints that may become barriers to effective communication. Most of these barriers arise because of misinformation or lack of appropriate transparency available to the employees.

### **Attitude Barriers**

Certain people like to be left alone. They are the introverts or just people who are not very social. Others like to be social or sometimes extra clingy! Both these cases could become a barrier to communication. Some people have attitude issues, like huge ego and inconsiderate behaviors.

These employees can cause severe strains in the communication channels that they are present in. Certain personality traits like shyness, anger, social anxiety may be removable through courses and proper training. However, problems like egocentric behavior and selfishness may not be correctable.

### **Perception Barriers**

Different people perceive the same things differently. This is a fact which we must consider during the communication process. A knowledge of the perception levels of the audience is crucial to effective communication. All the messages or communiqué must be easy and clear. There shouldn't be any room for a diversified interpretational set.

### **Physiological Barriers**

Certain disorders or diseases or other limitations could also prevent an effective communication between the various channels of an organization. The shrillness of voice, dyslexia, etc are some examples of physiological barriers to effective communication. However, these are not crucial because they can easily be compensated and removed.

## **Technological Barriers & Socio-religious Barriers**

Other barriers include the technological barriers. The technology is developing fast and as a result, it becomes difficult to keep up with the newest developments. Hence sometimes the technological advance may become a barrier. In addition to this, the cost of technology is sometimes very high.

Most of the organizations will not be able to afford a decent tech for the purpose of communication. Hence, this becomes a very crucial barrier. Other barriers are socio-religious barriers. In a patriarchal society, a woman or a transgender may face many difficulties and barriers while communicating.

**Q17) Write short notes on the following:**

- 1) Newsletters**
- 2) Circulars**
- 3) Agenda**

**Ans :**

### **Newsletters**

A newsletter is a printed report containing news (information) of the activities of a business (legal name; subscription business model) or an organization (institutions, societies, associations) that is sent by mail regularly to all its members, customers, employees or people, who are interested in. Newsletters generally contain one main topic of interest to its recipients. A newsletter may be considered grey literature. E-newsletters are delivered electronically via e-mail and can be viewed as spamming if e-mail marketing is sent unsolicited.

The Advantages of Newsletters

Newsletters are publications that are distributed regularly to specific audiences of subscribers via print or email. Newsletters can be used to advertise or to simply communicate new ideas and events to subscribers. Businesses can easily connect with their stakeholders, including

stockholders, customers, employees and members of society, through printed and digital newsletters.

### **(i) Communication**

Newsletters are used to get attention and share information. They are an easy source of communication. Employee newsletters can keep employees informed about new policies, products and awards. Newsletters strengthen the relationship between employees and employers, but also create and build relationships with customers. They can also be an important educational tool that includes policies and events. Newsletters establish trust with customers, showing them that they're valued. Including advertisements also makes newsletters cost effective.

### **(ii) Credibility and Relationship**

You establish your credibility by having open communication with your customers, stockholders and employees. You are the one who knows your business the best, and by communicating directly with your customers and employees, you show them you care about them, too. You can give detailed explanations and introduce strategies to employees, stockholders and customers. Newsletters are available to all levels of an organization. Share your expertise and insight to develop a relationship with your stakeholders.

### **(iii) Delivery**

Whether your newsletter is sent via email or through printed mail, it can be easily delivered to your stakeholders. Printed newsletters are not blocked by spam checkers and add the perception of value. Newsletters arrive to their subscribers only, so the subscribers have an interest in what the company has to say in the newsletter.

### **(iv) Sales**

Newsletters are an important venue for advertising a company's new products and services. Newsletters explain the benefits of the product or service and the benefits of purchasing from the particular company. A newsletter encourages the customers to contact the company and simplify

the sales process for your sales associates. Because the customer must give personal information to receive the newsletter, when the sales team contacts prospective customers, each customer is informed about products or services offered by the company.

## CIRCULARS

Circulars or fliers are a highly effective way to communicate with employees or customers. Many companies use circulars to enforce dress codes and policies or invite employees to meetings or luncheons. Circulars can also be used as an advertising tool. There are a number of benefits to using circulars, but a circular must include certain features to be most effective. Additionally, distribution is important for circulars in business communication.

### **Benefits**

Circulars are an inexpensive and fast way to distribute information. Managers can create a circular on their computer and print out multiple copies in 30 minutes or less. Circulars are also highly informative, depending on the level of information needed. For example, a company needs only a few lines of copy to inform employees about a seminar. Circulars can also be informal and non-obtrusive—people are free to read or ignore them.

### **Identification**

Circulars in business communication must target a specific audience. For example, a circular inviting company employees to learn database management is geared toward marketing research managers and computer programmers. A company that distributes circulars for its newspaper is targeting people who do not have a subscription. Writers who keep their target audience in mind will usually produce more effective circulars.

### **Features**

The most effective circulars usually have several key features. The most important feature is the heading, which targets a specific audience. “Need To Lose 10 Pounds This Month?” may be an effective circular heading for a company selling diet products, targeting people who need to lose weight. The heading leads readers into the body of the circular, which describes a particular

offer, product or service in a bullet-point format. If people are interested, they will then look at the “contact information” or time and place of the sale, for example.

## **Function**

Like other advertising pieces, a business circular will usually follow the AIDA (attention, interest, desire, action) principle, according to advertising expert Dave Dolak at davedolak.com. The circular should be designed to attract attention with a strong heading or images. It must then hold the reader’s interest and ultimately compel her to buy a particular product or service. Companies can enhance a reader’s desire for a product by making the circular believable. Giving the reader a reason to buy immediately will also increase her desire.

## **Distribution to Consumers**

Business owners can post circulars on grocery store bulletin boards or include them with the daily newspaper. Some business owners place circulars on people’s car windshields. There are also companies that distribute circulars door-to-door along with other offers. Businesses may include a circular in a direct mail package. All of these methods can be highly effective in reaching the consumer.

## **AGENDA**

As stated earlier, an agenda is the list of items to be considered at a meeting. It is also called business or order of business. It comes from the Latin word *agendum* (singular) which means ‘a thing to be done.’ But *agenda* (the Latin plural) is used as a singular noun.

It is the route map of the meeting. The specimen notices above already contain a hint of how it is written. The agenda may be a part of the notice or may be attached as an annexure. The convenor/secretary prepares it in consultation with the chairperson and gets his approval.

The items of agenda should cover all that is necessary to be considered at that time. Meetings take time and effort to arrange; hence the agenda has to be well thought out.

## **The items may be devised from**

- (a) Previous minutes
- (b) Suggestions received
- (c) Actions and events since last meeting
- (d) Correspondence of the organization

The agenda contains routine items as well as special ones.

**Here are some guidelines for listing the items:**

1. Apologies from absent members (need not be written previously)
2. Condolences if any (may or may not be written previously)
3. Reading and approval of minutes of the last meet
4. Matters arising out of previous meet's minutes (this need not always be mentioned)
5. Urgent and non-controversial items
6. Matters requiring closer discussion and debates
7. Any new, on-the-spot items with the approval of the chairman
8. Date of the next meet.

**332<sup>nd</sup> Meeting of Ajinkya Coop. Society  
Lucknow  
AGENDA**

- (a) To read and approve minutes of the 331<sup>st</sup> meet dated 15<sup>th</sup> August.
- (b) To extend the lease to Mayur Orchards.
- (c) To reconsider the decision to purchase a second-hand car (taken in the meeting dated 15<sup>th</sup> July).
- (d) To conduct a health camp.
- (e) Any other matter with the Chair's approval.

**Q18) How to Make a Presentation, along With Guidelines of Effective Presentation?**

ANS :

A presentation is the process of presenting a topic to an audience. It is typically a demonstration, introduction, lecture, or speech meant to inform, persuade, inspire, motivate, or to build good

will or to present a new idea or product. The term can also be used for a formal or ritualized introduction or offering, as with the presentation of a debutante.

How to make a successful presentation?

## THE TOPIC

- **Love your topic.** Your listeners will only ever be as excited about the topic as you are. If you are not interested in what you are saying, why on earth are you inflicting it on other people? Work might not always inspire passion, but you should always look for a hook; an exciting way in. As Garr Reynolds declares, the world needs you to stop being boring.
- Know what you are talking about. Don't guess. Don't assume. Read, listen, find facts and have an informed opinion.
- Presenting a pitch for a new product will sound very different when you give it to the marketing team to when you show the finance team. Think about your audience and tailor your topic to the way they think and prioritise.
- Have an answer to the question: why should anyone care?
- **Distil to a single point.** By the end of this stage you should no longer have a topic, but a single clear thought or argument that you want to communicate. Keep it simple, keep it arresting.

## THE FORMAT

- **Time limit.** There will be one, and if there isn't, make one. Then aim to fill three quarters of it, and leave time for questions. (If there are no questions, everybody gets to go home a bit early and they'll love you even more.) Restriction helps you focus on what is truly essential to the presentation.
- **Plan on paper.** Ok, it doesn't have to be paper, it could be OneNote, or mind mapping software, or Evernote. The point is, don't start your presentation in PowerPoint, or any presentation software. You need to be able to pool your ideas and images together, move them around and play with structure first, then decide how to present it second.
- There is a lot of debate about whether PowerPoint is good or evil, but the fact is it's the standard. That does not mean that you have you use it in a standardly bad way though. Guy Kawasaki advocates the 10/20/30 rule: 10 slides, 20 minutes, 30-point font minimum.

- **Slides should keep you going,** not hold you up. Consider the Pecha Kuchaor Ignite methods, where you have a set amount of time on each slide, which then advance automatically.
- **Images inspire.** Don't fall back onto boring stock photography and clip art. Consider using your own personal photographs or explore creative commons sources like Flickr for more intimate and relatable imagery. (Just be sure to check the terms of the licence if you're giving a commercial presentation.)

## THE CONTENT

- **Short and sweet.** This applies to the presentation as a whole and each word you use. Stick to short words and avoid jargon.
- **Tell a story.** People respond to stories. Everybody creates narratives, it's how we understand the world. Find the story in what you want to say.
- **Use examples.** Presentations can often get a bit abstract. Keep your points grounded in reality and use everyday experiences that anyone can relate to when explaining complex ideas.
- **Pre-empt questions.** In *Writing to Deadline*, Donald Murray explains that to write well you have to keep answering the readers' questions. What will they want to know next? The same goes for presentations. Of course you want to spark interest and debate after your talk, but make sure no one has to ask an obvious question.
- **Know what you can leave out.** Questions can arise, people arrive late: sometimes things don't run to plan. Know in advance which slides and points you can skip without losing key points or narrative flow.

## THE PREPARATION

- **Know how to use your tools.** If you are using PowerPoint, be sure you understand how. For example, pressing 'b' will blank the screen so that you can focus attention on what you are saying. You can also embed hidden clickable areas that take you from section to section.
- You have to practice: you need to be familiar enough with your presentation that if the power fails and notes get lost, you could still communicate the core of your message. Go through the presentation three times in the morning, and three times at night in the run up to the the day. Any more than that and you risk sounding over rehearsed.

- **Plan your outfit.** You will have enough to worry about on the day. It may seem silly but don't leave it to the night before to decide what you are wearing. Choose it, check it's clean and ironed and hang it up ready to fall into on the day. (Or pre-crumple your jeans and scruff up your hoody, depending on your audience.)
- **Get a lay of the land.** If you can, try to find out what room you will be presenting in and exactly who you will be presenting to. Will you have to project your voice, or will it be relaxed and informal? Is it always freezing in there? Are the chairs uncomfortable? These factors will affect your audiences' attention span, and for those things out of your control, you need to be conscious of them in how you present.
- **Run a fact check.** You did your research, but often in companies things can change pretty quickly. There might be a new budget forecast, or a change in the hierarchy. On the day before make sure your presentation is as up to date as you are

### **How can you make a good presentation even more effective?**

1. The Various Presentation Tool Show your Passion and Connect with your Audience.
2. Focus on your Audience's Needs.
3. Keep it Simple: Concentrate on your Core Message.
4. Smile and Make Eye Contact with your Audience
5. Start Strongly
6. Remember the 10-20-30 Rule for Slideshows
  - Contain no more than 10 slides;
  - Last no more than 20 minutes; and
  - Use a font size of no less than 30 point.
7. Tell Stories
8. Use your Voice Effectively

9. Use your Body Too
10. Relax, Breathe and Enjoy

### **Q19) What are the various presentation tools?**

**Ans:** The prevalence of PowerPoint has made company presentations all too routine. It can be hard to get and hold your audience's attention with mundane slides full of bullet points. It may be an effective tool in some scenarios, but there are tons of other presentation solutions out there that can help you engage with your audience and communicate key ideas.

While traditional tools such as PowerPoint, Google Slides and Keynote can all be used to create presentations, you can break the conventional method – basic points on simple slides – by including images, creating movement, and limiting each slide or section to only a couple key points.

#### **1. Visme**

Visme is a cloud-based presentation tool that allows you to create highly visual presentations to engage viewers and communicate your ideas. It features an intuitive, drag-and-drop design method for creating presentations. The business version also prioritizes brand consistency and company-wide image storage. When you or your employees create a presentation, it will feature colors, logos and images that are on brand for your organization. This promotes consistency across presentations among your employees. Visme also offers a built-in analytics system, so you can see who has viewed your presentation and who finished it.

#### **2. Haiku Deck**

Haiku Deck is a platform that prioritizes simplicity. Business owners can create elegant, basic presentations with high-quality images. The spartan approach allows for connecting with audiences instead of losing them in information overload due to text-heavy slides. What separates Haiku Deck from traditional presentation tools is its library of images and array of fonts. It makes it easy to craft simple, powerful presentations that are accessible on any device.

#### **3. Pitcherific**

Pitcherific is not only a presentation solution, but also a platform for building and practicing your presentation. It's a template-based program that guides you through the presentation creation process. Instead of drafting a few slides, Pitcherific prompts you to write out the areas of each part of your speech. The outline for an elevator pitch, for example, includes a hook, problem, solution and closing. There are various templates for different kinds of pitches and presentations, so you'll have guidance on many kinds of speeches and presentations. Pitcherific also recommends a character count for each section and a timeclock, allowing you to track how long your speech or presentation is and stay within a desired range.

#### 4. **Canva**

Canva is an online platform that provides templates for a wide range of business-related publications, like resumes, newsletters, business cards, media kits, brochures and infographics. You can also use it to construct presentations. There are hundreds of design layouts and templates to start with, and you can upload your own images or choose from more than 1 million of Canva's stock images. As you build your presentation, you can adjust text and fonts, add filters to images, and drag and drop different elements for design. You can also upload and save your company logo.

#### 5. **SlideCamp**

SlideCamp provide slide templates for creating company presentations. You can adjust color schemes, add company logos, import charts and data, build infographics, and organize presentations into sections with SlideCamp. This is a great solution for maintaining presentation consistency across multiple presentations from your organization. After you set up branding details, employees will be able to work with predesigned slides to easily craft professional presentations. It's geared for larger businesses, so if you're a startup or one-person company, this may not be an ideal solution for you.

#### 6. **Microsoft Events**

While PowerPoint may be a tired way to handle a business presentation at times, Microsoft has other tools that can introduce a new level of practicality to the standard presentation. It recently

introduced the ability to create live and on-demand events in Microsoft 365. These events can be viewed in real time or on demand by remote co-workers or even workers who were present in the meeting but want to reference what was said. It combines HD video with machine learning to create a speaker timeline, speech-to-text transcriptions and time coding, and closed captioning.

