

Short Questions:

1. Define Communication.

Two-way [process](#) of reaching [mutual](#) understanding, in which [participants](#) not only [exchange](#) ([encode-decode](#)) [information](#), [news](#), [ideas](#) and feelings but also [create](#) and [share](#) meaning. In [general](#), communication is a [means](#) of connecting people or [places](#).

2. Define Business Communication.

The sharing of [information](#) between people within an [enterprise](#) that is performed for the [commercial benefit](#) of the [organization](#). In [addition](#), business communication can also refer to how a [company shares](#) information to [promote](#) its [product](#) or [services](#) to potential [consumers](#).

3. Define Upward Communication.

Upward Communication is the process of information flowing from the lower levels of a hierarchy to the upper levels.

4. Define Downward Communication.

Downward communication occurs when information and messages flow down through an organization's formal chain of command or hierarchical structure.

5. Define Persuasion.

Process aimed at changing a person's (or a group's) attitude or behavior toward some event, idea, object, or other person(s), by using written or spoken words to convey information, feelings, or reasoning, or a combination of them.

6. Define Listening.

Listening is the active process of receiving and responding to spoken (and sometimes unspoken) [messages](#).

7. What do you mean by media or channel of communications?

Ans. Media or channel of communication is the means or ways that are used to transmitting the message or information from sender to the receiver.

8. What do you mean by written communication?

Ans. Written communication is the process of communication in which messages or information is exchanged or communicated within sender and receiver through written form.

9. What is business letter?

Ans. Business letter refers to formal written letter where business related issues and information are exchanging with the suppliers, customers, clients, banks, insurance companies, government agencies and other external parties of the organization.

10. What is office memo?

Ans. Memorandum or memos are in internal short note or letter in which information exchanged among superiors and subordinated or same position of employees in the in the organizational structure.

11. State some expressions of non-verbal communication.

Ans. (i) Facial expression (ii) Gestures (iii) Body language (iv) Proximity (v) Touch (vi) Silence and (vii) Space.

12. State the media of oral communication

Ans. (i) Speaking (ii) Listening (iii) Reading

13. Write some medias of written communication for management

Ans. (i) Special management bulletin (ii) Management news copy (iii) Management report (iv) Publications (v) Handbook.

14. Write some media of written communication for employees

Ans. (i) Bulletin for employees (ii) Letters (iii) Memo (iv) Report (v) Complain book (vi) Notice (vii) Internal circular etc.

15. What are the causes for liking written communication?

Ans. (i) Covering complex information (ii) Permanent record (iii) Longevity (iv) Delegation of authority (v) Easy verification etc.

10. State some essentials of a good business letter.

Ans. (i) Well defined objectives (ii) Brief description (iii) Definite structure (iv) Courtesy (v) You-attitude (vi) Cleanness (vii) Relevance (viii) Completeness.

16. State some limitation of business letter.

Ans. (i) Old media (ii) Costly (iii) Time consuming (iv) Complex language (v) Missing (vi) Fails to maintain secrecy.

17. What are the approaches of business letter

Ans. (i) Direct approach (ii) Indirect approach (iii) Persuasive approach

18. State some styles of writing business letter.

Ans. (i) Indented style (ii) Full block style (iii) Modified block style (iv) Handing style etc.

19. State three attitudes in writing business letter

Ans. (i) I attitude (ii) We attitude (iii) You attitude

20. State the important part of a business letter

Ans. (i) Letter heading (ii) Date line (iii) References (iv) Inside address (v) Heading (vi) Salutation (vii)Body (viii) Closing.

21. What are the main objectives of memo?

Ans. (i) Inform decision (ii) Request to take action (iii) Reminder (iv) Provide information

22. State some limitations of a memo

Ans. (i) Limited application (ii) Time consuming (iii) Expensive (iv) Lack of formality (v) Less important to reader.

23. State the parts of a memo

Ans. (i) The heading (ii) The subject and date (iii) The message.

24. What does a letter heading contain?

Ans. Letter heading contains name, address and telephone of the business organization.

25. What is the main part of a business letter?

Ans. The body of the letter

26. What is the main part of memo?

Ans. The message.

Types of Verbal Communication

Verbal Communication

Words are used to exchange information, this can be in person or by telephone and can be written or oral

