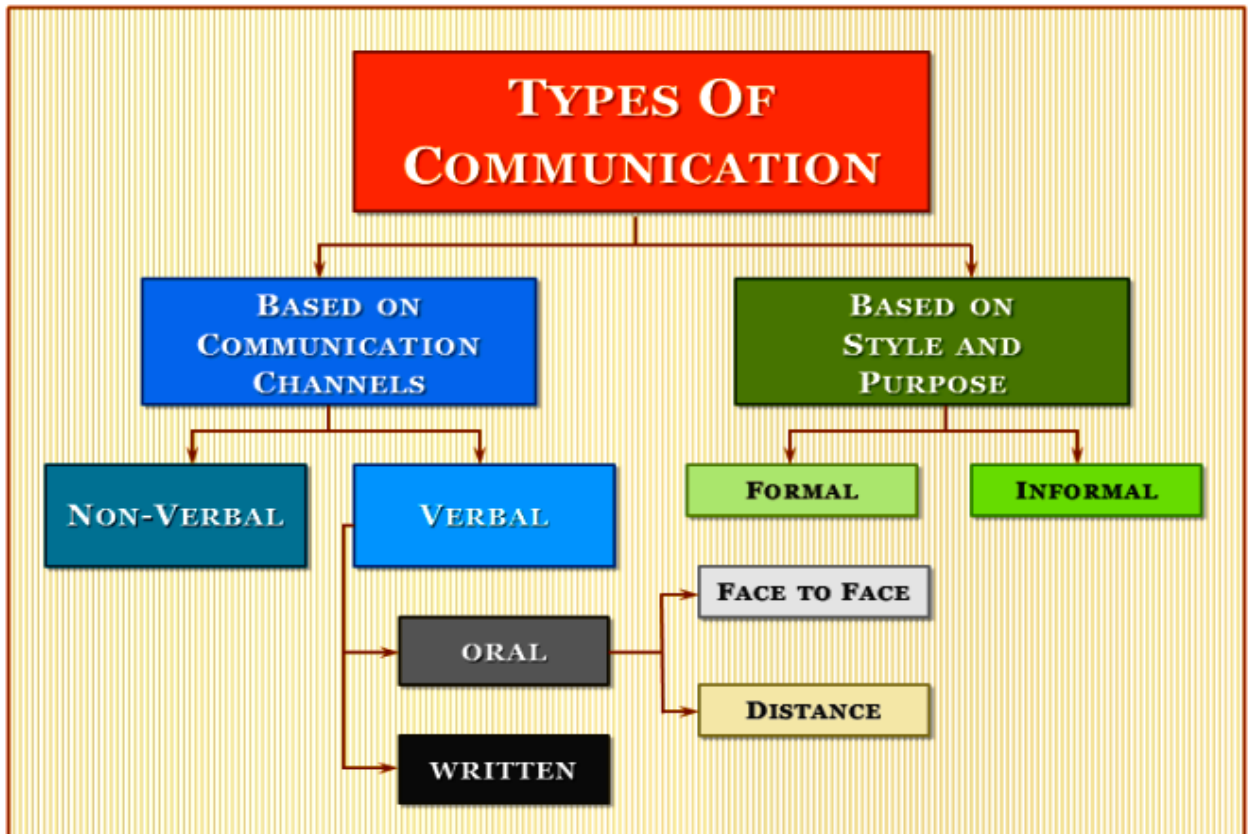




1. What is Communication?

The imparting or exchanging of information by speaking, writing or using some other medium and means of sending or receiving information.

*The following figure represents types of communication (Fig 1)



Learning objectives of Effective communication

1. Development of Interpersonal Skills
2. To express effectively & with maximum efficiency

2. Communication Barriers

There are many reasons why interpersonal communications may fail. In many communications, the message may not be received exactly the way the sender intended and hence it is important that the communicator seeks feedback to check that their message is clearly understood..

Some common **barriers to effective communication** include:

- ❑ **The use of jargon**, could be over-complicated or used unfamiliar terms.
- ❑ **Emotional barriers and taboos.**
- ❑ **Differences in perception and viewpoint.**
- ❑ **Physical disabilities:** such as hearing problems or speech difficulties.
- ❑ **Physical barriers** to non-verbal communication. Not able to move any part
- ❑ **Language differences** and the difficulty in understanding unfamiliar accents.
- ❑ **Expectations and prejudices** which may lead to false assumptions or stereotyping. People often hear what they expect to hear rather than what is actually said and jump to incorrect conclusions.
- ❑ **Cultural differences.** The norms of social interaction vary greatly in different cultures, as do the way in which emotions are expressed. For example, the concept of **personal space** varies between cultures and between different social settings.

2.1 Overcoming Barriers

Most of the above mentioned barriers can be overcome by the skilled communicator. Obviously, bridging gaps in geography and communicating through disabilities are a topic for a different discussion. Below, we will look at some tools that can be used to bridge barriers in everyday communications.

2.2 Active Listening

Active listening is a skill that can be acquired and developed with practice. 'Active listening' means, actively listening. That is fully concentrating on what is being said rather than just 'hearing' the message of the speaker. Active listening involves listening with all senses.