7. **Powtoon**

Powtoon is an animated presentation and video platform for creating short informational videos and presentations about your brand or product. Explainer videos are an important part of a brand's message, and Powtoon is an affordable tool for creating animated videos and presentations to educate consumers and clients about your business. You can easily edit presentations and videos, add voiceover, and build a professional experience for your customers.

8. **VideoScribe**

VideoScribe is a whiteboard video presentation platform that allows small businesses to customize their presentations to fit their needs. These videos, which feature a whiteboard and hand that “draws” different objects and slides in the presentation, are ideal for quick explainers and marketing videos on your business or product. You can easily place objects, insert text, and even draw your own objects or text with VideoScribe's platform.

9. **Prezi**

Prezi is another template-based presentation solution that you can use to create persuasive and engaging presentations with unique movement between “slides” and key points. Prezi maps out your whole presentation on an overall track that you decide. When you switch slides, it doesn't simply advance to the next one; it takes the viewer through the track to the point that needs to be made. This allows your audience to visualize the progression of your presentation. You can arrange content under different sections and create an overview so your audience can see your entire presentation plan. This method keeps the presentation organized and your audience engaged. You can also navigate freely through your presentation – your track is not locked in and you can adjust when you address which points as you're presenting.

## Q20) Explain briefly NOTICES and OFFICE MEMORANDUM.

**Ans:**

### NOTICE

A notice is a written or an oral statement that contains the particulars of holding a meeting. When a circular is served among the members of the meeting to attend the meeting, it is called a notice. It is letter of invitation that carries the request to the members to attend a meeting. A notice includes time, place, date and agenda of a meeting. The notice should be sent by the proper authority in due time so that the members can attend the meeting in time.

#### Essential Elements or Factors of a Valid Notice

The essentials or elements or factors of a valid notice are given below:

- (i) **Signature:** The notice must be signed by the proper authority. Only the legal authority should serve the notice.
- (ii) **Proper time:** The notice must be served in proper time. It should be circulated according to the rules and regulations of the company or the organization.
- (iii) **Time date and place:** The time, date and place of the meeting must be stated in the notice.
- (iv) **Unconditional:** There must be no condition or complexity in the notice about attending meeting. Always a notice is unconditional.
- (v) **Agenda:** Agenda means topics to be discussed in a meeting. A valid notice should contain the agenda of the meeting.
- (vi) **Conciseness:** The notice must be short in size. It should be clear, simple and easy.
- (vii) **Proper persons:** Notice should be served to the proper persons who are entitled to attend the meeting.
- (viii) **Enclosure:** An explanatory statement should be sent with the notice.

## OFFICE MEMORANDUM

A memorandum (or “memo”) is a (usually) short piece of writing designed for communication within an organization. It is a piece of business communication, typically aimed at a specific audience (like members of your unit or team). It is typically either a reminder of the importance of some particular thing (e.g., renewed efforts in customer service) or a request to take specific action (e.g., be at a team meeting Monday at 2pm to discuss something specific.)

**In a short sense, memo is a written message from one person to another person within the exact same company.** Office memo is the brief kind of memorandum. The actual meaning of the word memorandum is a note to help the memory. Memorandum is particular in number. Its plural forms are memorandums or memoranda.

A memorandum is a written note or communication specifically in business between individuals working for the same company.”

### **A memo can be used:**

- To issue directions to the things
- To communicate regarding policy changes to the personnel
- To give/seek tips
- To ask for help or details to verify a decision reached on the telephone, and so on

However, a memo might not be discovered proper if the matter is of a complex or serious nature including lengthy conversation.

A memo can be applied for future referral. For that reason, it functions as an evidence to serve legal issues.

**Memo is a short piece of writing generally used by the officers of an organization for communicating among themselves.**

- Used by a Person Known to the Receiver Personally

- Less Formal in Tone and Without Formal Elements e.g. Salutation/Greetings/Complimentary Close or even Signatures at the end
- Short, in a Friendly Tone

### **Uses of Office Memorandum**

- To Provide Information
- To Issue Instruction
- To Convey Policy Decision
- To Offer/Invite Suggestion
- To Record/Report an Agreement
- To Establish Accountability
- Helps you to avoid meeting personally, when necessary

### **Basic Principles and Characteristics of Office Memorandum**

- Necessary and Sufficient Information
- Do not Assume that Everyone knows Everything related to the issue discussed in the Memo
- Be Clear, Concrete and Specific
- Easy-to-Understand
- Explain with Ease and Co-operation
- NO Emotional Appeal

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ISO 9001:2015 & 14001:2015

## BBA 112 – BUSINESS ENVIRONMENT

### II- SEMESTER

**Q1. What are the basic characteristics of Indian economy? In which sectors government should put more efforts to increase employment and growth.**

**Ans :** Indian economy is termed as the developing economy of the world. Some features like low per capita income, higher population below poverty line, poor infrastructure, agriculture based economy and lower rate of capital formation, tagged it as a developing economy in the world.

**Some features of Indian economy are given below:**

**1. Low per Capita Income:** India's per capita income is very less as compare to developed countries. As per the estimates of the Central Statistics Office (CSO), the per capita net national income of the country at current prices for the year 2015-16 is estimated to attain the level of Rs. 93231/-. The per capita net national income at constant prices (2011-12) for the year 2015-16 is estimated to attain the level of Rs. 77, 431/-. As per the CSO's estimates, the per capital net national income at current prices is

2012-13 .....Rs. 71050/-

2013-14 ..... Rs. 79412/

2014-15 .....Rs. 86,879/-

The per capita net national income at constant prices (base year 2011-12)

2012-13..... Rs. 65,664/-

2013-14..... Rs. 68867/-

2014-15. ....Rs. 72889/-

**2. Agriculture Based Economy:** Agriculture and allied sectors provide around 14.2% of Indian GDP while 53% of total Indian population is based on the agriculture sector.

**3. Over population:** in every decade Indian population get increased by about 20% . During the 2001-11 population increased by 17.6%. Currently India is adding the total population of Australia every year. India is the possessor of around 17.5% population of the whole world.

**4. Income Disparities:** a report released by Credit Suisse revealed that the richest 1% Indians owned 53% of the country's wealth, while the share of the top 10% was 76.30%. To put it differently, in a manner that conveys the political economy of this stunning statistic, 90% of India owns less than a quarter of the country's wealth.

**5. Lack of Capital Formation:** Rate of capital formation is low because of lower level of income. Gross domestic capital formation was 23.3% in 1993-94 increased upto the level os 38.1% in 2007-08 but declined upto 34.8% in 2012-13.

**6. Backwardness of Infrastructural Development:** As per an recent study, 25% of Indian families don't have reach of electricity and 97 million peoples don't have reach of safe drinking water and 840 million people in India don't have sanitation services. India needs 100 million dollar for infrastructural development upto 2025.

**7. Market Imperfections:** Indian economy doesn't have good mobility from one place to other which hinders the optimum utilization of resources. These market imperfections create the fluctuations in the price of commodities every year.

**8. Economy is Trapped in the Vicious Circle of Poverty:** Prof. Ragner Nurkes says that 'a country is poor because it is poor'. It means poor countries are trapped in the vicious circle of poverty.

**9. Use of Outdated Technology:** It is very clear that Indian production technique is more labour oriented in nature. So it increases the cost of production of the products made in these countries.

**10. Traditional Set Up of Society:** Indian societies are trapped in the menace like casteism, communalist, male dominated society, superstitions, lack of entrepreneurship, and 'chalta hai attitude' of the peoples. These all factors hindered the growth of the country as a whole.

**Government should focus on the following areas for economic growth and development:**

The first task for the new government would, therefore, be to focus on economic growth. A closer look at government statistics shows that India's growth has been propelled by domestic

consumption and government expenditure for the past few years, while the other two engines - private investment and exports - had failed. Now the MER shows that private consumption has collapsed, too.

In such a situation, any economist would suggest that the government expenditure (public investment) - which has also fallen from 1.9 per cent of GDP in 2016-17 to 1.7 per cent in 2018-19 - needs to go up to improve economic activity, create demand in the economy and attract private investment further down the line.

While the next government embarks on boosting public spending it is critical that it focuses on labour-intensive areas so that along with growth more employment is created - and for both unskilled and skilled labour.

In agriculture, such areas could be irrigation, extension services, cold storages and value-addition, expanding MGNREGS to create better quality assets, rural health and education infrastructure, roads etc. It is very well known that the most successful Asian economies pursued an agricultural development-led industrialisation pathway - like Japan, the Republic of Korea, Vietnam and China.

A recent study shows that social sectors consisting of education, health, transportation and other public services, and hospitality, have significant potential for job creation. Besides, new emerging areas like robotics, artificial intelligence, 3D printing, big data analysis, cloud technology, etc. should be very much part of public investment plans.

#### **Need for national employment policy:**

When the Narendra Modi government came to power in 2014, it did set out to achieve the 'Lewisian' model of structural transformation - moving resources from the agricultural/traditional sector to the manufacturing/non-traditional sector - to take care of the unlimited supply of labour (unemployment). It sought to focus on 'Make in India' and 'Skilling India', declaring that, "Make In India, if successful, would make India a Lewisian economy in relation to unskilled labour. But 'Skilling India' is the one that has the potential to make India a Lewisian economy with respect to more skilled labour. The future trajectory of Indian economic development could depend on both".

However, over the years, both schemes faltered and failed to either achieve the structural transformation that they had aimed for or create sufficient employment. In more recent times, there was an attempt to even deny that there is a problem and hence, no initiative was taken to overcome it.

Highlighting the gravity of the issue, Azim Premji University's study on the state of employment calls for an "urgent need to think comprehensively about a national employment policy", which, indeed, should be the case. Such a policy should take into account data lacunae, the emergence of wage subsidies and incentives for skilled workers, successful state-level employment policies, availability of fiscal space, etc while spelling out the future course of action.

### **Manufacturing for India, in India**

Although India's manufacturing sector has lagged behind China's, there will be substantial opportunities to invest in value-creating businesses and to create jobs. India's appeal to potential investors will be more than just its low-cost labor: manufacturers there are building competitive businesses to tap into the large and growing local market. Further reforms and public infrastructure investments could make it easier for all types of manufacturing businesses—foreign and Indian alike—to achieve scale and efficiency.

### **Riding the digital wave: Harnessing technology for India's growth**

Twelve powerful technologies will benefit India, helping to raise productivity, improving efficiency across major sectors of the economy, and radically altering the provision of services such as education and healthcare. These technologies could add \$550 billion to \$1 trillion a year of economic value in 2025, according to our analysis, potentially creating millions of well-paying, productive jobs (including positions for people with moderate levels of formal education) and helping millions of Indians to enjoy a decent standard of living.

**Q2. Discuss the concept of business environment. Define and distinguish between micro and macro environment.**

#### **CONCEPT OF BUSINESS ENVIRONMENT :**

A business firm is an open system. It gets resources from the environment and supplies its goods and services to the environment. There are different levels of environmental forces. Some are

close and internal forces whereas others are external forces. External forces may be related to national level, regional level or international level. These environmental forces provide opportunities or threats to the business community. Every business organization tries to grasp the available opportunities and face the threats that emerge from the business environment. Business organizations cannot change the external environment but they just react. They change their internal business components (internal environment) to grasp the external opportunities and face the external environmental threats. It is, therefore, very important to analyze business environment to survive and to get success for a business in its industry. It is, therefore, a vital role of managers to analyze business environment so that they could pursue effective business strategy. A business firm gets human resources, capital, technology, information, energy, and raw materials from society. It follows government rules and regulations, social norms and cultural values, regional treaty and global alignment, economic rules and tax policies of the government. Thus, a business organization is a dynamic entity because it operates in a dynamic business environment.

### **DEFINITION OF BUSINESS ENVIRONMENT :**

The term 'business environment' connotes external forces, factors and institutions that are beyond the control of the business and they affect the functioning of a business enterprise.

Business Environment has been defined by Bayard O. Wheeler as "the total of all things external to firms and industries which affect their organization and operation".

According to Arthur M. Weimer, business environment encompasses the 'climate' or set of conditions, economic, social, political or institutional in which business operations are conducted.

### **Features of Business Environment**

- Business environment is the sum total of all factors external to the business firm and that greatly influence their functioning.
- It covers factors and forces like customers, competitors, suppliers, government, and the social, cultural, political, technological and legal conditions.
- The business environment is dynamic in nature, that means, it keeps on changing.

- The changes in business environment are unpredictable. It is very difficult to predict the exact nature of future happenings and the changes in economic and social environment. .
- Business Environment differs from place to place, region to region and country to country.

### **TYPES OF BUSINESS ENVIRONMENT :**

#### **Micro Environment**

Microenvironment refers to the environment which is in direct contact with the business organization and can affect the routine activities of business straight away. It is associated with a small area in which the firm functions.

The microenvironment is a collection of all the forces that are close to the firm. These forces are very particular for the said business only. They can influence the performance and day to day operations of the company, but for the short term only. Its elements include suppliers, competitors, marketing intermediaries, customers and the firm itself.

#### **Macro Environment**

The general environment within the economy that influences the working, performance, decision making and strategy of all business groups at the same time is known as Macro Environment. It is dynamic in nature. Therefore it keeps on changing.

It constitutes those outside forces that are not under the control of the firm but have a powerful impact on the firm's functioning. It consists of individuals, groups, organizations, agencies and others with which the firm deals during the course of its business.

### **DIFFERENCE BETWEEN MICRO AND MACRO ENVIRONMENT :**

S.NO.	BASIS	MICRO ENVIRONMENT	MACRO ENVIRONMENT
1.	Meaning	Micro environment is defined as the nearby environment, under which the firm operates.	Macro environment refers to the general environment, that can affect the working of all business enterprises.

2.	Elements	COSMIC, i.e. Competitors, Organization itself, Suppliers, Market, Intermediaries and Customers.	PESTLE, i.e. Political, Economic, Socio-cultural, Technological, Legal and Environmental.
3.	Nature of elements	Specific	General
4.	Are these factors controllable?	Yes, but to some extent only	No
5.	Influence	Directly and Regularly	Indirectly and Distantly

### **Conclusion**

Microenvironment and macro environment, both cover the overall environment of business. So, they are more complementary rather than contradictory. The study of these environments will help to know the strength, weakness, opportunity and threat of business.

**Q3. What do you mean by Environmental Analysis? Explain the importance and limitations of environmental analysis.**

### **Environmental Analysis :**

Environmental Analysis is described as the process which examines all the components, internal or external, that has an influence on the performance of the organization. The internal components indicate the strengths and weakness of the business entity whereas the external components represent the opportunities and threats outside the organization.

To perform environmental analysis, a constant stream of relevant information is required to find out the best course of action. Strategic Planners use the information gathered from the environmental analysis for forecasting trends for future in advance. The information can also be used to assess operating environment and set up organizational goals.

It ascertains whether the goals defined by the organization are achievable or not, with the present strategies. If it is not possible to reach those goals with the existing strategies, then new strategies are devised or old ones are modified accordingly. In the process and limitations of environmental analysis.

### **Steps Involved in Environmental Analysis:**

1. Identifying: First of all, the factors which influence the business entity are to be identified, to improve its position in the market. The identification is performed at various levels, i.e. company level, market level, national level and global level.
2. Scanning: Scanning implies the process of critically examining the factors that highly influence the business, as all the factors identified in the previous step affect the entity with the same intensity. Once the important factors are identified, strategies can be made for its improvement.
3. Analysing: In this step, a careful analysis of all the environmental factors is made to determine their effect on different business levels and on the business as a whole. Different tools available for the analysis include benchmarking, Delphi technique and scenario building.
4. Forecasting: After identification, examination and analysis, lastly the impact of the variables is to be forecasted.