Written

- Reports
- Memos
- Emails
- Fax
- Illustrations

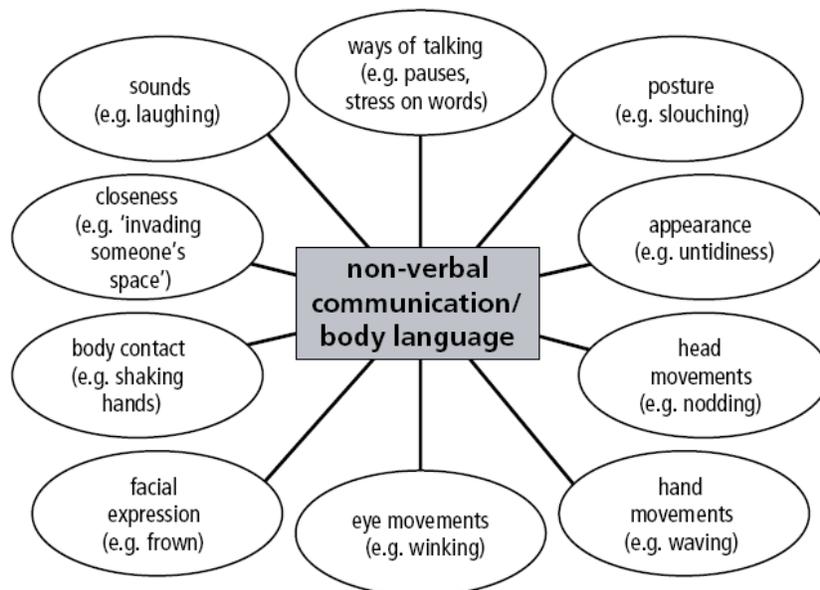
Types of oral

- Face to face
- Telephone conversation
- Dictating letters
- Group discussions
- Meetings
- Speech

Written Communication

Oral Communication

Types of Non-verbal Communication



Long Questions

Q1. What is Communication?

According to W.H. Newman and C.F. Summer Jr. "Communication is an exchange of facts, ideas, opinions or emotions by two or more persons" According to William Scott, "Administrative communication is a process which involves the transmission and accurate replication of ideas ensured by feedback for the purpose

of eliciting actions which will accomplish organizational goals” This definition emphasizes four points viz.

1. Communication of ideas
2. Receiver should get exactly the same ideas as were transmitted
3. Communication is a two-way process including transmission of feedback
4. Purpose of communication is to elicit actions

Q2. What are the different elements of communication process?

Elements of communication process are: (1) sender (2) ideas (3) encoding (4) communication channel (5) receiver (6) decoding and (7) feedback.

Communication may be defined as a process concerning exchange of facts or ideas between persons holding different positions in an organisation to achieve mutual harmony. The communication process is dynamic in nature rather than a static phenomenon.

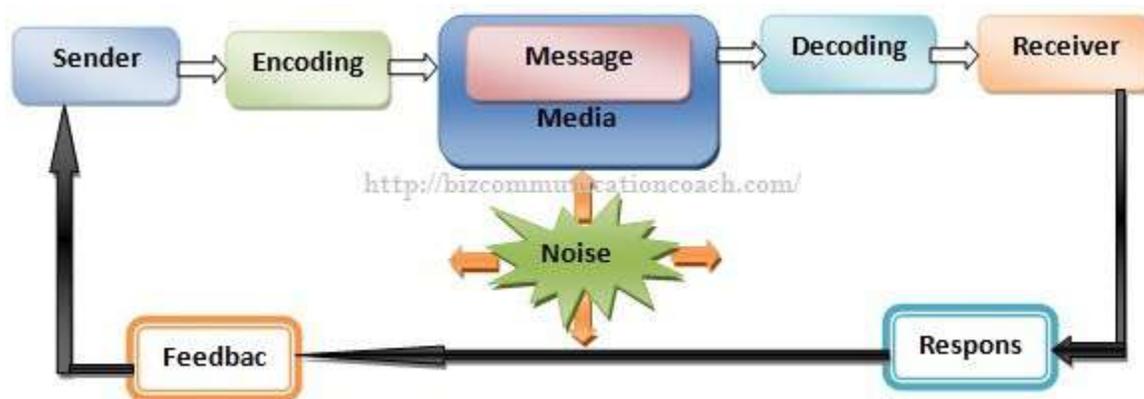


Figure: Elements of Communication Process

(1) Sender:

The person who intends to convey the message with the intention of passing information and ideas to others is known as sender or communicator.

(2) Ideas:

This is the subject matter of the communication. This may be an opinion, attitude, feelings, views, orders, or suggestions.

(3) Encoding:

Since the subject matter of communication is theoretical and intangible, its further passing requires use of certain symbols such as words, actions or pictures etc. Conversion of subject matter into these symbols is the process of encoding.

(4) Communication Channel:

The person who is interested in communicating has to choose the channel for sending the required information, ideas etc. This information is transmitted to the receiver through certain channels which may be either formal or informal.

(5) Receiver:

Receiver is the person who receives the message or for whom the message is meant for. It is the receiver who tries to understand the message in the best possible manner in achieving the desired objectives.

(6) Decoding:

The person who receives the message or symbol from the communicator tries to convert the same in such a way so that he may extract its meaning to his complete understanding.

(7) Feedback:

Feedback is the process of ensuring that the receiver has received the message and understood in the same sense as sender meant it.

Q3. What are the different forms of communication?

I. INTERNAL COMMUNICATION

- To transmit instructions or requests along the lines of command. E.g. from marketing director to sales manager to floor staff
- To inform staff on new policies, arrangements, developments, processes etc
- To request information from any employee in the company to assist in making decisions for company
- To persuade, motivate & encourage staff to work as individuals and as a part of the team
- To provide confirmation, responses and information upwards
- To pass on suggestions, ideas and developments along the chain of command

II. EXTERNAL COMMUNICATION

- Include letters, annual reports, forms, news letters, advertisement etc
- Provide information to consumers about products and services
- Promote the business. E.g. advertisement
- Handle enquiries about the organization and its products & services

III. PERSONAL COMMUNICATION.

- Non-business related exchanges of information and feelings among people
- Personal communication affects employees attitude and employees attitude in turn affects employee performance

Q4. Explain the different principles of communication?