Environmental analysis is an ongoing process and follows a holistic approach, that continuously scans the forces affecting the business environment and covers 360 degrees of the horizon, rather than a specific segment.

### **Importance of Environmental analysis**

- (i) Environmental analysis makes managers aware of the linkage between an organization and its environment and keeps them alert and informed.

(ii) Environmental analysis helps the company to identify the threats and opportunities before it. It serves as an early warning signal allowing the company to develop appropriate responses.

(iii) Through environmental analysis an organization can gain understanding of how the industry's environment is being transformed.

(iv) The environment changes so fast that an organization's equilibrium with its environmental may be disturbed quickly. With the help of environmental analysis the organization can know the causes of disequilibrium. Suitable changes can then be made to create the new equilibrium.

(v) Environmental analysis helps the planners to narrow the range of available alternatives and eliminate options that are clearly inconsistent with forecast opportunities or threats. The analysis permits elimination of unsuitable alternatives and thereby concentrate on more important options.

(vi) Environmental analysis is essential for the formulation of right strategies and for modification of existing strategies as and when necessary.

**Environmental analysis, particularly the forecasting part, suffers from several limitations :**

- Based on Assumptions: All forecasts are based on certain assumptions which may not always be true. The basic assumption behind forecasting is that events do not change haphazardly and there is an orderly pattern in their behavior. This assumption may not hold good in all cases. As a result forecast may become unreliable.
- Not Absolute Truth: Forecasts merely indicate the trend of future events and may not be fully true. The various technique of forecasting simply project the future trends and cannot guarantee that a particular trend will occur in future. All forecasts are wrong, they only differ in the degree of error. There is always a possibility of mistake.
- Time-consuming and Expensive: Lot of time and money are involved in the collection, analysis and interpretation of data for forecasting. Therefore, forecasting is useful only to the extent that benefits expected from it exceed the time and cost involved.

**Q4. Discuss the types of business environment.**

The Term Business Environment means "The aggregate of all the forces, factors and institutions which are external to and beyond the control of an individual business enterprise but which exercises a significant influence on the functioning and growth of individual enterprises."

In other words, Business Environment refers to the total of all the things external to the firm and industry which affect their organization and operations.

### **Nature Of Business Environment**

- **Aggregative:** Business Environment is the totality of all the external forces which influences the working as well as decision making of an enterprise.
- **Inter-Related:** Different elements of Business Environment are Inter-related and inter-dependent. A change in one element affects the other elements. For instance, Economic Environment affects the Non Economic Environment which in-turn influences or affects the Economic conditions.
- **Relative:** Business Environment is a Relative Concept. It differs from country to country an even region to region. so, Business Environment depends upon the region or country in which Business is operated or conducted.
- **Inter-Temporal:** Business Environment is also an inter-temporal concept as it changes overtime. In the short run, Business Environment may remain static but in the long run, it does change. so, Business Environment is more or less dynamic in nature.
- **Uncertain:** Business Environment is largely uncertain because it is very difficult to forecast the future environment. Further, when the environment changes very fast, uncertainty increases.

### **Business Environment can be classified into two categories Namely:**

#### **1. Internal Environment:**

Internal Environment refers to the factors existing within a business firm. These internal factors are considered to be controllable because the enterprise has control over these factors. The main internal factors which influences Business Decisions are as follows:

- **Culture:** The values, beliefs and attitudes of the founder and top management of the company exercises a strong influence on what the company stands for, how it does things

and what it considers important. When the value system is shared by all the members, the organization is likely to be more successful.

- **Mission And Objectives:** The Objectives of all the firms is assumed to be Profit Maximization in the long run. But Mission is different from this narrow objective of profit maximization. Mission is defined as the overall purpose or reason for existence which guides and influences a firm decisions and economic activities.
- **Top Management Structure:** The structure of the organization also influences the business decisions. The composition of the board of directors, the degree of professionalization of management and the organizational structure of a company have a important bearing on its business decisions.
- **Power Structure:** The internal power relationship between the board of directors and the Chief Executive Officer is an important factor. The extent to which the top management enjoys the support of shareholders and employees at different levels, also has an important bearing on decision making.

## 2. External Environment:

External Environment refers to the factors existing outside a business firm. These External factors are considered to be uncontrollable because the enterprise has No or Partial control over these factors. Further, External Environment can be divided into two types Namely:

### A. Micro Environment:

Micro Environment consists of the factors in the company's immediate environment. These factors affects the performance of the company and its ability to serve the customers. Micro Environment consists of the following:

- **Customers:** Customers constitutes an important segment of the micro environment. Customer is the king of the market and every business exists to serve its customers. A business has no meaning until and unless there are customers to serve.
- **Suppliers:** Suppliers are the person who supply various inputs such as money, raw material, fuel, power etc. and help in the smooth conduct of business. Further, firms

should have more than one supplier so that changes in the policies of one supplier does not effect their production schedules.

- **Competitors:** Competitors form an important part of the Micro Environment. Business Firms compete to capture a larger share in the market. They constantly watch the competitors policies and adjust their policies to gain customer confidence.
- **Company Image And Brand Equity:** The image and Brand Equity of the company plays a very important and significant role in raising finance, forming alliances, choosing dealers and suppliers etc.



### **B. Macro Environment:**

The Macro Environment consists of the Economic and Non-Economic variables that provide opportunities and threats to firms. This is largely uncontrollable and therefore, firms must adjust their operations to these environmental factors. Macro Environment consists of the following:

- **Political Environment:** Political Environment consists of the elements relating to government affairs. The political environment provides the framework within which business has to function. The main components of Political Environment are:
  - a. The Constitution of the Country.

- b. Political Organization: includes Philosophy of political parties, ideology of the government, nature and extent of bureaucracy, influence of primary groups etc.
- c. Political Stability: includes structure of Military and police force, election system, Law and order situation etc.
- d. Image of the country and its leaders.
- e. Foreign policy alignment or non-alignment.
- f. Law Governing Business

➤ **Economic Environment:** The Economic Environment consists of the economic forces that affects the business activities. These forces influences the buying behavior and spending patterns of consumers and institutions. The main components of Economic Environment are:

- a. Economic System: includes Capitalist, socialist and Mixed Economic System.
- b. Economic Policies: includes Monetary Policy, Fiscal Policy, Supply side Policy etc.
- c. Economic Indices: includes Gross Domestic Product, Consumer Price index, Per Capita Income etc.
- d. Financial Market: includes Share Market, Money Market, Derivative Market, Capital Market.
- e. Industrial Infrastructure etc.

➤ **Social And Cultural Environment:** Social Environment refers to the characteristics of the society in which a business firm exists and operates. The main components of social and cultural environment are:

- a. Demographic Forces: includes Size, Composition and Mobility of Population.
- b. Social Institutions and Groups.
- c. Caste Structure and Family Organisation.
- d. Educational System and Literacy Rate.
- e. Customs, beliefs, values and life styles.
- f. Tastes and Preferences of People.
- g. Entrepreneurial Spirit.

- **Technological Environment:** Technology is changing at a fast pace and technological environment is dramatically affecting the business environment either due to easy import policies or because of technology up-gradation. The main components of Technological Environment are:
- Rate of Technological change and Diffusion.
  - New approaches to the production of goods and services.
  - Use of New processes and equipment.
  - Transfer of Foreign Technology.
  - Impact of Technology on cost, quality and value chain.
- **Legal Environment:** The Legal Environment consists of the regulatory forces that will affect the business activities and operations. The main components of Legal Environment are:
- Current Legislation.
  - International Legislation.
  - Regulatory bodies and processes.
  - Tax Regulations.
  - Competitive Regulations.
  - Industry Specific Regulations.
  - Government Regulations.
- **Natural Environment:** The main components under Natural Environment are:
- Climatic Conditions.
  - Agriculture, Commercial, and other Natural Resources.
  - Ecological System.
  - Levels of Pollution.



**Q5. Distinguish between economic growth and economic development.**

**Economic growth**

Economic growth is an increase in the capacity of an economy to produce goods and services, compared from one period of time to another. It can be measured in nominal or real terms, the latter of which is adjusted for inflation. Traditionally, aggregate economic growth is measured in terms of gross national Product (GNP) or gross domestic product (GDP)

**Economic development**

Economic development is the process by which emerging economies become advanced economies. In other words, the process by which countries with low living standards become nations with high living standards. Economic development also refers to the process by which the overall health, well-being, and academic level the general population improves.

**Difference between economic growth and economic development:**

S.NO.	BASIS	ECONOMIC GROWTH	ECONOMIC DEVELOPMENT
1	Definition	Increase in the monetary growth of a nation in a	It refers to the overall development of the quality of life in a nation which includes

		particular period	economic growth
2	<b>Span of Concept</b>	It is a narrower concept than Economic Development	It is a broader concept than Economic Growth
3	<b>Scope</b>	It is a uni-dimensional approach which deals with the economic growth of the nation	It is a multi-dimensional approach that looks into the income and as well as the quality of life of the nation
4	<b>Term</b>	Short-term process	Long-term process
5	<b>Measurement</b>	Quantitative	Both Quantitative and Qualitative
6	<b>Applicable to</b>	Developed Economies	Developing Economies
7	<b>Government Support</b>	It is an automatic process that may or may not require intervention from the government	It requires intervention from the government as all the developmental policies are formed by the government
8	<b>Kind of changes expected</b>	Quantitative changes	Quantitative as well as qualitative changes
9	<b>Implications</b>	Economic development implies an upward movement of the entire social system in terms of income, savings and investment along with progressive changes in socioeconomic structure of country (institutional and technological changes).	Economic growth refers to an increase over time in a country's real output of goods and services (GNP) or real output per capita income.

10	<b>Relevance</b>	Economic development is more relevant to measure progress and quality of life in developing nations.	Economic growth is a more relevant metric for progress in developed countries. But it's widely used in all countries because growth is a necessary condition for development.
11	<b>Examples</b>	GDP, GNP	HDI, Per capita Income, Industrial Development

**Q6. Suggest measures to remove poverty and unemployment in India.**

**Suggestions for Removal of Poverty and unemployment from India:**

**(i) Population Control:**

Population in India has been increasing rapidly. Growth rate of population is 1.8%. For removal of poverty the growth rate of population should be lowered.

**(ii) Increase in Employment:**

Special measures should be taken to solve the problems of unemployment and disguised unemployment. Agriculture should be developed. Small scale and cottage industries should be developed in rural areas to generate employment.

**(iii) Equal distribution of Income:**

Mere increase in production and control on population growth will not remove poverty in India. It is necessary that inequality in the distribution of income should be reduced.

**(iv) Regional poverty:**

In States like Orissa, Nagaland, U.P and Bihar etc. the percentage of the poor to the total population is high. Govt. should give special concession for investment in these regions. More PSU's should be established in these states.

**(v) Problem of Distribution:**

The public distribution system (PDS) should be strengthened to remove poverty. Poor section should get food grains at subsidized rates and in ample quantity.

**(vi) Fulfillment of minimum needs of the Poor:**

Govt. should take suitable steps to meet minimum needs of the poor e.g., supply of drinking water and provision of primary health centres and primary education.

**(vii) Increase in the productivity of the Poor:**

To remove poverty, it is necessary to increase productivity of the poor. The poor should be given more employment. More investment should be made in public and private sectors to generate employment.

**(viii) Changes in techniques of Production:**

India should adopt labour intensive techniques of production. We should have technical development in our economy in such a way that labour resources could be fully employed.

**(ix) Stability in Price Level:**

Stability in prices helps to remove poverty. If prices continue to rise, the poor will become more poor. So Govt. should do it best to keep the prices under control.

**(x) Development of Agriculture:**

The agriculture should be developed to remove poverty. Rapid rate of growth of agriculture production will help to remove urban as well as rural poverty. Agriculture should be mechanized and modernized. Marginal farmers should be given financial assistance.

**Following are important poverty and Unemployment Alleviation Programme:**

**1. Integrated Rural Development Programme (IRDP):**

The Integrated Rural Development Programme (IRDP) was started in 20 selected districts in the country in 1976-77. Later on in 1980, the programme was extended to all the districts of the country. The scheme was funded by centre. The funds for the scheme are shared by centre and State Govt. on equal basis.

The objective of the scheme is to create productive assets for the families in rural areas living below poverty line. Bank Loans are provided to create productive assets to take up self-employment activities. They include agriculture horticulture, animal husbandry, poultry and weaving etc.

This programme was being implemented by the District Rural Development Agencies (DRDA). This scheme was merged with one self-employment programme called Swarn Jayanti Gram Swarozgar Tagore in year 1999.

## **2. National Rural Employment Programme (NREP):**

This programme was launched in 1980. The main aim of the programme was to create employment opportunities by building and maintaining community assets like village roads, ponds and wells etc. The scheme was expected to generate additional gainful employment to the extent of 30 to 40 crore man-days per annum and to develop community assets. In this programme, food grains are given for the work. NREP was merged with Jawahar Rozgar Yojana (JRY) in 1989.

## **3. Rural Landless Employment Guarantee Programme (RLEGP):**

This programme was started in 1983. Its main objective was to provide 100 days of assured employment in a year to rural landless labour families. They were to be employed in -j creating community assets. This scheme was sponsored by Union Govt. In 1989, this J scheme was merged in JRY.

## **4. Training of Rural Youth for Self-Employment (TRYSEM):**

This scheme was started in 1979. The objective of the scheme was to help unemployed rural youth between the age of 18 and 35 years to acquire skills for self-employment. Priority was given to SC/ST Youth and Women. After the completion of training, credit was provided to the trained youth to set up their own business and trade 3.6 lakh youth were trained under TRYSEM in 1996-97.

## **5. Jawahar Rozgar Yojana (JRY):**

This scheme came into existence in April 1989. The previous schemes NREP and RLEGP were merged into this scheme. The main objective of JRY was to create additional employment for rural under-employed and unemployed.

The basic feature of this programme was that the funds would be released directly to the village panchayats which would launch the employment programme according to the local needs of the people. It was a Central Govt. sponsored programme and expenditure was shared between the centre and states in the ratio of 80:20.

The DRDA directly receives the centre's share and state's share from Govt. Then DRDA allots the funds to various panchayats. Contractors were not allowed to execute the projects. In 1999, JRY was renamed as Jawahar Gram Samridhi Yojana.

#### **6. Employment Assurance Scheme (EAS):**

This scheme was launched in 1994 in 1752 blocks where modified public distribution system was in operation. It aims at providing 100 days work for unskilled physical workers especially in rural areas during slack agriculture season. It is a scheme to remove the seasonal unemployment. The funds for the scheme are shared by the central and states on 80:20 ratio basis. Employment is given on demand.

#### **7. Small and Cottage Industries:**

Special measures have been taken by the Government to develop small and cottage industries with a view to removing poverty and unemployment. Large amount is being spent to promote self-employment.

#### **8. Prime Minister's Rozgar Yojana (PMRY):**

Prime Minister's Rozgar Yojana (PMRY) was launched in 1993. It is a self-employment scheme meant for the educated unemployed youth. It is meant for poor families having income less than Rs. 25,000 per annum. Each educated unemployed youth is eligible for a loan of Rs. 1 lakh to start a small business. 22.5% reservation is given to SC/ST candidate and 27% reservation is given to OBC 15% of total amount is given as subsidy.