1. Clarity

The communicator must be clear of:

1. What is the objective of communication?
2. What is to be communicated?
3. Which medium will prove to be the most suitable for this purpose?

For clarity of expression:

- a. Use simple, easy-to-understand words ('use' instead of 'utilize', 'help' instead of 'facilitate')
- b. Use single words for long phrases (please instead of 'will you be kind enough', 'for' instead of 'for the purpose of')
- c. Use verbs for nouns ('decide' instead of 'make a decision')
- d. Avoid double entry ('fact' instead of 'actual fact', 'return' instead of 'return back')
- e. Use concrete expressions that have a visual impact on the mind and will be easy to remember
- f. Avoid jargons ('Thanks' for your letter instead of 'we acknowledge')
- g. Avoid ambiguity ('Go slow. work in progress' instead of 'Go. Slow work in progress')
- h. Write short sentences

2. Completeness

For completeness, check you have answered all questions and check for '5 W' questions - who, what, where, when and why?

3. Conciseness

Be as brief as possible, brevity should not be at the cost of appropriateness, clarity, correctness, completeness or courtesy. For conciseness, ensure:

- Only relevant facts
- No repetition
- No verbosity
- Proper organization of the message

4. Consideration

Implies respect for the reader's point of view. For consideration:

- Adopt the you - attitude in your message
- Avoid gender bias
- Emphasize positive, pleasant facts

- Write only what you sincerely feel to be correct

5. Courtesy

Courtesy demands a considerate and friendly behavior towards others. Make the message courteous by:

- Answering the letter promptly
- Apologize for omissions
- Thank for any favors
- Use empathy in horizontal communication
- Keep the message brief and complete in upward communication

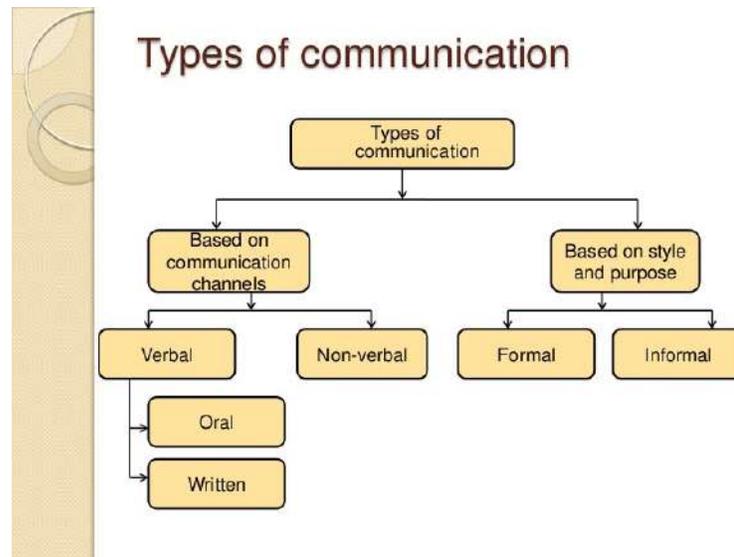
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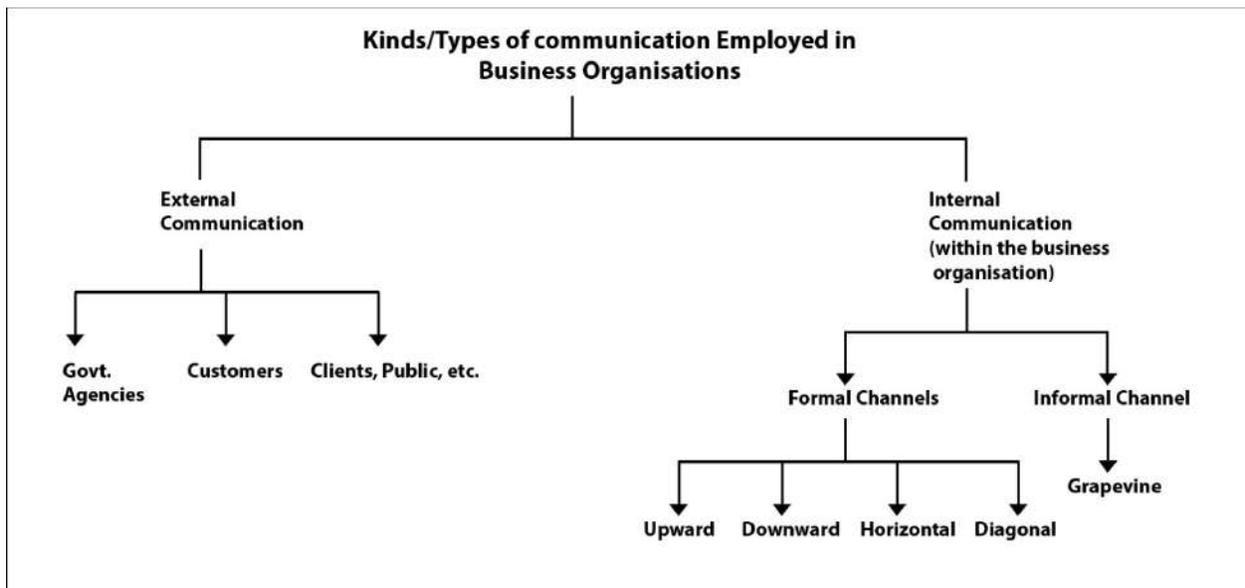
- Be brief, clear and courteous in downward communication

6. Correctness: Implies

- Giving correct facts
- At an appropriate time
- In a suitable style

Q4. Explain the types of Business Communication?