#### **9. Jawahar Gram Samridhi Yojana (JGSY):**

Jawahar Gram Samridhi Yojana was started on 1st April 1999 to create rural infrastructure, like roads, bridges etc. The main objective was to create wage employment for the unemployed rural youth. DRDA was the co-ordinating agency. The scheme was sponsored by Centre Govt. The expenditure was shared between centre and state in the ratio of 80:20.

#### **10. Sampooma Gramin Rojgar Yojana (SGRY):**

This scheme was started in Sept. 2001 by Prime Minister. The main objective of this scheme was to provide gainful employment & food security to villagers. Employment Assurance Scheme (EAS) and Jawahar Gram Samridhi Yojana (JGSY) have been merged in this scheme because both have the same objectives. DRDA is the nodal agency for this scheme. The expenditure for this scheme is shared by the centre and state in the ratio 80:20.

#### **11. Swarna Jayanti Gram Swarozgar Yojana (SGSY):**

Swarna Jayanti Gram Swarozgar Yojana (SGSY) was launched on 1st April 1999. It is the single self employment programme for rural poor.

It replaces the earlier self employment programmes:

- (i) Integrated Rural Development Programme (IRDP)
- (ii) Training of Rural Youth for Self-Employment (TRYSEM)
- (iii) Development for Women and Children in Rural Areas (DWCRA)
- (iv) Supply of Improved Tool kits to Rural Artisans (SITRA)
- (v) Ganga Kalyan Yojana (GKY)
- (vi) Million Wells Scheme (MWS).

These programmes are merged in SGSY.

#### **12. National Rural Employment Guarantee Scheme (NREGS):**

This scheme has been launched in Feb. 2006 in 200 rural districts of the country and will be extended to 600 districts throughout India. The main objective of this scheme is to provide at least 100 days of unskilled manual work to one person from each rural family at the minimum

wage fixed by the State Govt. If the manual work is not provided to beneficiary within 15 days, he will be given unemployment allowance.

Labour oriented tasks like rain water harvesting, rural roads, irrigation channels, renovation of traditional water-bodies, soil conservation and land reclamation etc. will be undertaken under this scheme. Contractors will not be allowed to execute the work. The expenses will be shared by centre and state Govt. in the ratio of 90 : 10 respectively. Out of total workers employed, one third must be women. Centre Govt. allotted Rs. 11,000 crore for this scheme.

**Q7. Discuss the factors affecting inequalities of income. What steps have been taken by the government to reduce the inequalities.**

Income inequality in India refers to the unequal distribution of wealth and income among its citizens.

**Factors affecting inequalities of income:**

In India, inequality in the distribution of income has increased for various reasons.

The main reasons are the following:

**1. Unemployment:**

The main reason for low level of income of the majority of Indian people is unemployment and underemployment and the consequent low productivity of labour. Low labour productivity implies low rate of economic growth which is the main cause of poverty and inequality of the large masses of people. In fact, inequality, poverty and unemployment are inter-related. Since sufficient employment could not be created through the process of planned economic development, it was not possible to increase the income levels of most people.

**2. Inflation:**

Another cause of inequality is inflation. During inflation, few profit earners gain and most wage earners lose. This is exactly what has happened in India. Since wages have lagged behind prices, profits have increased. This has created more and more inequality. Moreover, during inflation, money income increases no doubt but real income falls. And this leads to a fall in the standard of living of the poor people since their purchasing power falls.

No doubt, inequality has increased due to rise in prices. During inflation workers in the or-ganised sector get higher wages which partly off-set the effect of price rise. But wages and salaries of workers in unorganised sectors (such as agri-culture and small-scale and cottage industries) do not increase. So their real income (purchase in-come) falls. This is how inequality in the distri-bution of income increases between the two ma-jor sectors of the economy — organised and unorganised.

### **3. Tax Evasion:**

In India, the personal in-come tax rates are very high. High tax rates en-courage evasion and avoidance and give birth to a parallel economy. This is exactly what has hap-pened in India during the plan period. Here, the unofficial economy is as strong as (if not stronger than) the official economy. High tax rates are responsible for inequality in the distribution of in-come and wealth. This is due to undue concentration of incomes in a few hands caused by large- scale tax evasion.

### **4. Regressive Tax:**

The indirect taxes give maximum revenue to the government. But they are regressive in nature. Such taxes have also created more and more inequality over the years due to growing dependence of the Government on such taxes.

### **5. New Agricultural Strategy:**

No doubt, India's new agricultural strategy led to the Green Revolution and raised agricultural productivity. But the benefits of higher productivity were en-joyed mainly by the rich farmers and landowners. At the same time, the economic conditions of landless workers and marginal farmers deteriorated over the years. Most farmers in India could not enjoy the-benefits of higher agricultural productivity. As a result, inequality in the distribution of income in the rural areas has increased.

### **6. System of Private Property:**

Under the system of private property, a person is free to earn, free to save and free to own property. Once acquired, property breeds further and there are large accretions thereto almost automatically. If there had been no system of private property, people will altogether lose

incentives to work and to save. Property is the very basis or cause of inequality of incomes. First a man earns and acquires property; and then his property starts earning. That is why some earn less and others more. Differences in property lead to differences in incomes.

### **7. Differences in Natural Qualities:**

No two persons have the same natural talent. Some are more gifted than others. Persons who are endowed by nature with superior intelligence, better physique and greater capacity for hard work must surpass others in the race of life. Some inherit a feeble mind in a feeble body, and they naturally lag behind.

### **Measures to Reduce Inequalities:**

In the present era of social and political awakening, it has become a major plank of political policy that inequalities of incomes should be reduced, if not eliminated. India also has decided to set up a 'socialistic pattern of society'. With this end in view, the government strives to prevent the concentration of wealth and income in a few hands.

**The following are some of the measures which can be suggested to reduce inequality of incomes:**

#### **(i) Fixing Minimum Wage:**

One step that can be taken in the direction of more egalitarian society is to guarantee each citizen a minimum wage consistent with a minimum standard of living. In India in 1948, the Minimum Wages Act was passed in pursuance of which minimum wages are being fixed for agricultural labour and labour in what are called the 'sweated trades'. This is a step which will level up the incomes from below.

#### **(ii) Social Security:**

Another important measure is the introduction of a comprehensive social security scheme guaranteeing to each individual a minimum standard of economic welfare. The social security scheme that we envisage must include provision of free education, free medical and maternity aid, old-age pension, liberal unemployment benefits, sickness and accident compensation, provident fund and schemes of social insurance, etc. In that manner, substantial benefits can be

assured to persons whose incomes are low. Such benefits of course have a money value. This will be another step towards leveling up incomes.

Social services like public parks, libraries, museums, community air-conditioned halls, community radio and TV sets, refrigerators may be provided on a liberal scale, so that the poor are able to enjoy almost all possible amenities available to the rich.

### **(iii) Equality of Opportunity:**

The Government may devise and set up some sort of machinery which may provide equal opportunities to all rich and poor in getting employment or getting a start in trade and industry. In other words, something may be done to eliminate the family influence in the matter of choice of a profession. For example, the government may institute a system of liberal stipends and scholarships, so that even the poorest in the land can acquire the highest education and technical skill.

The recruitment to all jobs may be made by an impartial Selection Board or Public Services Commission. Recruitment even in the private sector may be done by employment exchanges or independent selection agencies. In the same manner, to give start in trade and industry, the Government may give financial aid or loans at very reasonable rates repayable in easy installments to all those who wish to enter trade and industry.

In India, several concessions are being offered to scheduled castes and backward classes or persons living in backward areas so that the evils of their backwardness may be minimized. Lot has been done under the 20-Point Economic Programme to help the poor and lift them economically, such as abolition of bonded labour, scaling down or writing off of debts, provision of house sites, etc.

### **(iv) Steeply-graded Income Tax:**

Mere leveling up will not bridge the gulf between the rich and the poor. It will also be necessary to raze to the ground the high mountains of privilege. For this purpose all possible fiscal devices should be adopted. One such device is the steeply progressive taxes on incomes. This will prevent, to some extent, a rich man from getting richer still. Other direct taxes like the super tax, excess profits tax, and capital gains tax and limitation of dividends, etc., may also be imposed.

**(v) High Taxes on Luxuries:**

All conspicuous consumption by the rich may be ruthlessly crushed by means of heavy taxation of the consumption of luxuries by them. This will take away from the rich the power to display their wealth. This will also take away the incentive to amassing wealth for exclusive private enjoyment. Expenditure tax in India sought the same objective. (This tax has, however, been abolished.)

**(vi) Steep Succession Taxes and Estate Duty and Wealth tax:**

Lest inequities should be perpetuated from generation to generation, steeply-graded estate duty and/or wealth tax may be imposed. In 1964-65 and again in 1966-6, rate of estate duty were made steeper in India. They went up to 40%, which is almost expropriator. (However in the Finance Act of 1985 the Estate duty was abolished and wealth tax rates were also reduced.)

**(vii) Ceilings on Agricultural Holdings and Urban Property:**

With a view the reducing inequalities between the big and small farmers, ceilings on agricultural land holdings can be imposed. This has been done in India and recently the ceilings have been to lowered to 10-18 standard acres. The main purpose of land ceilings is to bring about a wider and equal ownership and use of land.

As a counterpart, a ceiling on urban property can be imposed so that inequalities in urban areas can also be toned down. More radical socio-economic reforms seem to be in the offing in India. These are some of the measures that can be adopted to reduce inequalities. But inequalities can be reduced, they cannot be eliminated altogether. In fact, absolute equality is unattainable.

**Q8. What is industrial policy 1991 ?Also explain the branches and objectives of NIP 1991.**

New Industrial Policy refers to economic liberalisation or relaxation in the import tariffs, deregulation of markets or opening the markets for private and foreign players, and reduction of taxes to expand the economic wings of the country.

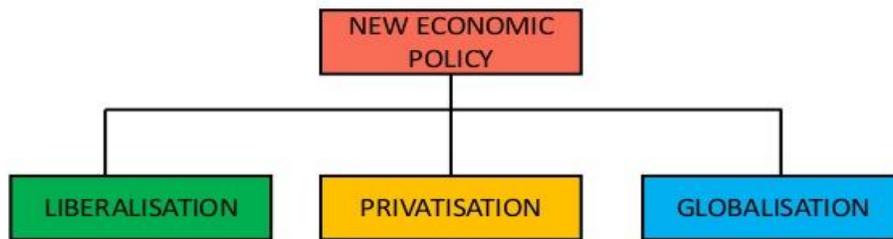
Former Prime Minister Manmohan Singh is considered to be the father of New Economic Policy (NEP) of India. Manmohan Singh introduced the NEP on July 24,1991.

**Objectives:**

The New Industrial Policy,1991 seeks to liberate the industry from the shackles of licensing system Drastically reduce the role of public sector and encourage foreign participation in India's industrial development. The broad objectives of New Industrial Policy are as follows:

- (i) Liberalising the industry from the regulatory devices such as licenses and controls.
- (ii) Enhancing support to the small scale sector.
- (iii) Increasing competitiveness of industries for the benefit of the common man.
- (iv) Ensuring running of public enterprises on business lines and thus cutting their losses.
- (v) Providing more incentives for industrialisation of the backward areas, and
- (vi) Ensuring rapid industrial development in a competitive environment.
- (vii) The objective was to plunge Indian Economy in to the arena of 'Globalization and to give it a new thrust on market orientation.
- (viii) The NEP intended to bring down the rate of inflation
- (ix) It intended to move towards higher economic growth rate and to build sufficient foreign exchange reserves.
- (x) It wanted to achieve economic stabilization and to convert the economy into a market economy by removing all kinds of unnecessary restrictions.
- (xi) It wanted to permit the international flow of goods, services, capital, human resources and technology, without many restrictions to diversify their production capacities and reduce the cost of production.

## BRANCHES OF NEW ECONOMIC POLICY



### (A) Liberalisation

Removal of Industrial Licensing and Registration:

Previously private sector had to obtain license from Govt. for starting a new venture. In this policy private sector has been freed from licensing and other restrictions.

Industries licensing is necessary for following industries:

- (i) Liquor
- (ii) Cigarette
- (iii) Defence equipment
- (iv) Industrial explosives
- (v) Drugs
- (vi) Hazardous chemicals

### (B) Privatisation:

Simply speaking, privatisation means permitting the private sector to set up industries which were previously reserved for the public sector. Under this policy many PSU's were sold to

private sector. Literally speaking, privatisation is the process of involving the private sector-in the ownership of Public Sector Units (PSU's).

The main reason for privatisation was in currency of PSU's are running in losses due to political interference. The managers cannot work independently. Production capacity remained under-utilized. To increase competition and efficiency privatisation of PSUs was inevitable.

### **Step taken for Privatisation:**

The following steps are taken for privatisation:

#### 1. Sale of shares of PSUs:

Indian Govt. started selling shares of PSU's to public and financial institution e.g. Govt. sold shares of Maruti Udyog Ltd. Now the private sector will acquire ownership of these PSU's. The share of private sector has increased from 45% to 55%.

#### 2. Disinvestment in PSU's:

The Govt. has started the process of disinvestment in those PSU's which had been running into loss. It means that Govt. has been selling out these industries to private sector. Govt. has sold enterprises worth Rs. 30,000 crores to the private sector.

#### 3. Minimisation of Public Sector:

Previously Public sector was given the importance with a view to help in industrialisation and removal of poverty. But these PSU's could not able to achieve this objective and policy of contraction of PSU's was followed under new economic reforms. Number of industries reserved for public sector was reduces from 17 to 2.

- Railway operations
- Atomic energy

### **(C) Globalization:**

Literally speaking Globalisation means to make Global or worldwide, otherwise taking into consideration the whole world. Broadly speaking, Globalisation means the interaction of the domestic economy with the rest of the world with regard to foreign investment, trade, production and financial matters.

## Steps taken for Globalisation:

Following steps are taken for Globalisation:

### (i) Reduction in tariffs:

Custom duties and tariffs imposed on imports and exports are reduced gradually just to make India economy attractive to the global investors.

### (ii) Long term Trade Policy:

Forcing trade policy was enforced for longer duration.

Main features of the policy are:

- (a) Liberal policy
- (b) All controls on foreign trade have been removed
- (c) Open competition has been encouraged.

### (iii) Partial Convertibility of Indian currency:

Partial convertibility can be defined as to convert Indian currency (up to specific extent) in the currency of other countries. So that the flow of foreign investment in terms of Foreign Institutional Investment (FII) and foreign Direct Investment (FDI).

This convertibility stood valid for following transaction:

- (a) Remittances to meet family expenses
- (b) Payment of interest
- (c) Import and export of goods and services.
- (iv) Increase in Equity Limit of Foreign Investment:

Equity limit of foreign capital investment has been raised from 40% to 100% percent. In 47 high priority industries foreign direct investment (FDI) to the extent of 100% will be allowed without any restriction. In this regard Foreign Exchange Management Act (FEMA) will be enforced.

If the Indian economy is shining at the world map currently, its sole attribution goes to the implementation of the New Economic Policy in 1991.

**Q9. What do you mean by industrial sickness ? Explain the major factors of industrial sickness in india.**

**Meaning:**

One of the adverse trends observable in the corporate private sector of India is the growing incidence of sickness. It is causing considerable concern to planners and policymakers. It is also putting a severe strain on the economic system, particularly on the banks.

There are various criteria of sickness. According to the criteria accepted by the Reserve Bank of India “a sick unit is one which has reported cash loss for the year of its operation and in the judgment of the financing bank is likely to incur cash loss for the current year as also in the following year.”