There are two types of business communication in an organization:

- Internal Communication
- External Communication

1. Internal Communication

Communication within an organization is called “**Internal Communication**”. It includes all communication within an organization. It may be informal, formal function, or department providing communication in various forms to employees.

Effective internal communication is a vital mean of addressing organizational concerns. Good communication may help to increase job satisfaction, safety, productivity, and profits and decrease grievances and turnover.

Under **Internal Business Communication types**, there come:

- **Upward Communication**
Upward communication is the flow of information from subordinates to superiors, or from employees to management. Without upward communication, management works in a vacuum, not knowing if the messages have been received properly, or if

other problems exist in the organization. By definition, communication is a two-way affair. Yet for effective two-way organizational communication to occur, it must begin from the bottom.

Upward Communication is a mean for the staff to:

- Exchange information
- Offer ideas
- Express enthusiasm
- Achieve job satisfaction
- Provide feedback

▪ **Downward Communication**

Information flowing from the top of the organizational management hierarchy and telling people in the organization what is important (mission) and what is valued (policies).

Downward communication generally provides information - which allows a subordinate to do something. For example, instructions on how to complete a task. Downward communication comes after upward communications have been successfully established.

This type of communication is needed in an organization to:

- Transmit vital information
- Give instructions
- Encourage 2-way discussion
- Announce decisions
- Seek cooperation
- Provide motivation
- Boost morale

- Increase efficiency
- Obtain feedback

Both Downward & Upward Communications are collectively called "Vertical Communication"

- **Horizontal/Literal communication**
Horizontal communication normally involves coordinating information, and allows people with the same or similar rank in an organization to cooperate or collaborate. Communication among employees at the same level is crucial for the accomplishment of the assigned work.

Horizontal Communication is essential for:

- Solving problems
- Accomplishing tasks
- Improving teamwork
- Building goodwill
- Boosting efficiency

2. External Communication

Communication with people outside the company is called "**external communication**". Supervisors communicate with sources outside the organization, such as vendors and customers.

It leads to better:

- Sales volume
- Public credibility
- Operational efficiency
- Company profits

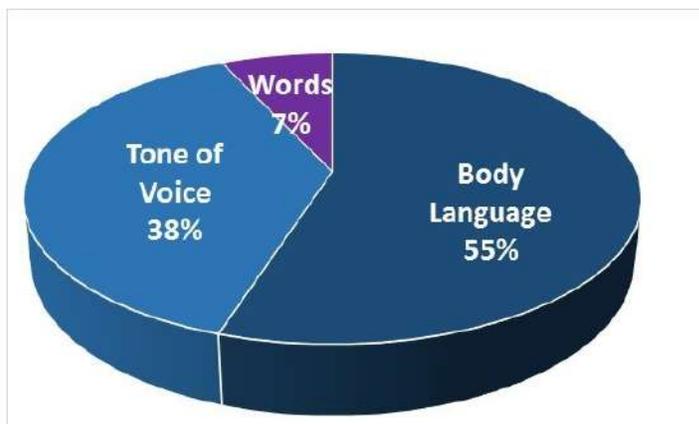
It should improve:

- Overall performance
- Public goodwill
- Corporate image

Ultimately, it helps to achieve:

- Organizational goals
- Customer satisfaction

Q6. Different Elements of communication



Q7. Explain the different types of non-verbal communication

Oral communication transmitted without the use of words is known as non-verbal communication. Non-verbal signals transmit the implied meaning. According to Ray Birdwhistell, in face-to-face communication, spoken words account to only 35% of the total meaning, while 65% is obtained through non-verbal clues.

KINESICS Kinesics is the study of body language. E.g. when a person says “glad to meet you”, his face glows with warmth and his voice vibrates with joy. Body language is suitable for expressing feelings and emotions like joy, anger, fear,

nervousness, anxiety, tension, frustration etc. Expression of these feelings is mostly unconscious. Body language includes:

1. FACIAL EXPRESSIONS

Face is the index of the mind. Face would give clues about a person's mental state. Facial expressions convey acceptance, rejection, satisfaction, dissatisfaction, friendship, hostility, interest, indifference, confidence, nervousness, determination, optimism, ease, discomfort, pain, pleasure, joy, surprise, shock, boredom etc. e.g. smile expresses satisfaction and approval; Wrinkles on face suggests worry; raised eye brows, wide open eyes and gaping mouth show surprise or shock.

2. GESTURES

gesture is a movement of head, hands or legs to express an idea, feeling or emotion. Gestures may either accompany spoken words or stand alone. E.g. Head-nod suggests 'yes'; shaking of the head sideways suggests 'no'; thumbs up suggests 'approval'; hands crammed into trouser pockets suggests superior status; both hands folded on chest or toes tapping the floor indicate speaker's attitude.