A major symptom of sickness is a steady fall in debt-equity ratio and an imbalance in the financial position of the unit. Simply put, a sick unit is one which is unable to support itself through the operation of internal resources (that is, earnings plough-back). As a general rule, the sick units continue to operate below the break-even point (at which total revenue = total cost) and are, thus, forced to depend on external sources for funds of their long-term survival.

Industrial sickness creates various socio-economic problems. When an industrial unit falls sick those who depend on it have to face an uncertain future. They fear loss of jobs. Even if they do not lose jobs they do not get their wages and compensation in time and are, thus, forced to live in extreme hardship.

Of course, sickness is not a special problem of India. It is, undoubtedly, a global phenomenon. Even in industrially advanced countries there are numerous cases of bankruptcy or liquidation. These sick units are nursed back to health through mergers, amalgamations, takeovers, purchase of assets, or outright nationalisation. When the problem becomes really alarming or unmanageable, the unit is permitted to die its natural death.

**Causes of industrial sickness :**

Industrial sickness has become a major problem of the India’s corporate private sector. Of late, it has assumed serious proportions. A close look reveals that there are, at least, five major causes of industrial sickness, viz., promotional, managerial, technical, financial and political.

## INTERNAL CAUSES

Entrepreneurial Incompetence: Many entrepreneurs are setting up business units with limited knowledge regarding production, accounting and marketing etc. This is not enough to survive in the competitive world. The entrepreneur requires vast knowledge on strategic functional areas of the business. Lack of complete knowledge on business leads to increase in cost of the business.

**1.Financial Problems:** Many companies face acute financial problems from the initial state of planning and construction of the business. The investment base of many small scale units is very weak and a slight disturbance in the market put them under acute financial strain. Often small scale units borrow from banks and financial institutions but they are unable to meet the repayment schedules. The burden of unpaid debt accumulates and they turn sick. In some cases lack of support from banks causes a failure of small scale units as the banks insist on proven performance either to restore working capital limits or to enhance existing limits.

**2.Management Problems:** The most important internal cause of sickness is management problems. Wrong managerial decisions in the fields of production, marketing, finance, personnel management etc. can spoil the business. Inadequate attention towards the maintenance management leading to frequent breakdown and consequent lower capacity utilization, insufficient sales promotion activities, inefficient management of working capital includes cash, receivables, inventory and improper wage, increment and bad industrial relation make the companies become sick.

**3.Gestation Period:** Often the gestation period becomes for too long than anticipated especially in the case of large scale industrial unit. This might be due to delay in supply of capital expenditure goods to be imported. Such delays cause cost escalations, leading to capital shortages, liquidity problems, hike in production costs, and rise in prices and hence smaller than anticipated demand for the product of the industrial unit. It adversely affects its profits.

**4.Demand Forecasting:** The company production schedule is completely based on demand forecasting. Sudden appearance of competing substitutes in the market, radical and sudden change in the tastes of people as production of a commodity is being taken down may all cause industrial sickness.

**5. Defective Plant & Machinery:** Many entrepreneurs in the small scale sector do not seek professional and technical guidance from competent authorities in choosing correct machinery. If the plant and machinery finally selected and installed by them turns out to be defective, their units are bound to suffer losses and will in all probability, turn sick.

**6. Labour Problems:** In some cases acute labour problem have resulted in strikes, lock outs and even closure of industrial units. These problems may originate from differences with management over the issue of wages, bonus, suspensions and retrenchment, inter-union rivalry etc. if not tackled in time satisfactorily such problems can causes sickness.

### **EXTERNAL CAUSES**

**1. Demand and Credit Restraints:** At times, recession in the market causes a steep decline in the demand resulting in unsold stocks and losses to individual units. Products with towering prices for example tractors, trucks, busses, cars etc. depends for their sustained demand on easy availability of credit to buyers. If credit restraints are imposed so that the buyers are not able to arrange finance, the demand for these products is bound to suffer. This is likely to leave the manufacturers with unsold stocks inflicting losses on them. If this situation perseveres for quite sometimes, the producing units are prone to turn sick. This problem can emerge in a serious way for auxiliary units. If the demand of the principal buyer of the output of ancillary units falls due to any reason whatsoever, these units are put in unstable position, they are bound to turn sick and may even face closure.

**2. Erratic Supply of Inputs:** Some units depend on scare raw material whose supply is irregular. This results in disturbing the production schedule causing losses to the unit. This often happens in the case of units depending upon the supply of imported inputs. Insufficient availability of transport facilities can also upset the supply schedule of inputs.

**3. Power Cuts:** A large number of industrial units face power cuts from time to time. These power cuts are imposed by the state government as the generation of power is considerably below its actual requirements. Drought situation during some years in a number of states further annoyed the problem and acute power shortage resulted in frequent power cuts.

**4. Government Policy:** Sudden changes in the government policy relating to imports, exports, industrial licensing, and taxation etc. can make viable units sick overnight. For instance, liberal

import policy for a particular product can inflict severe damage on the domestic units producing similar products. The very existence of these domestic units is likely to be threatened particularly if the imported product is cheaper and is of a better quality as compared to their products.

**The other causes are:**

- (i) Differences among various persons associated with the pro-motion and management of the enterprise
- (ii) Mechanical defects and breakdown
- (iii) Inability to purchase raw materials at an economic price and at the right time
- (iv) Failure to make controls effective in time, in case of deficiencies in work-ings
- (v) Deteriorating labour-management rela-tions and the consequent fall in capacity utiliza-tion
- (vi) Faulty financial planning and lack of balance in the financial (capital) struc-ture.

**TYPES OF SICK COMPANIES**

**1. Born Sick:** Sickness is not always a post-implementation feature. Some of the industrial projects are born sick from the very beginning because owing to ill-conceived projects, bad planning and poor appraisal, wrong choice of location and product selection, inadequate market surveys, false fixed investment decisions and one customer-one product type situation etc. Mostly the units established by the government under social welfare scheme come in this category.

**2. Become Sick:** Some projects become sick due to internal causes. They are based on some circumstances i.e., poor management, poor deliberate diversion of funds, wrong recruitment and faulty management policies are responsible for the sickness.

**3. Made Sick :** Sickness is the push upon because of external causes that beyond the control of the management. They may be sudden changes in government policies, technological changes and macro, social, political and economical problems. One more reason for made sick is that entrepreneur's inefficient management policy.

**Q10. Critically evaluate the government policy towards public sector enterprises since 1991. What are the objectives of disinvestment?**

## **Government policy towards public sector since 1991:**

### **Its main elements are:**

- Restructure and revive potentially viable PSUs,
- Close down PSUs, which cannot be revived.
- Bring down governments equity in all non-strategic PSUs to 26 per cent or lower if necessary
- Fully protect the interest of workers.

**(a) Reduction in the number of industries reserved for the public sector from 17 to 8 (and then to 3):** This meant that the private sector could enter all areas (except 3) and the public sector would have to compete with them.

**(b) Disinvestment of shares of a select set of public sector enterprises:** Disinvestment involves the sale of the equity shares to the private sector and the public. The objective was to raise resources and encourage wider participation of the general public and workers in the ownership of these enterprises. The government had taken a decision to withdraw from the industrial sector and reduce its equity in all undertakings.

**(c) Policy regarding sick units to be the same as that for the private sector:** All public sector units were referred to the Board of Industrial and Financial Reconstruction to decide whether a sick unit was to be restructured or closed down.

### **Disinvestment :**

Disinvestment means sale or liquidation of assets by the government, usually Central and state public sector enterprises, projects, or other fixed assets. The government undertakes disinvestment to reduce the fiscal burden on the exchequer, or to raise money for meeting specific needs, such as to bridge the revenue shortfall from other regular sources. In some cases, disinvestment may be done to privatise assets. However, not all disinvestment is privatisation. Some of the benefits of disinvestment are that it can be helpful in the long-term growth of the country; it allows the government and even the company to reduce debt. Disinvestment allows a larger share of PSU ownership in the open market, which in turn allows for the development of a strong capital market in India.

## **Main objectives of Disinvestment in India:**

- Improving public finances
- Encouraging private ownership
- Funding growth and development programmes
- Maintaining and promoting competition in the market
- To reduce the financial burden on the Government.
- To depoliticise essential services.
- To help public enterprises upgrade their technology to become competitive.
- To rationalise and retrain their workforce.
- To build competence and strengthen their R & D.
  
- To initiate diversification and expansion programmes.

Thus, the disinvestment is aimed to reduce or mitigate fiscal deficit, bring about a measure of economic stabilisation or to improve efficiency in public enterprises through structural adjustments initiated to improve their efficiency and productivity.

The new Industrial Policy provides that, “In order to raise resources and encourage wide public participation, a part of the government share holding in the public sector would be offered to mutual funds, financial institutions, general public and employees”. This is a process for disinvestment in the public enterprises.

## **Importance of Disinvestment**

Presently, the Government has about Rs. 2 lakh crore locked up in PSUs. Disinvestment of the Government stake is, thus, far too significant. The importance of disinvestment lies in utilisation of funds for:

- Financing the increasing fiscal deficit
- Financing large-scale infrastructure development
- For investing in the economy to encourage spending
- For retiring Government debt- Almost 40-45% of the Centre’s revenue receipts go towards repaying public debt/interest
- For social programs like health and education

**Q11. Describe the various methods of measuring national income. Also explain the conceptual and practical difficulties in measuring national income in India.**

National income measures the income generated by a country through the production activities that are carried out within a country during a specific period of time. A circular flow of income and expenditure exists within an economy, where factor income is earned from the production of goods and services, and the income is spent on the purchase of produced goods. Thus, there are three alternative methods of computing national income. This includes:

- Product/Value Added Method
- Income/Factor Income Method
- Expenditure Method

**Product/Value Added Method**

The value added method/ product method is also known as the output method or inventory method. In this method, the sum total of the gross value of the final goods and services in different sectors of the economy like industry, service, agriculture, etc. is acquired for the current year by determining the total production that was made during the specific time period. The value obtained is the gross domestic product. Thus, according to this method,

GDP= Total product of (industry + service + agriculture) sector

Symbolically,  $GDP = \sum (P \times Q)$

Where,

P= Market price of goods and services

Q= Total volume of Output

Sometimes goods produced by one sector is further processed by another sector. These goods are termed as intermediate goods and are already included while determining the value of final goods. So, in order to avoid the problem of double counting of value of goods, the product method is further categorized into two approaches:

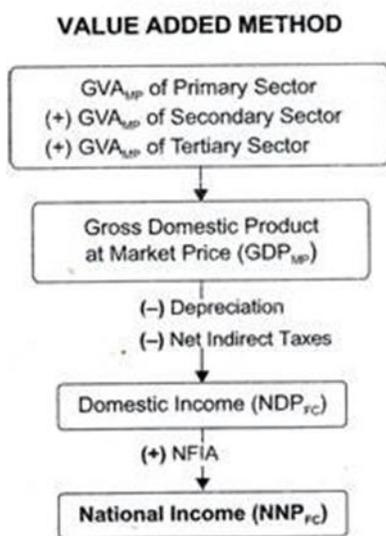
**The Final Goods Approach**

In this method, only the value of final goods and services are computed while estimating GDP, regardless of any intermediate goods and their processing. This method takes into account only those goods and services that purchased and consumed by the final consumers in the economy.

### **The Value Added Method**

In the value added method of measuring national income, the value of materials added by producers at each stage of production to produce the final good is considered. The difference between the value of output and inputs at each stage of production is the value added. Thus,

Value added= Value of output – Cost of intermediate goods



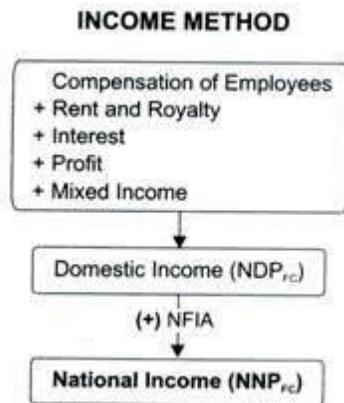
### **Income/Factor Income Method**

Income method is also termed as factor income method or factor share method. Under this method, national income is measured as the total sum of the factor payments received during a certain time period.

The factors of production include land, labor, capital, and entrepreneurship. Individuals who provide these factor services get payment in the form of rent, wages/salaries, interest, and profit respectively. The total sum of income received by these individuals comprise the national income for a given period of time.

Besides these, there are professionals who employ their own labour and capital like advocates, doctors, barbers, CAs, etc. The income of these individuals are called mixed incomes and are also accounted for calculating the national income. However, income received in the form of transfer payments are not included.

Thus, according to this method,



### Expenditure Method

The expenditure method measures the national income as the sum total of expenditures made by individuals on personal consumption, firms on private investments, and government authorities on government purchases.

Since incomes from production are earned as a result of expenditure made by other entities on the produced goods and services within the economy, the result of expenditure method should be same total as the product method. However, with an exception of avoiding intermediate expenditure in order to evade the problem of double counting, national income under expenditure method can be expressed as

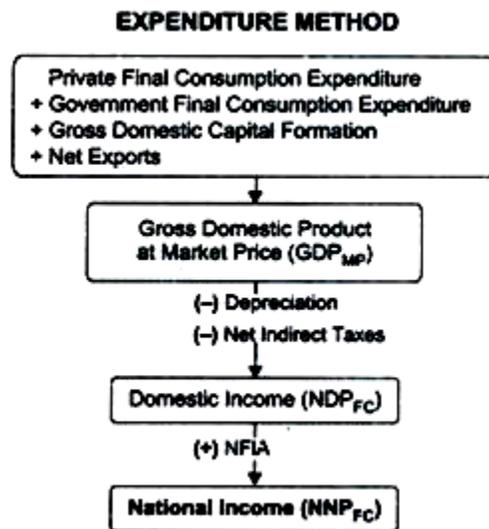
$$\text{GDP} = C + I + G + (X - M)$$

Where, C= Consumption Expenditure (Expenditure on durable goods such as furniture, cars, and non-durable goods such as food)

I= Investment Expenditure (Private investment in capital goods or producer goods such as buildings, machinery, etc.)

G= Government Expenditure (Government expenses for maintaining law and order, developing pre-requisites of development, etc.)

(X-M)= Net Export (Difference between import and export)



### Difficulties in Measurement of National Income

Following are the difficulties in estimating the National Income

- Conceptual difficulties
- Statistical difficulties

#### **A. Conceptual difficulties**

1. It is difficult to calculate the value of some of the items such as services rendered for free and goods that are to be sold but are used for self-consumption.
2. Sometimes, it becomes difficult to make a clear distinction between primary, intermediate and final goods.
3. What price to choose to determine the monetary value of a National Product is always a difficult question?
4. Whether to include the income of the foreign companies in the National Income or not because they emit a major part of their income outside India?

#### **B. Statistical difficulties**

1. In case of changes in the price level, we need to use the Index numbers which have their own inherent limitations.
2. Statistical figures are not always accurate as they are based on the sample surveys. Also, all the data are not often available.
3. All the countries have different methods of estimating National Income. Thus, it is not easily comparable.

**Q12. Write short notes on :**

- a. Say's law of market
- b. Circular flow of income covering all sectors

**Ans a) Say's law of market:**

An important element of classical economics is Say's Law of Markets, after J.B. Say, a French economist who first stated the law in a systematic form.