3. BODY MOVEMENT

Body movement refers to positioning or movement of the body when one is engaged in inter-personal communication. When people are interested and involved, they tend to lean towards the speaker and when they are not interested, they hold themselves back.

4. POSTURE

Posture means the way in which someone usually stands or sits or

holds his shoulders, neck and back. Posture can suggest whether one is:

- Relaxed or tensed
 - Enthused or feeling low
 - Confident or dejected
- One's degree of involvement can also be indicated by one's posture. According to Myers and Myers, posture suggests our perception of a person's status. E.g. One tends to relax around people of equal or lower status and tense up around people of higher status.

5. EYE CONTACT

Eye contact is a subtle part of body language. It regulates interaction. When the topic of discussion is pleasant, we maintain eye contact with the speaker. On the contrary, in unpleasant situations we lower our eyes or look sideways. Eye contact indicates our willingness to interact, while its absence suggests the desire to withdraw. Staring or glaring look suggests defiance or threat.

6. TOUCH (HAPTICS)

Touching is also one of the traditional methods of communication. How a person touches, sends a message about their relationship and the situation in which they are placed. It can reveal whether someone is caring, friendly or intruding into others' personal space. Gentle pat on back or a warm hand shake or simply holding hands can express more than a lengthy speech.

KINDS OF KINESICS

Paul Ekman and Friensen have described five types of body movements:

1. EMBLEMS

Emblems represent ideas or icons through visual images. E.g. Finger on lips is a signal to be quiet; 'V' for victory etc.

2. ILLUSTRATORS

The movements of hands and arms to suggest the size or shape or speed of something is called illustrator. E.g. widely stretched arms suggests the enormity of size.

3. AFFECT DISPLAYS

Are indicators of inner emotions. E.g. head resting on palms suggest thoughtfulness or sometimes depression

4. REGULATORS

Are non-verbal clues that control the flow of conversation between individuals. E.g. one person finishes speaking and nods towards another. This is an indication to the other person that it is his turn to speak.

5. ADAPTORS

For instance. Some listeners tap the floor with their toes to express they are bored or they would like to leave the place, but the situation does not permit them to leave.

VOICE (PARALANGUAGE)

Paralanguage refers to a wide range of vocal characteristics viz.

1. TONE: Can be gentle, persuasive, appreciative or angry.

2. PITCH: variations are necessary to keep the listener attentive. Important parts of the message should be delivered at a higher pitch

3. SPEED OF DELIVERY: Speaking fast is different from speaking fluently. Incomprehension is the result of speaking fast. Proper use of stress and pause is essential

4. PAUSES: at the right place is important for effective communication. Pause before and after an important message is vital. The first pause creates a suspense and anticipation, the second pause gives time for understanding

5. SPEECH BREAKERS: Words like 'oh', 'you know' should be avoided to facilitate smooth flow of message

6. STRESS: Important words in the message should be stressed. E.g. I have checked the bills

Q8. Explain different types of listening.

We usually listen to:

- A) Obtain information
- B) Solve problems
- C) Share experiences
- D) Persuade or dissuade

1. Sensing: How well we sense spoken words is determined by (i) our ability to sense sounds and (ii) our attentiveness.

2. Filtering: Is the process of giving symbols, meanings through the unique contents of each person's mind.

3. Remembering: What we hear is a part of listening.

Unfortunately, we retain little of what we hear.

Q9. Give the advantages & disadvantages of effective Listening.

ADVANTAGES OF LISTENING

- 1. Listening promotes awareness about the organization
- 2. Listening helps to make better policies
- 3. Listening pacifies the complaining employees
- 4. Listening is important for the success of the open-door policy

5. Listening helps to spot sensitive areas

Disadvantages of effective Listening

1. Only inaccurate and incomplete information would be exchanged
2. Problems would not be clearly understood and would remain unsolved
3. They would not be able to share one another's experience
4. On account of being unable to understand each other through their own or others inattentiveness, they would not be able to persuade or dissuade others

10. Explain the elements of good speaking.

1. Voice quality: helps to communicate. It involves pitch, delivery, speed and volume
2. Style: is the blend of pitch, speed and volume to form a unique talking personality
3. Word choice: choose words from listener's vocabulary. Select words that appropriately convey the morality and courtesy you intend and respect the listener's knowledge
4. Adaptation: is fitting the message to the listener. It includes the combine effect of words,
5. voice and style

11. Define persuasion and the different skills in persuasion.

An effort to influence the attitudes, feelings or beliefs of others or to influence actions based on those attitudes, feelings or beliefs.

It is better to use persuasion than compulsion. Persuasion to change the beliefs and attitudes is not liked by people. In such cases, persuasion has to be indirect and suggestive.

Steps in persuasion

1. **Analyzing the situation:** Communicator analyzes the situation to find out the need of persuasion, advantages and disadvantages of the new course of action being suggested. He also studies the psychology of the man to be persuaded in order to plan a suitable Strategy

2. **Preparing the receiver:** It is natural that people resent being persuaded to change their views or behavior. Put the receiver in a pleasant frame of mind. Compliment the receiver on some of his outstanding qualities and achievements. The points on which communicator agrees with the receiver may be mentioned first, so that a meeting ground for communicator and receiver is prepared. Discuss the whole issue from receiver point of view
- 3 **Delivering the message:** Message should be delivered stage by stage with help of forceful arguments beginning with those parts of message which are easier to accept and delay the unpleasant parts as much as possible
4. **Prompting action:** If the first three steps have been taken carefully, receiver of the message will be easily persuaded to adopt a different course of action or hold a different view

Short and Long Answer Question

Subject- Business Communication and Information System- Unit IV

1. Explain the Importance of Business intelligence with suitable examples. (CO6)

Business intelligence (BI) refers to the set of technologies and procedures employed to collect, store, analyze and present the data generated by a company's activities. BI includes the employment of descriptive analytics, data mining, process analysis and [performance benchmarking](#).

Business Intelligence (BI) is the collection, organization, and presentation of data that is accumulated by a business. This data could be customer information, sales data, statistics, product movement, profitability, and much more. The idea behind gathering all of this data into one place is to mesh it together in a desired fashion in order to display progress and help aid in decision making for the future.

For example, if a company that sells hats checked their BI, they could easily discover that their cowboy hat sales peak in August, while they are barely selling any during December. Knowing this, they could more efficiently decide when the best times would be to put their cowboy hats on sale, and when to stock more.

- **Databases**

In every business there are multiple departments, such as HR, marketing, sales, customer service, and so on. Some will even have multiple departments for specific sales, like sporting goods, toys, and clothing. The data that each department gathers goes into its own database.

Each database's information may be only truly relevant to its own department, but it is important for all of the data gathered to be collected and centralized in order to make comparisons and discover corresponding trends. So, if the same company selling hats sees that cowboy hats are big in August, then might make a comparison to see if cowboy boots trend the same way.

- **Gathering in the Data Warehouse**

In order to make the data give the desired information, all of it needs to come together in the same place. Every database shares its information into a centralized location called a data warehouse. This is where different information from different departments get linked together to create the desired report called a query. Defining a specific query is when certain pieces of data are matched together to get the result you are looking for. The data warehouse is where the information from sales, marketing, and customer service would come together to answer the query of when the right time to start the sale on cowboy hats would be.

- **The Dashboard's Job**

Once all of the data has been configured for the desired statistics, it needs to be displayed in a form that is both effective and decipherable. Any data acquired can be displayed on a spreadsheet, but the act of getting the desired information out of it might prove to be difficult if not impossible. BI dashboards are in place to take the data, break it down into the preferred statistics, and display them in a legible and relevant way that the user can easily access. This takes the legwork out of manipulating the data by hand, and creating a new document every time.

There are two different types of display boards that appear to be similar, but would actually be used for different uses.

- **Business Intelligence Dashboard-** This displays the information that is currently in the works of the company. Everything displayed here will be an up to date report of what the company is doing. This is the board that shows the company what departments are succeeding in, and which ones need a little more attention.
- **Performance Scoreboard-** Here, the information displayed is in comparison to the company's overall goals. The company's current numbers will be aligned with their corresponding goal values, which allows them to dictate if they are on track with their projections.

[This infographic explains the benefits that Business Intelligence has on companies,](#) and helps keep them competitive in their markets. By using BI, a business can use its own data to forecast future revenue and progress. We all know that business has been done without the use of such techniques in the past, but with the high competition and countless data entries that come with running and maintaining a business nowadays, BI is the easiest and most effective way to take a business to the next level and keep it there.

2. Explain Characteristics and components of DSS. (CO6)

Decision Support System are interactive information systems that depend on a (having different things working together as one unit) set of user-friendly hardware and software tools to produce and present information that is targeted to support the management in the decision-making process. The decision support systems help management decision-making by combining data, fancy (or smart) (related to careful studying or deep thinking) models and user-friendly software into a single powerful system that can support semi-structured or (without rules, schedules, etc.) decision-making. The decision support system is under user control, from early beginning to final putting into use and daily use.

Decision support system helps to close the information gap to enable managers to improve quality of their decisions. While MIS is carefully thought believed useful for structured decisions, DSS is carefully thought about to be more useful for decisions at the strategical/strategic levels, where decision-makers are often angrily stood up to with complex decisions which are beyond their human abilities to (creation/combination)e properly the factors involved. DSS refers to a class of systems, which support in the process of decision-making and does not always give a decision itself. These systems can be used to validate decision by performing sensitivity analysis on different guidelines of the problem. read more about [information technology](#) and [human resources meaning](#)

While developing decision Support System, the focus must be on identifying a problem and a set of capabilities that users consider useful in arriving at decisions about that problem. While developing DSS, therefore, care must be taken to make sure that the Decision Support Systems possess the following desirable characteristics:

- Should aid the decision-maker in decision-making.
- Should be able to address semi/un-structured decision-making situations.
- Should support decision-makers particularly at tactical/strategic levels.
- Should be able to create general-purpose models, simulation capabilities and other analytical tools available to decision-maker.
- Should enable users to use DSS without assistance from MIS/technical professionals.
- Should be readily adapted to meet information requirement for any decision environment.

- Should provide mechanism to enable rapid response to a decision-maker's request for information. 8. Should have the capability to interface with corporate database.
- Should be flexible to accommodate variety of management styles.
- Should facilitate communication between/among various levels of decision-making.
- Should have in-built flexibility and ability to evolve as user-sophistication grows.
- Using of interactive methods are better advised.