Briefly stated, this law means that 'supply always creates its own demand.' In other words, according to J.B. Say, there cannot be general over-production or general unemployment on account of the excess of supply over demand because whatever is supplied or produced is automatically exchanged for money. Whenever additional production takes place in the economy, necessary purchasing power is also generated at the same time to absorb the additional supply; hence, there is no scope of supply exceeding demand and causing unemployment. This law was the basis of their assumption of full employment in the economy which rested on the plea that income is spent automatically at a rate which will always keep the resources fully employed.

Savings, according to classical are just another form of spending; all income, they believed, is partly spent on consumption and partly on investment. There is no ground to fear a break in the flow of income stream in the economy. Hence there cannot be any general over-production or unemployment.

The classical economists always assumed a state of employment in the economy. The normal situation in an economy, according to them was full employment equilibrium. Less than full employment, they believed, was an abnormal situation. Classical always held that there are no lapses from full employment equilibrium and even if there are any, there is always a tendency to

return to full employment. This belief of the classical economists was based on the views of a French economist, J.B. Say (1767-1832).

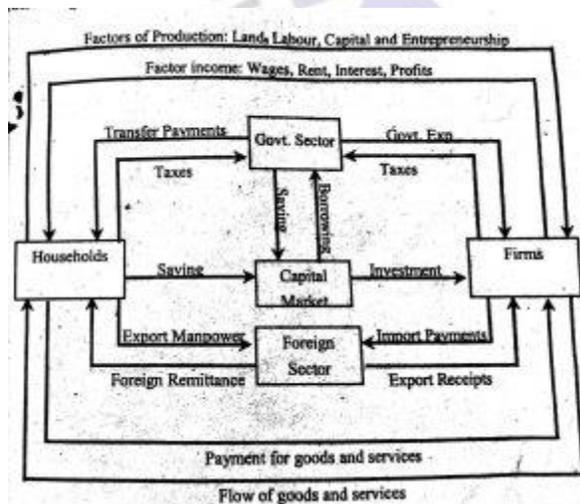
Say believed that people did not work for its own sake but to obtain other goods and services that go to satisfy their wants. To be employed simply meant to work in a field or to start a shop and to sell one's own product in the market. The organisation of the economy was simple under which people spent on tools and consumer goods.

**Ans b) Circular flow of income in 4 sector economy :**

The circular flow model in four sector economy provides a realistic picture of the circular flow in an economy. Four sector model studies the circular flow in an open economy which comprises of the household sector, business sector, government sector, and foreign sector.

The foreign sector has an important role in the economy. When the domestic business firms export goods and services to the foreign markets, injections are made into the circular flow model. On the other hand, when the domestic households, firms or the government imports something from the foreign sector, leakage occurs in the circular flow model.

The circular flow of income in four sector economy can be explained by the flowing diagram:



From the viewpoint of the circular flow of income, each sector has dual roles to play in the economy; while a sector receives certain payments from other sectors, it pays back to those sectors as well. The circular flow of income in different sectors can be expressed as follows:

**Household Sector**

Receipts : The household sector receives factor income in the form of rent, wages, interest, and profit from the business sector. It also receives transfer payments from the government sector.

Payments: The income of the household sector flows into the business sector, government sector and capital markets in the form of consumption expenditure, taxes and savings respectively.

### **Business Sector**

Receipts: The principle receipts of the business sector constitute of income from the sale of goods and services, income from exports, subsidies from the government sector, and borrowings from the capital market.

Payments: Factor payments, import payments, and savings constitute the principal payments from the business sector to the household sector, government sector, foreign sector and the capital market.

### **Government Sector**

Receipts : The major source of income for the government sector include the taxes paid by household and business sector. Besides this, it also receives interests and dividends for the investments made.

Payments : The government sectors make payments to different sectors in the form of transfer payments, subsidies, grants, etc. It pays to the business sector in return for the goods purchased, makes transfer payments like pension funds, scholarships, etc. to the household sector. If the government receipts are greater than the expenses, the surplus goes to capital market. In case of cash deficit, the government borrows from the capital market to maintain a balance in the economy.

### **Foreign Sector**

Receipts : The foreign sector receives income from the business sector in return for the goods and services imported by the latter.

Payments : Foreign sectors need to make payment to the business sector from where imports have been made.

If exports exceed imports, the economy has a surplus balance of payment. In case exports exceed imports, the economy faces a deficit balance of payment. Depending on the trade policies, the economy tries to maintain a balance between imports and exports.

### **Capital Market :**

Household, business, and government sectors deposit their excess of income to the capital markets as savings. These savings are borrowed by the business sector or government sector for making investments in different projects.

### **Q13. Discuss the importance and limitations of macro economics.**

#### **Macroeconomics:**

Macroeconomics is the branch of economics that studies the behavior and performance of an economy as a whole. It focuses on the aggregate changes in the economy such as unemployment, growth rate, gross domestic product and inflation.

Macroeconomics analyzes all aggregate indicators and the microeconomic factors that influence the economy. Government and corporations use macroeconomic models to help in formulating of economic policies and strategies.

#### **Importance and uses of Macroeconomics**

##### **a) Helpful in understanding the functioning of an economy-**

The modern economy has become a very complex affair. Several economic factors which are interdependent operate in it. To have an understanding of its organization and functioning, one cannot depend on individual units alone. Study of the economy as a whole has there for becomes very essential.

##### **b) Study of national income –**

In modern times it is the study of national income of almost every country that enables us to know about the economic condition of different countries of the world. It is possible through macro analysis alone.

##### **c) Economic planning –**

Knowledge regarding mutual dependence of different sector, the composition of national income, level of employment, nature of poverty is essential for formulating an economic plan. Knowledge of those aggregate is possible through the study of macroeconomics only.

**d) Formulation of Economic policy-**

Study of macroeconomics is of great significance in formulating economic policy. Almost all Modern Government take Resort to aggregate data -national income, aggregate employment, aggregate investment, etc. in formulating economic policy.

**e) Study of Trade cycles –**

Trade cycle of the problem of economic fluctuation is an economic problem of great importance. In a capitalist economy, rapid economic changes take place. These changes have an adverse effect on the economy. Economic fluctuation depends on aggregate factors like aggregate saving, demand, output supply, etc. Study of macroeconomics becomes imperative to know about the causes responsible for the trade cycle and measures necessary to check them

**f) Estimate material welfare –**

Whether material welfare has increased or not cannot be ascertained from the study of individual units. It can be made sure by the studying aggregate, such as total income, total employment, aggregate consumption, etc. Macroeconomics, therefore help in assessing material welfare.

**g) Study of Economic Development-**

As a result of advanced study in macroeconomics, it has become possible to give more attention to the problem of development of underdeveloped countries. Study of macroeconomics has revealed not only the glaring inequalities of wealth within an economy but has also shown the vast differences in the standards of living of the people in various countries necessitating the adoption of important steps to promote their economic welfare.

**h) Understanding Microeconomics-**

The study of macroeconomics is essential for the proper understanding of microeconomics. No Microeconomic law could be framed without a prior study of the aggregates; for example, the theory of individual firm could not have been formulated with reference to the behaviour pattern of one single firm, howsoever representative it might have been; the theory was possible only

after the behaviour pattern of several firms had been examined and analyzed, for example, the forest, though an aggregation of trees, does not exhibit the behaviour and characteristics of individual trees. Microeconomics has been, and to some extent, remains a jungle of special assumptions, special cases, unsatisfactory measurements and abstract theorising.

#### **i) Useful is business decision making :**

Macro-economics is also useful in business decision making. The knowledge of aggregate demand and supply helps in production and pricing decisions. The macro-economic policies like fiscal policies, monetary policy have profound effects on business activities.

#### **Limitations of macro-economics**

The significances of the study of micro-economics remarkably increased after it was developed and popularised by J.M Keynes. But macro-economics has following limitations.

- 1. Danger of excessive thinking in terms of aggregates :** There is danger of executive thinking in terms of aggregates which are not homogeneous. For example, 2apples +3apples=5 apples is the meaning full aggregate, similarly 2 apples +3 oranges is meaningful to some extent.
- 2. Aggregate tendency may not affect all sectors equally :** For example, the general increase in price affects different sections of the community or the different sectors of the economy differently. The increase in general level of price benefits the producers, but hurts the consumers.
- 3. Indicates no change has occurred:** The study of aggregates make us believe that no change has occurred even if there is a change. It indicates that there is no need of new policy. For example, a 5 percent fall in agricultural price and 5 percent rise in industrial prices does not affect the price level.
- 4. Difficulty in the measurement of aggregates:** There are at times, difficulty in the measurement of aggregates. It is difficult to measure the big aggregates. This problem has now been more or less erased by the use of calculators and the things which are not homogeneous.
- 5. The fallacy of composition:** The aggregate economic behavior is the sum of individual behavior. This is called fallacies of composition. What is true in case of an individual may not be true in the case of economy as whole. For example, individual saving is a virtue, whereas the public

saving is vice. According to K.E. Boulding "These difficulties are aggregative paradoxes which is true when used to one person, but false when used to the economy as a whole.

**6. Fallacy of Composition:** In Macro economic analysis the "fallacy of composition" is involved, i.e. aggregate economic behaviour is the sum total of the economy of individual activities. But what is true of individuals is not necessarily true to the fiscal entirely.

**7. To Regard the Aggregates as Homogenous:** The main defect in macro analysis is that it regards the aggregates as homogenous without caring about their internal composition and structure. The average wage in a nation is the sum total of wages in all professions, i.e. wages of clerks, typists, teachers, nurses etc. But the volume of aggregate employment depends on the relative structure of wages rather than on the average wage..

**8. Aggregate Variables may not be Important Necessarily:** The aggregate variables which form the economic system may not be of much significance. For instance, the national income of a country is the total of all individual income. A hike in national income does not mean that individual incomes have risen..

**9. Indiscriminate Use of Macro Economics Misleading:** An indiscriminate and uncritical use of macro economics in analysing the complexities of the real world can frequently be misleading. For instance, if the policy measures needed to achieve and maintain full employment in the economy are applied to structural unemployment in individual firms and industries, they become irrelevant. Likewise, measures aimed at controlling general prices cannot be applied with much advantage for controlling prices of individual products.

**10. Statistical and Conceptual Difficulties:** The measurement of macro economics concepts involves a number of statistical and conceptual complexities. These problems relate to the aggregation of micro economic variables. If individual units are almost similar, aggregation does not present much difficulty. But if micro economic variables relate to dissimilar individual units, their aggregation into one aggregation into one macro economic variable may be incorrect and hazardous.

**Q14. Discuss the modern (Keynesian) approach of theory of income and employment.**

**Keynesian Theory of Income and Employment:**

John Maynard Keynes was the main critic of the classical macro economics. He in his book 'General Theory of Employment, Interest and Money' out-rightly rejected the Say's Law of Market that supply creates its own demand. He severely criticized A.C. Pigou's version that cuts in real wages help in promoting employment in the economy. He also opposed the idea that saving and investment can be brought about through changes in the rate of interest. In addition to this, the assumption of full employment in the economy is not realistic.

So long as the economy was operating smoothly, the classical analysis of aggregate economy met no serious opposition. However, Great Depression of 1930's created problems of increasing unemployment, reducing national income, declining prices and failing firms increased in intensity. The classical model miserably failed to explain and provide a workable solution for how to escape the depression.

It was at that time when J. M. Keynes wrote his famous book 'General Theory'. In it he presented an explanation of the Great Depression of 1930's and suggested measures for the solution. He also presented his own theory of income and employment. According to Keynes:

"In the short period, level of national income and so of employment is determined by aggregate demand and aggregate supply in the country. The equilibrium of national income occurs where aggregate demand is equal to aggregate supply. This equilibrium is also called effective demand point".

### **Effective Demand:**

Effective demand represents that aggregate demand or total spending (consumption expenditure and investment expenditure) which matches with aggregate supply (national income at factor cost).

In other words, effective demand is the signification of the equilibrium between aggregate demand (C+I) and aggregate supply (C+S). This equilibrium position (effective demand) indicates that the entrepreneurs neither have a tendency to increase production nor a tendency to decrease production. It implies that the national income and employment which correspond to the effective demand are equilibrium levels of national income and employment.

Unlike classical theory of income and employment, Keynesian theory of income and employment emphasizes that the equilibrium level of employment would not necessarily be full employment. It can be below or above the level of full employment.

### **Determinants of Income:**

The determinants of effective demand and so of equilibrium level of national income and employment are the aggregate demand and aggregate supply.

#### **(1) Aggregate Demand (C+I):**

Aggregate demand refers to the sum of expenditure, households, firms and the government is undertaking on consumption and investment in an economy. The aggregate demand price is the amount of money which the entrepreneurs expect to receive as a result of the sale of output produced by the employment of certain number of workers. An increase in the level of employment raises the expected proceeds and a decrease in the level of employment lowers it.

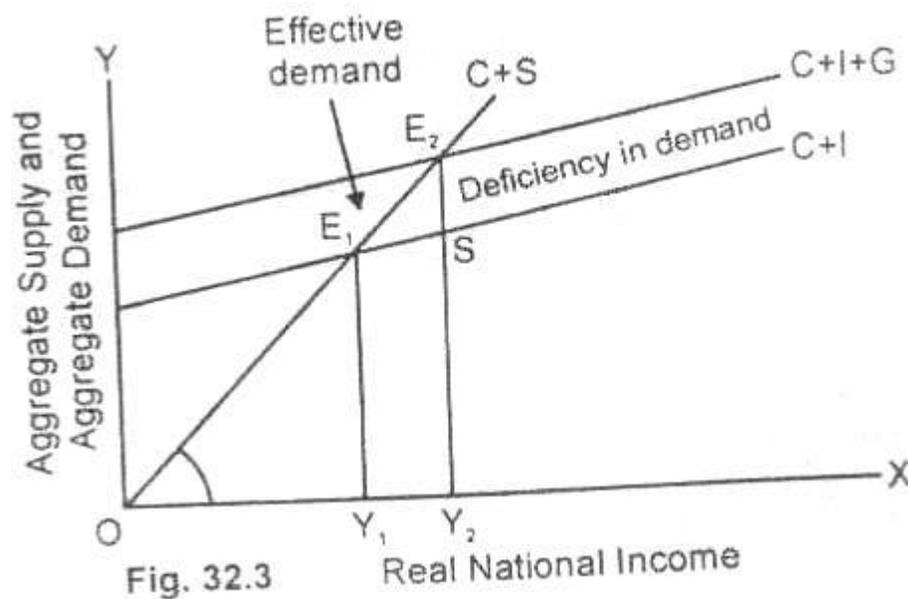
The aggregate demand curve AD (C+I) would be positively sloping signifying that as the level of employment increases, the level of output also increases, thereby increasing of aggregate demand (C+I) for goods. The aggregate demand (C+I), thus, depends directly on the level of real national income and indirectly on the level of employment.

#### **(2) Aggregate Supply (C+S):**

The aggregate supply refers to the flow of output produced by the employment of workers in an economy during a short period. In other words, the aggregate supply is the value of final output valued at factor cost. The aggregate supply price is the minimum amount of money which the entrepreneurs must receive to cover the costs of output produced by the employment of certain number of workers. The aggregate supply is denoted by (OS) because a part of this is consumed (C) and the other part is saved (S) in the form of inventories of unsold output. The aggregate supply curve, (C+S) is positively sloped indicating that as the level of employment increases, the level of output also increases, thereby, increasing the aggregate, supply. Thus, the aggregate supply (C+S) depends upon the level of employment through the economy's aggregate production function.