Components of Decision Support System

1. Dialogue management: It has three subsystems. The user interface subsystem manages the physical user interface. It controls the appearance of the screen, accepts input from the user and displays the results. It also checks the user commands for correct syntax. The dialogue control subsystem maintains a processing context with the user. The request translator is to translate the user command into actions for the model management or data management components into a format understandable by the user. Since flexibility and ease of use are important in DSS, GUIs are becoming the standard for DSS applications. Database is normally through SQL.

2. Model management: The command processor receives the commands from the dialogue management components and delivers those commands from the dialogue management components to either the model base management system or the mode execution system.

3. Database management: It stores and manipulates the database as directed by either the model management component or the dialogue management component. Secondly, it maintains an interface with data sources that are external to the DSS, viz., TPS database, inter-enterprise systems, external data utilities and other DSS applications.

Types of Decision Support system

1. Status inquiry systems: The number of decisions in the operational management and some at the middle management are such that they are based on one or two aspect of decision-making situations. It does not call for any elaborate computation, analysis, choice. If the status is known the decision is automatic.

2. Data analysis system: Decision systems are based on comparative analysis and make use of formula or an algorithm. These processes are not structured. The use of simple data

processing tools and business rules are required to develop this system. Examples include personnel inventory system, cash flow analysis, etc.

3. Information analysis system: Data is analysed and the information reports are generated. Reports can have exceptions. These reports are used for assessment of situation. Examples include sales analysis, accounts receivable, etc.

4. Accounting system: These systems are not necessarily required for decision-making, but they are desirable to keep track of the major aspects of the business or a function. These system account items such as cash, inventory, personnel and relate it to a norm or norms developed by the management for control and decision.

5. Model-based system: These systems are simulation models or optimization models for decision-making. These decisions, generally are one time and infrequent and provide general guidelines for operation or management. Examples include product mix, job scheduling rules, etc.

Short Answer Questions

3. What is OLAP? (CO6)

OLAP is a category of software that allows users to analyze information from multiple database systems at the same time. It is a technology that enables analysts to extract and view business data from different points of view. OLAP stands for Online Analytical Processing.

Analysts frequently need to group, aggregate and join data. These operations in relational databases are resource intensive. With OLAP data can be pre-calculated and pre-aggregated, making analysis faster.

OLAP databases are divided into one or more cubes. The cubes are designed in such a way that creating and viewing reports become easy.

4. Explain the concept of Data Mining. (CO6)

Data mining is the process of discovering actionable information from large sets of data. Data mining uses mathematical analysis to derive patterns and trends that exist in data. Typically, these patterns cannot be discovered by traditional data exploration because the relationships are too complex or because there is too much data.

These patterns and trends can be collected and defined as a *data mining model*. Mining models can be applied to specific scenarios, such as:

- **Forecasting:** Estimating sales, predicting server loads or server downtime

- **Risk and probability:** Choosing the best customers for targeted mailings, determining the probable break-even point for risk scenarios, assigning probabilities to diagnoses or other outcomes
- **Recommendations:** Determining which products are likely to be sold together, generating recommendations
- **Finding sequences:** Analyzing customer selections in a shopping cart, predicting next likely events
- **Grouping:** Separating customers or events into cluster of related items, analyzing and predicting affinities

Building a mining model is part of a larger process that includes everything from asking questions about the data and creating a model to answer those questions, to deploying the model into a working environment. This process can be defined by using the following six basic steps:

- a. [Defining the Problem](#)
- b. [Preparing Data](#)
- c. [Exploring Data](#)
- d. [Building Models](#)
- e. [Exploring and Validating Models](#)
- f. [Deploying and Updating Models](#)

5. Explain the Concept of Data warehousing. (CO6)

Data warehousing is the process of constructing and using a data warehouse. A data warehouse is constructed by integrating data from multiple heterogeneous sources that support analytical reporting, structured and/or ad hoc queries, and decision making. Data warehousing involves data cleaning, data integration, and data consolidations.

Using Data Warehouse Information

There are decision support technologies that help utilize the data available in a data warehouse. These technologies help executives to use the warehouse quickly and effectively. They can gather data, analyze it, and take decisions based on the information present in the warehouse. The information gathered in a warehouse can be used in any of the following domains –

- **Tuning Production Strategies** – The product strategies can be well tuned by repositioning the products and managing the product portfolios by comparing the sales quarterly or yearly.
- **Customer Analysis** – Customer analysis is done by analyzing the customer's buying preferences, buying time, budget cycles, etc.
- **Operations Analysis** – Data warehousing also helps in customer relationship management, and making environmental corrections. The information also allows us to analyze business operations.

6. Define Business intelligence. (CO6)

Business Intelligence (BI) is a computer based technique to identified, extracting (*1) and analyzing business data. For example senior management of an industry can inspect sales revenue by products and/or departments, or by associated costs and incomes. BI technologies provide historical, current and predictive views of business operations. So, management can take some strategic or operation decision easily.

7. Define Business Analytics. (CO6)

Business analytics (BA) is the practice of [iterative](#), methodical exploration of an organization's data, with an emphasis on statistical analysis. Business analytics is used by companies committed to data-driven decision-making.

BA is used to gain insights that inform business decisions and can be used to automate and optimize business processes. Data-driven companies treat their data as a corporate asset and leverage it for a competitive advantage. Successful business analytics depends on [data quality](#), skilled analysts who understand the technologies and the business, and an organizational commitment to data-driven decision-making.

8. Write Advantages of Knowledge Management. (CO6)

Some of the common benefits of knowledge management include:

- improved organisational agility
- better and faster decision making
- quicker problem-solving
- increased rate of innovation
- supported employee growth and development
- sharing of specialist expertise
- better communication
- improved business processes

9. Write Functions of MIS. (CO5)

MIS is set up by an organization with the prime objective to obtain management information to be used by its managers in decision making. Thus, MIS must perform the following functions in order to meet its objectives.

- **Data Capturing:** MIS captures data from various internal and external sources of an organization. Data capturing may be manual or through computer terminals. End users typically, record data about transactions on some physical medium, such as a paper form, or enter it directly into a computer system.
- **Processing of Data:** The captured data is processed to convert it into the required management information. Processing of data is done by such activities as calculating, comparing, sorting, classifying and summarizing. These activities organize, analyze, and manipulate data using various statistical, mathematical, operations research and other business models.
- **Storage of Information:** MIS stores processed or unprocessed data for future use. If any information is not immediately required, it is saved as an organizational record. In this activity, data and information are retained in an organized manner for later use. Stored data is commonly organized into fields, records, files and databases.
- **Retrieval of Information:** MIS retrieves information from its stores as and when required by various users. As per the requirements of management users, the retrieved information is either disseminated as such or it is processed again to meet the exact MI demands.
- **Dissemination of MI:** Management Information, which is a finished product of MIS, is disseminated to the users in the organization.

10. What are the advantages of E- Business?(CO6)

- a. Increase Market Share**
- b. Low Cost Advertisement**
- c. Low Barriers to entries**
- d. Global reach**
- e. Removes location and availability restrictions**
- f. Reduces time and money spent**
- g. Expedites customer service**
- h. Shows you how to improve**
- i. Keeps your business relevant**

11. What are the advantages of Data mining? (CO6)

Marketing / Retail

Data mining helps marketing companies build models based on historical data to predict who will respond to the new marketing campaigns such as direct mail, online marketing campaign...etc. Through the results, marketers will have an appropriate approach to selling profitable products to targeted customers.

Data mining brings a lot of benefits to retail companies in the same way as marketing. Through market basket analysis, a store can have an appropriate production arrangement in a way that customers can buy frequent buying products together with pleasant. In addition, it also helps the retail companies offer certain discounts for particular products that will attract more customers.

Finance / Banking

Data mining gives financial institutions information about loan information and credit reporting. By building a model from historical customer's data, the bank, and financial institution can determine good and bad loans. In addition, data mining helps banks detect fraudulent credit card transactions to protect credit card's owner.

Manufacturing

By applying data mining in operational engineering data, manufacturers can detect faulty equipment and determine optimal control parameters. For example, semiconductor manufacturers have a challenge that even the conditions of manufacturing environments at different wafer production plants are similar, the quality of wafer are a lot the same and some for unknown reasons even has defects. Data mining has been applying to determine the ranges of control parameters that lead to the production of the golden wafer. Then those optimal control parameters are used to manufacture wafers with desired quality.

Governments

Data mining helps government agency by digging and analyzing records of the financial transaction to build patterns that can detect money laundering or criminal activities.

12. Write the process of Knowledge Management. (CO6)

The Knowledge Management Process

The process of knowledge management is universal for any enterprise. Sometimes, the resources used, such as tools and techniques, can be unique to the organizational environment.

The Knowledge Management process has six basic steps assisted by different tools and techniques. When these steps are followed sequentially, the data transforms into knowledge.

Step 1: Collecting

This is the most important step of the knowledge management process. If you collect the incorrect or irrelevant data, the resulting knowledge may not be the most accurate. Therefore, the decisions made based on such knowledge could be inaccurate as well.

The data collection procedure defines certain data collection points. Some points may be the summary of certain routine reports. As an example, monthly sales report and daily attendance reports may be two good resources for data collection.

Step 2: Organizing

The data collected need to be organized. This organization usually happens based on certain rules. These rules are defined by the organization.

As an example, all sales-related data can be filed together and all staff-related data could be stored in the same database table. This type of organization helps to maintain data accurately within a database.

Step 3: Summarizing

In this step, the information is summarized in order to take the essence of it. The lengthy information is presented in tabular or graphical format and stored appropriately.

For summarizing, there are many tools that can be used such as software packages, charts (Pareto, cause-and-effect), and different techniques.

Step 4: Analyzing

At this stage, the information is analyzed in order to find the relationships, redundancies and patterns.

An expert or an expert team should be assigned for this purpose as the experience of the person/team plays a vital role. Usually, there are reports created after analysis of information.

Step 5: Synthesizing

At this point, information becomes knowledge. The results of analysis (usually the reports) are combined together to derive various concepts and artefacts.

A pattern or behavior of one entity can be applied to explain another, and collectively, the organization will have a set of knowledge elements that can be used across the organization.