### **Determination of Level of Employment and Income:**

According to Keynes, the equilibrium levels of national income and employment are determined by the interaction of aggregate demand curve (AD) and aggregate supply curve (AS). The equilibrium level of income determined by the equality of AD and AS does not necessarily indicate the full employment level. The equilibrium position between aggregate demand and aggregate supply can be below or above the level of full employment as is shown in the curve below.



In figure (32.3), the aggregate demand curve ( $C+I$ ), intersects the aggregate supply curve ( $OS$ ) at point  $E_1$  which is an effective demand point. At point  $E_1$ , the equilibrium of national income is  $OY_1$ . Let us assume that in the generation of  $OY_1$  level of income, some of the workers willing to work have not been absorbed. It means that  $E_1$  (effective demand point) is an under employment equilibrium and  $OY_1$  is under employment level of income.

The unemployed workers can be absorbed if the level of output can be increased from  $OY_1$  to  $OY_2$  which we assume is the full employment level. We further assume that due to spending by the government, the aggregate demand curve ( $C+I+G$ ) rises. As a result of this, the economy moves from lower equilibrium point  $E_1$  to higher equilibrium point  $E_2$ . The  $OY$  is now the new equilibrium level of income along with full employment. Thus  $E_2$  denotes full employment equilibrium position of the economy.

Thus government spending can help to achieve full employment. In case the equilibrium level of national income is above the level of full employment, this means that the output has increased in money terms only. The value of the output is just the same to the national income at full employment level.

### **Importance of Effective Demand:**

The principle of effective demand is the most important contribution of J.M. Keynes. Its importance in macro economics, in brief, is as under:

**(i) Determinant of employment:** Effective demand determines the level of employment in the country. As effective demand increases employment also increases. When effective demand falls, the level of employment also decreases.

**(ii) Say's Law falsified:** It is with the help of the principle of effective demand that Says Law of Market has been falsified. According to the concept of effective demand whatever is produced in the economy is not automatically consumed. It is partly saved. As a result, the existence of full employment is not possible.

**(iii) Role of investment:** The principle of effective demand explains that for achieving full employment level, real investment must equal to the gap between income and consumption. In other words, employment cannot expand, unless investment expands. Therein lies the importance of the concept of effective demand.

**(iv) Capitalistic economy:** The principle of effective demand makes clear that in a rich community, the gap between income and expenditure is large. If required investment is not made to fill this gap, it will lead to deficiency of effective demand resulting in unemployment.

### **Criticism on Keynesian Theory:**

From mid 1970 onward, the Keynesian theory of employment came under sharp criticism from the monetarists. Milton Frsadman, the Chief advocate of monetarists rejected the Keynesianism as a whole. The monetarists returned back to the old classical theory for the explanation of the rise in general price level and stated that inflation is always and every where a monetary phenomenon.

The monetarists are of the view that J. M. Keynes laid more emphasis on the determinants of aggregate demand and to a greater extent ignored the determinants of aggregate supply. The monetarists encouraged the supply side policy and thus favored free enterprise economy for solving the problems of unemployment and inflation.

J. R. Hicks describes Keynes's 'General Theory' as depression economics. Further, the 'General Theory of Keynes is applicable to the developed economies. The Keynesians concepts are not very useful for policy purposes in less developed countries.

**Q15. What are the various precautions to be taken while calculating national income?**

**Main Precautions that must be followed in the Measurement of National Income through Income Method:**

1. Transfer payments are not included in estimating national income.
2. Imputed rent of self-occupied houses are to be included in calculating national income.
3. Illegal money through smuggling etc. are not included as they cannot be easily estimated.
4. Windfall gains are not included in this method.
5. Death duties, gift tax, tax on lotteries etc. are paid from past saving or wealth and not from current income. So, they should not be treated as a part of national income of a year.
6. The receipts from sale of second-hand goods should not be treated as a part of national income because second-hand goods do not create new flows of goods and services in the current year.
7. Income equal to the value of Production for self-consumption should be estimated and included in the measure of national income.
8. Indirect taxes are not included while estimating national income at factor cost.
9. Income tax is paid out of income (compensation of employees). So it should not be separately added while estimating national income.

**The following precautions need to be taken for correct estimation of national Income by expenditure method:**

(i) To avoid double counting, expenditure on all intermediate goods and services is excluded. For example, purchase of vegetables by a restaurant, expenses on electricity by a factory, etc., are not included as they are for intermediate consumption.

(ii) Government expenditure on all transfer payments such as scholarships, unemployment allowance, old-age pension, etc. is excluded because no productive service is rendered by the recipients in exchange.

(iii) Expenditure on purchase of second-hand goods is excluded from national income because this type of expenditure is not on currently produced goods.

(iv) Expenditure on purchase of old shares/bonds or new shares/bonds, etc. is excluded because it is not payment for goods or services currently produced. It shows mere transfer of property from one person to another. Likewise, gifts from abroad which bring transfer payment are not included.

(v) Imputed expenditure on own account output (e.g., owner occupying his house, self-consumed output by a farmer) should be included.

**While calculating national income by value added method, value of the following items should be included:**

(i) Imputed rent of owner occupied houses.

(ii) Imputed value of goods and services produced for self-consumption or for free distribution.

(iii) Value of own-account production of fixed assets by enterprises, government and households.

(iv) Only value added and not value of output by production units should be included (i.e., avoid double counting).

(v) Do not include sale of second-hand goods because they are not fresh production activity. However, brokerage or commission paid to facilitate the sale is included as it is a fresh production activity.

**Since national income measures reflect the current achievements of an economy during a year, value of the following items should be excluded from its purview:**

(i) Sales and purchases of second-hand goods: They are not a part of production of the current year. Moreover, their value had already been included in the national income of the year in which they were produced. However, if the transaction has been made through a broker, his commission or brokerage should be included because he has rendered productive service.

(ii) Sale of bonds by a company: This is merely a financial transaction which does not contribute directly to the flow of goods and services. Again, services for self- consumption like those of housewife are not included as it is difficult to estimate their market value.

(iii) Income of a smuggler: It is an illegal activity and all illegal activities (like smuggling, gambling, black-marketing, etc.) are excluded from the national income.

**Q16. What is monetary policy? What are its objectives? Also explain the instruments of monetary policy.**

Monetary policy refers to the case of techniques of monetary control at the disposal of the Central Bank of the country. A development oriented economy like India, needs a sound monetary policy, which is not only helpful in the economic development of a country, but it also able to bring out stability in the country.

“Monetary policy is a policy employing Central Bank’s control of the supply of money as an instruments of achieving the objectives of general economic policy.” —Harry Johnson

Generally it is said that, monetary policy is a programme undertaken by the monetary authorities generally the Central Bank, to control and regulate the supply of money with the public and the flow of credit with a view to achieve predetermined macro economic goals.

The objectives of monetary policy are growth, employment, stability of price and foreign change and balance of payment equilibrium. Monetary policy is the use of instruments under the control of RBI to influence the demand of goods and services of the trends in certain sectors of the economy. It is said to be operating through varying cost and availability of credit, helps to show changes in the pattern of assets of credit institutions, specially banks.

**Nature of Monetary Policy:**

Reserve bank of India with the help of monetary policy targets a key set of indicators to ensure that there exists price stability in the country’s economy. The factors induced are as follows:

(i) Money supply, commonly referred as M3.

(ii) Interest rate.

(iii) Inflation.

Monetary policy gives a platform or a base to announce the rules and regulations or norm for RBI governed bodies as banks, FIs, non-banking finance companies, residual non-banking companies, primary dealers in money markets and authorised dealers in foreign exchange markets. Monetary policy is said to be announced twice a year:

(i) One for the slack season, (April-September).

(ii) One for the busy season, (October-March)

In accordance with the agricultural cycles.

### **Objectives of Monetary Policy:**

In the present day economy, the objectives of monetary policy are:

1. Neutrality of money is only a technical device.
2. Price, stability, preventing changes in general price-level.
3. Exchange rate stability by using interest rate mechanism.
4. Promotion of economic growth, by raising financial resources.
5. Maintenance of high level of employment, by raising the level of investment.

The following description of monetary policy brings out the strengths and weaknesses of RBI's monetary policy:

### **Some weaknesses of RBI's monetary policy are as under:**

- (i) Higher proportion of non-banking credit.
- (ii) High currency deposit ratio rendering the RBI's role less effective.
- (iii) Defective statistical and monitoring system.
- (iv) Selective application of credit constraints.

(v) Growing fiscal needs of the economy.

**Some strength of RBI's monetary policy are as under:**

- (i) Decision making and implementation is faster than fiscal policy.
- (ii) More Reliance on selective credit control measures and less on quantitative controls making RBI's pressure less on commercial banks.
- (iii) Has been responsive on the needs of the economy.

**Instruments of Monetary Policy:**

Instruments of monetary policy refer to the economic variables that the Central Bank can change with a view to control and regulate the money supply and the availability of credits. These instruments of monetary policy are also known as weapons of monetary control.

The measures of monetary policy are generally clarified under two categories:

- (i) Quantitative measures.
  - (A) Open market operations.
  - (B) Bank rate policy.
  - (C) Cash Reserve Ratio (CRR).
- (ii) Qualitative or selective credit controls.

**QUANTITATIVE MEASURES:**

**[A] Open Market Operations**

Sale and purchase of government securities and treasury bills by the Central Bank of the country makes an open market operation. To increase the supply of money to the public, Central Bank purchases government securities, i.e, bills and bonds. Similarly when it decides to reduce money it sells the government bonds and securities. The open market operation has not proved a powerful tool in the hands of RB!

**[B] Bank Rate Policy**

Bank rate is the rate in which the Central Bank rediscount the first class bills of exchange presented by commercial banks.

The RBI act defines, “bank rate” as the, standard rate at which the bank is prepared to buy bills of exchange or other commercial papers, eligible to purchase under this Act.

The Central Bank can change this rate-increase or decrease-depending on what it wants to do, i.e., expand or contract the flow of credit from the Commercial Bank. The bank rate policy was first adopted by the bank of England in 1839.

### **[C] The Cash Reserve Ratio or Satutory Reserve Ratio**

It is the percentage of total deposits which commercial banks are required to maintain in the form of cash reserve with the Central Bank.

The main objective is to prevent shortage of cash in meeting the demand of cash depositors.

By changing the CRR, the central bank can change the money supply over night. Central Bank raises the CRR when conditions demand contraction in monetary conditions; and decreases the CRR, when conditions demand expansion of money.

### **QUALITATIVE OR SELECTIVE CREDIT CONTROLS:**

The qualitative or selective credit control measures are resorted to, when RBI intends to control the use of credit. Its impact is uniform on all the sectors of the economy.

Measures of SCC [selective credit control] are as follows:

**(a) Direct Controls:** When all methods are ineffective, the monetary authorities resort to direct control measures. The measures are resorted to, when the commercial do not follows the instructions issued by the Central Bank.

**(b) Moral Suasion:** It is a method of persuading and convincing the commercial banks to advance credit in accordance with the Central Bank in the economic interest of the country. Under this, the Central Bank writes letter of and hold meetings with banks on money and credit matters and pursue them to follow the credit policy.

(c) **Credit Rationing:** When there is shortage of institutional credit for the business sector, the strong sector captures a major portion in the total institutional credit. Hence, weaker sectors are starved of necessary funds. In this method the Central Bank can fix the quota of credit for banks.

(d) **Change in Lending Margins :**“Lending Margin” is the difference between the values of the mortgaged property and amount advanced. The bank provide loans only upto a certain percentage of the value of the mortgaged property. The RBI by increasing the lending margin can control the expansion of credit.

**Q17. What do you understand by fiscal policy? What are the objectives and instruments of fiscal policy?**

**Fiscal policy :**

Fiscal policy is considered to be an integral part of public finance as it deals with the effects of financial operations of the government on the various aspects of the functioning of the national economy, such as prices, employment, consumption, production, distribution of wealth, etc. It is also called budgetary policy. In simple words, it embraces the tax and expenditure policies of the government. Economists have defined the fiscal policy as a policy of government where it uses its options of raising revenue and incurring expenditure to produce desirable effects and avoid undesirable effects on various aspects of economy like national income, production and employment.

“Fiscal policy means public expenditure and tax policy.” —Paul Samulson

**Objectives of Fiscal Policy :**

Fiscal policy subscribes to the following and major macroeconomic goals:

- (a) Full employment.
- (b) Fiscal stabilization.
- (c) Economic growth.
- (d) Fiscal justice or equality in distribution of income and wealth.

(a) **Fiscal Policy for Full Employment:** In the matter of canons of fiscal policy, Prof. Keynes has laid down some fundamentals. According to him public finance is compensatory finance

ordained to attain and maintain full employment in the economy. To pursue this goal, he suggested that:

- (i) Taxation should be devised to promote and sustain consumption and investment.
  - (ii) To raise the level of effective demand and to overcome depressionary forces, budget should resort to deficit financing.
  - (iii) Public expenditure should finance public works programmes and provide social security.
  - (iv) Direct tax rates should be low so as to encourage savings and investments directed towards creation of more employment.
  - (v) Public expenditure must uplift the aggregate demand, investment and employment.
  - (vi) Public borrowing should finance productive public expenditure.
- (b) **Fiscal Stability:** Fiscal policy should aim at relative price stabilization, control on inflation and avoidance of deflation. Forces stimulating growth process should be given a boost at a time while inflationary pressures are to be curbed. In a growing economy when huge investment is undertaken to implement infrastructural projects, returns are not immediate, as such scarcity of consumption goods is felt. This results in raise in prices and wages and cost-push inflation is provoked. This vicious circle of inflation has to be checked through appropriate fiscal policy.
- (c) **Economic Growth:** Appropriate fiscal policy encourages growth process, which has following objectives:
- (i) Fiscal policy should aim at improving marginal propensity of save and the consequent incremental saving ratio,
  - (ii) To accelerate the rate of economic growth, fiscal policy should not adversely affect the ability and willingness to work hard, save more and invest.
  - (iii) To induce the stimulate private sector investment.
  - (iv) To alter the pattern of investment and production to ensure improvement in economic welfare of general public, equity in the distribution and eradication of poverty.
- (d) **Fiscal Justice:** Fiscal policy should aim at social justice by giving equitable distribution of income and wealth. Progressive tax system and redistribution of income through public

expenditure by growing allocation for programmes like free medical care, free education, subsidised housing, subsidised essential commodities like milk etc., should be the objectives of fiscal policy.

### **Importance of Fiscal Policy:**

Classical economists believed that the full employment is supposed to reach automatically and there is no necessity of any economic interference. According to the classical economists that government is the best government, which spend the least and imposed the lowest amount of taxes. This was considered a principle of sound finance.

But the modern economist like Keynes and Lerner have not accepted to classical concept of fiscal policy. They believed that the government has to play a positive role so as to regulate the economy by means of taxes and expenditure which they called as the principle of the functional finance and therefore, modern theory of fiscal finance is nothing but the application of functional finance. According to the modern concept of fiscal policy, "Fiscal policy is a technique to attain and maintain full employment by manipulating public expenditure as well as revenue in such a way so as to keep an equilibrium between effective demand and supply of goods and services as needed at that time".

J.M. Keynes linked the objectives of fiscal policy to achievement of full employment. He was of the opinion that in order to increase the volume of employment, the state should step-up investment expenditure or public works, projects, such as roads, irrigation, works, public building etc, on a large scale and for this he advocated a policy on 'unbalance budget'. He was of the view that deficit in the budget should be met through deficit financing.

### **Instruments of Fiscal Policy:**

There are three main instruments of fiscal policy, i.e., taxation, public borrowing and deficit financing which must be used in a harmonious combination so as to produce the best overall effect in realizing the macro-economic goals.

**A. Taxation:** A sound taxation policy should be accomplished:

- (i) Curtailing consumption and thus garnering resources of public sector investment.
- (ii) Reshaping the pattern of investment in a socially desirable manner.

(iii) Inducing people to work hard, save and invest in production.

(iv) Reducing inequalities in income and wealth.

**B.Public Borrowing:** Public borrowing also plays an important role in mobilizing savings. It is a non-inflationary method of financing government programme as public debts divert savings of the people to government securities which are, less liquid assets. They tend to curb consumption and relieves inflationary pressure.

**C.Deficit Financing:** It is a financing of gap between public revenue and public expenditure. It is done through public borrowing or a type that results in a net addition to national outlay or aggregate expenditure. In short, it implies creation of additional money supply. A country resorting to planning for development finds it easier to obtain additional resources for the plan through deficit financing. In India,, deficit financing constitutes an important resources of obtaining financial resources for the five year plans. When required public expenditure excee public revenue collected through taxation, borrowings, public sector profits, foreign aid etc., resorting to deficit financing become necessary to raise additional revenue to come at par with required expenditure.

**Q18. Write short notes on :**

**a.FEMA 1999**

**b.WTO**

**a.FEMA 1999:**

The Foreign Exchange Management Act, 1999 (FEMA) is an Act of the Parliament of India "to consolidate and amend the law relating to foreign exchange with the objective of facilitating external trade and payments and for promoting the orderly development and maintenance of foreign exchange market in India"

**Main Features:**

1.Activities such as payments made to any person outside India or receipts from them, along with the deals in foreign exchange and foreign security is restricted. It is FEMA that gives the central government the power to impose the restrictions.

2.Free transactions on current account subject to a reasonable restrictions that may be imposed.

3.Without general or specific permission of FEMA, MA restricts the transactions involving foreign exchange or foreign security and payments from outside the country to India – the transactions should be made only through an authorised person.

4.Deals in foreign exchange under the current account by an authorised person can be restricted by the Central Government, based on public interest generally.

5.Although selling or drawing of foreign exchange is done through an authorized person, the RBI is empowered by this Act to subject the capital account transactions to a number of restrictions.

6.Residents of India will be permitted to carry out transactions in foreign exchange, foreign security or to own or hold immovable property abroad if the currency, security or property was owned or acquired when he/she was living outside India, or when it was inherited by him/her from someone living outside India.

**Applicability:**

As per Section 1(2) of FCRA, 2010, the provisions of the act applies to:

A)Whole of India

B)Citizens of India outside India; and

C)Associate Branches or subsidiaries, outside India, of companies or bodies corporate, registered or incorporated in India

**Benefits of the Act:**

FERA was to control everything that was specified, relating to foreign exchange whereas FEMA lay down that ‘everything other than what is expressly covered is not controlled’. The overriding objective of FERA was to regulate and minimize dealings in foreign exchange and foreign securities while FEMA on the other hand aims to aid in creation of a liberal foreign exchange market in India.

This difference in terminology reflects seriousness of government towards deregulation of foreign exchange and promotion of free flow of international trade. To facilitate external trade is concerned; section 5 of the Act removes restrictions on withdrawal of foreign exchange for the

purpose of current account transactions. As external trade i.e. imports / export of goods & services involve transactions on current account, there is no need for seeking RBI permissions in connection with remittances involving external trade.

### **b.WTO:**

The Uruguay round of GATT (1986-93) gave birth to World Trade Organization. The members of GATT signed an agreement of Uruguay round in April 1994 in Morocco for establishing a new organization named WTO.

It was officially constituted on January 1, 1995 which took the place of GATT as an effective formal, organization. GATT was an informal organization which regulated world trade since 1948.

Contrary to the temporary nature of GATT, WTO is a permanent organization which has been established on the basis of an international treaty approved by participating countries. It achieved the international status like IMF and IBRD, but it is not an agency of the United Nations Organization (UNO).

### **Objectives:**

The important objectives of WTO are:

1. To improve the standard of living of people in the member countries.
2. To ensure full employment and broad increase in effective demand.
3. To enlarge production and trade of goods.
4. To increase the trade of services.
5. To ensure optimum utilization of world resources.
6. To protect the environment.
7. To accept the concept of sustainable development.

### **Functions:**

The main functions of WTO are discussed below:

1. To implement rules and provisions related to trade policy review mechanism.
2. To provide a platform to member countries to decide future strategies related to trade and tariff.
3. To provide facilities for implementation, administration and operation of multilateral and bilateral agreements of the world trade.
4. To administer the rules and processes related to dispute settlement.
5. To ensure the optimum use of world resources.
6. To assist international organizations such as, IMF and IBRD for establishing coherence in Universal Economic Policy determination.

**Q19.What do you understand by economic system? Discuss the types of economic system.**

Economic systems are the means by which countries and governments distribute resources and trade goods and services. They are used to control the five factors of production, including: labor, capital, entrepreneurs, physical resources and information resources. In everyday terms, these production factors involve the employees and money a company has at its disposal, as well as access to entrepreneurs, the people who want to run companies or start their own businesses. The physical materials and resources needed to run a business, along with the data and knowledge companies use to be successful, are also factors in production. Different economic systems view the use of these factors in different ways.

Any system that involves the mechanism for production, distribution, and exchange of goods apart from consumption of the goods and services within the different entities can be classified as an Economic System.

**Types of economic system:**

**A.Capitalist Economy:**

Capitalism is an economic system where private entities own the factors of production. The four factors are entrepreneurship, capital goods, natural resources, and labor. The owners of capital goods, natural resources, and entrepreneurship exercise control through companies. A capitalist economy is a liberal economy. This means only the free market will determine the supply,

demand, and prices of the products. A capitalist economy is the most predominant in the current global economy. USA, UK, Germany, Japan, Singapore all are classic examples of capitalist economies.

### **Features of a Capitalist Economy**

1. **Right to Private Property:** This is the essence of capitalism. This right means that private property such as property, factories, machines, plants etc. can be owned under private individuals and companies. The three things covered under this right are: Every individual can acquire any amount of property, He can use these properties as he wishes, He also has the right of inheritance. So he can inherit the property from his forefathers. And he can also pass it on to his successors on his death.

2. **Price Mechanism:** Price mechanism is like an invisible hand that controls the workings of a capitalist economy. The forces of supply and demand will determine the prices and the level of productions in the economy. The government will not have any interference in this matter.

3. **Profit Motive:** The driving force behind any capitalist economy is the profit motive. All companies wish to produce and sell their products to maximize their profits. This also induces healthy competition in the economy.

4. **Freedom of Enterprise:** In capitalism, every individual is free to make his own economic choices without any intervention. This includes both the consumer and the producers. So a producer is free to produce any goods or services. And the consumer is free to buy whatever he desires and from whomever, he wants without restrictions.

### **B.Socialist Economy :**

“Socialism refers to the government ownership of the means of production, planning by the government and income distribution”-Samuelson.

Socialist means the system under which economic system is controlled and regulated by the government so as to ensure welfare and equal opportunity to the people in a society. The idea of socialism is first introduced by Karl Marx and Fredric Engles in their book, ‘The Communist Manifesto’.

The word socialism means ‘all things to all men’. According to Samuelson, “Socialism refers to the government ownership of the means of production, planning by the government and income distribution”.

### **Main Features of Socialist Economy:**

(i) **Collective Ownership:** In socialism, all means of production are owned by the community, i.e., Government, and no individual can hold private property beyond certain limit. Therefore, it is government who utilises these resources in the interest of social welfare.

(ii) **Economic, Social and Political Equality:** Under socialism, there is almost equality between rich and poor. There is no problem of class struggle.

(iii) **Economic Planning:** Under socialism, government fixes certain objectives. In order to achieve these objectives, government adopts economic planning. All types of decisions regarding the central problems of an economy are taken in the economic plans. There is a Central Planning Authority, who plans for the economy.

(iv) **No Competition:** Unlike capitalistic economy, there is no cut throat competition. It means lack of competition as state is the sole entrepreneur.

(v) **Positive Role of Government:** In socialism, government plays significant role in decision making. Thus, government has complete control over economic activities like distribution, exchange, consumption, investment and foreign trade etc.

(vi) **Work and Wages According to Ability and Needs:** In socialistic economy, work is according to ability and wage according to need. It is said that under socialism “from each according to his ability to each according to his needs, is socialism.”

(vi) **Maximum Social Welfare:** The sole objective of socialism is the maximum social welfare of the society. It means that there is no scope of exploitation of labour class. Government keeps a close eye on the needs of the poor masses while formulating plans.

### **Mixed economy :**

Mixed economy is that economy in which both government and private individuals exercise economic control.” –Murad.

It is a golden mixture of capitalism and socialism. Under this system there is freedom of economic activities and government interferences for the social welfare. Hence it is a blend of both the economies. The concept of mixed economy is of recent origin.

The developing countries like India have adopted mixed economy to accelerate the pace of economic development. Even the developed countries like UK, USA, etc. have also adopted 'Mixed Capitalist System'. According to Prof. Samuelson, "Mixed economy is that economy in which both public and private sectors cooperate." According to Murad, "Mixed economy is that economy in which both government and private individuals exercise economic control."

### **Main Features of Mixed Economy:**

(i) Co-existence of Private and Public Sector: Under this system there is co-existence of public and private sectors. In public sector, industries like defence, power, energy, basic industries etc., are set up. On the other hand, in private sector all the consumer goods industries, agriculture, small-scale industries are developed. The government encourages both the sectors to develop simultaneously.

(ii) Personal Freedom: Under mixed economy, there is full freedom of choice of occupation, although consumer does not get complete liberty but at the same time government can regulate prices in public interest through public distribution system.

(iii) Private Property is allowed: In mixed economy, private property is allowed. However, here it must be remembered that there must be equal distribution of wealth and income. It must be ensured that the profit and property may not concentrate in a few pockets.

(iv) Economic Planning: In a mixed economy, government always tries to promote economic development of the country. For this purpose, economic planning is adopted. Thus, economic planning is very essential under this system.

(v) Price Mechanism and Controlled Price: Under this system, price mechanism and regulated price operate simultaneously. In consumer goods industries price mechanism is generally followed. However, at the time of big shortages or during national emergencies prices are controlled and public distribution system has to be made effective.

(vi) Profit Motive and Social Welfare: In mixed economy system, there are both profit motive like capitalism and social welfare as in socialist economy.

(vii) Check on Economic Inequalities: In this system, government takes several measures to reduce the gap between rich and poor through progressive taxation on income and wealth. The subsidies are given to the poor people and also job opportunities are provided to them. Other steps like concessions, old age pension, free medical facilities and free education are also taken to improve the standard of poor people. Hence, all these help to reduce economic inequalities.

(viii) Control of Monopoly Power: Under this system, government takes huge initiatives to control monopoly practices among the private entrepreneurs through effective legislative measures. Besides, government can also take over these services in the public interest.

**Q20. Provide a critical note on the inflow of FDI in India.**

A foreign direct investment (FDI) is an investment made by a firm or individual in one country into business interests located in another country. Generally, FDI takes place when an investor establishes foreign business operations or acquires foreign business assets in a foreign company.

**FDI in India**

FDI is an important monetary source for India's economic development. Economic liberalisation started in India in the wake of the 1991 crisis and since then, FDI has steadily increased in the country. India, today is a part of top 100-club on Ease of Doing Business (EoDB) and globally ranks number 1 in the greenfield FDI ranking.

**Some of the other major government initiatives that are attracting foreign investors and making them look at India as an attractive investment destination.**

**A) Relaxation in FDI norms:**

- In real estate broking services, the government has done away with the need for approvals up to 100%.
- Department of Revenue approvals will no longer be required for FDI proposals, easing the mechanism for FDI, which will now be cleared in 10 weeks of application.
- The government has allowed 100% FDI in single brand retail through the automatic route.

- FDI in defence is further sought to be enhanced to 51% through the automatic route from 49% now.
- A young and cheap labour force

We have all heard of India's demographic dividend and it is true. With 47% of the population below the age of 25, India has one of the youngest populations in the world. This means a labour force that will be active and productive for a long time.

Despite rising wages, India still remains one of the countries with a cheap labour force. The cost arbitrage still places the country at a distinct advantage when compared to some of the other Asian countries. Cost of labour is in fact a major factor in driving FDI flows into the country.

### **B)Size of the Market:**

India's vast growing and consuming middle class, which is prepared to spend is a big lure for companies, which are seeing saturation points in developed countries. India is the third largest economy in the world in terms of purchasing power parity. There is a reason why large retail companies such as Amazon, Walmart and Apple are committed to the Indian market.

### **C)Economic performance:**

Economic growth is strong and expected to sustain over the next two years. The domestic economy is strong enough to sustain demand and inflation rate, which is more than the target of 4%, still at manageable levels. Rising crude oil prices are a concern, but they are a concern all over the world.

### **D)Technological and innovation capabilities:**

The institutes of technology churn out some of the brightest engineering graduates in the region and this is a huge plus for companies who find a ready-made talent pool. The cream of the engineering talent are able to find an outlet to their creativity and innovative instincts while working in the labs of some of the global technology companies, which have set up their manufacturing facilities here.

While FDI boosts the economy, we need to give a boost to our personal finance by adding protection and that comes through insurance. Aegon Life's iGuarantee Insurance Plan is a good

investment idea. It gives guaranteed annual payouts on maturity of 135% of the annualized premium, while on death the beneficiaries get 10 times the annualized premium.

### **Advantages of FDI**

In the context of foreign direct investment, advantages and disadvantages are often a matter of perspective. An FDI may provide some great advantages for the MNE but not for the foreign country where the investment is made. On the other hand, sometimes the deal can work out better for the foreign country depending upon how the investment pans out. Ideally, there should be numerous advantages for both the MNE and the foreign country, which is often a developing country. We'll examine the advantages and disadvantages from both perspectives, starting with the advantages for multinational enterprises (MNEs).

**1. Access to markets:** FDI can be an effective way for you to enter into a foreign market. Some countries may extremely limit foreign company access to their domestic markets. Acquiring or starting a business in the market is a means for you to gain access.

**2. Access to resources:** FDI is also an effective way for you to acquire important natural resources, such as precious metals and fossil fuels. Oil companies, for example, often make tremendous FDIs to develop oil fields.

**3. Reduces cost of production:** FDI is a means for you to reduce your cost of production if the labor market is cheaper and the regulations are less restrictive in the target foreign market. For example, it's a well-known fact that the shoe and clothing industries have been able to drastically reduce their costs of production by moving operations to developing countries.

### **Types of Foreign Direct Investment**

Foreign direct investments are commonly categorized as being horizontal, vertical or conglomerate.

A horizontal direct investment refers to the investor establishing the same type of business operation in a foreign country as it operates in its home country, for example, a cell phone provider based in the United States opening stores in China.

A vertical investment is one in which different but related business activities from the investor's main business are established or acquired in a foreign country, such as when a manufacturing

company acquires an interest in a foreign company that supplies parts or raw materials required for the manufacturing company to make its products.

A conglomerate type of foreign direct investment is one where a company or individual makes a foreign investment in a business that is unrelated to its existing business in its home country. Since this type of investment involves entering an industry in which the investor has no previous experience, it often takes the form of a joint venture with a foreign company already operating in the industry.

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