2.3 Use Simple Language

It's important to remember the audience that you're speaking to, and use language that can be easily understood.

2.4 Give Constructive Feedback

Feedback is part of the communication cycle.. While the feedback that we give the speaker/sender may occasionally be negative, it is important that it be constructive in nature.

2.5 Summary

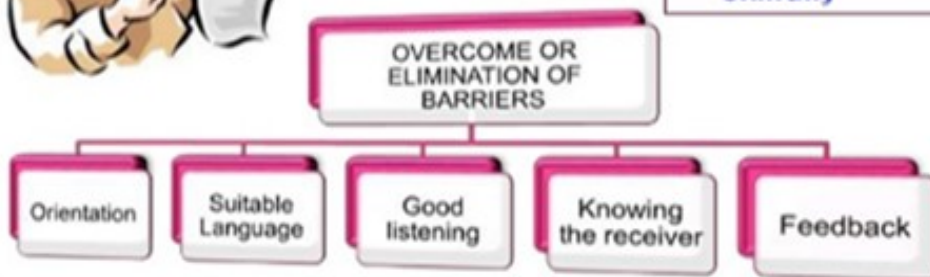
As living beings, we need to express and understand the expressions of others. Like it or not, human society thrives on communication. Civilizations have risen and fallen based upon how good they were at maintaining sound relations with the rest of the world.

HOW TO OVERCOME COMMUNICATION BARRIERS..?

A thorough understanding of communication barrier is the basic requirement to find out measures to remove or eliminate or overcome them.



- Taking the receiver more seriously
- Thinking more clearly about the message
- Delivering messages skilfully



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3. Feedback

Feedback is a consequence of performance. Feedback plays an important part in communication because it tells both the source and the receiver, how their message are being interpreted. .



3.1 Descriptive feedback is specific information, in the form of written comments or verbal conversations, that help the learner understand what she or he needs to do in order to improve. Descriptive feedback is the most powerful tool for improving student learning.

<https://www.youtube.com/watch?v=PoFm5a6lWqM>

The above link will help the students know more about Descriptive feedback.

Name: _____

Date: _____

Weekly Literacy Centre Self-Reflection

Describe one literacy centre activity that you went to this week.

What did you do well?

What is your next step?

3.2 Specific Feedback provides detailed or specific information on what the student did well or not so well.

3.3 General feedback on the other hand is very **non-specific**, such as “good job” or “you did great.”

Types of Feedback(Activity)

Directions: Decide which of the two types of feedback is represented by the statements below. Write a D for Descriptive and S for Specific feedback. If the feedback statement is Descriptive, discuss how the language might be revised to enhance its effectiveness.

S.no	Statement	Descriptive or Specific
1.	Try harder next time.	
2.	You maintained eye contact throughout your entire Speech; now you might work on your enunciation.	
3.	You solved the equation; however, you need to include a written or visual explanation.	
4.	You made some simple mistakes on your timeline. Make sure that your time intervals are all the same length.	
5.	Your writing has definitely improved.	
6.	You made some errors on your graph. Go back and check the names of your title, x-axis, and y-axis.	
7.	89%! B+! Good work! I am proud of you. You should be thrilled with your progress.	
8.	You are so close to proficiency. With a little more work, you should be at a level 3.	
9.	Your topic sentence is clear; your next step might be to add concrete details to support it.	
10.	Messy!	

4. 7 C's of Communication

7 C's OF COMMUNICATION

- For Transmitting effective written & oral messages, certain principles must be followed.
- These principles provide guidelines for choice of content & style of presentation adapted to the purpose the receiver of the message.
- They are also called as 7 Cs of communication. They are as follows:
 - Completeness
 - Conciseness
 - Clarity
 - Correctness
 - Concreteness
 - Consideration
 - Courtesy

There are 7'cs of communication which are applicable to both written as well as oral communication. These are as follows

4.1. Completeness - The communication must be com. 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.
- 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.

4.2 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.

4.3. Consideration - Consideration implies "stepping into the shoes of others". 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.

4.4. 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.

4.5. 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.

4.6. 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:

4.7. 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 us an effective communicator.

1. Constructing sentences that convey all facts required by the receiver - Activity

For an example of poor communicating skills, look at this email below.

Bad example:

Dear Arjun

I would like to talk to you about the new client's project which the engineering team had discussed yesterday. I might need the help of Raghav from your team.

Regards

Mohit

There are innumerable things that are wrong in this email. Arjun might not even know who the new client is or what the project is about. He probably was not part of the meeting with the engineering team. Furthermore, there might be more than one Raghav's in Arjun's big team. Mohit also mentions that he wants to talk. However, he hasn't mentioned what time he would like to talk, neither has he asked Arjun if he would be free at any of the time slots available.

Expressing in a manner that shows respect to the receiver of the message

Polite requests are useful for setting people at ease and still getting the assistance you need.

ACTIVITY

Career Help

Students will work together to brainstorm a list of as many occupations as they can. Once they have completed their list, have the two students write a dialogue which includes as many requests as possible. Each dialogue should feature one of the careers they listed in their brainstorming session and should use a variety of methods for making polite requests.

Exercise

Booking an appointment with Doctor

I would like to book	I cant make it	That works for me
Can I have	Would you like me to	Do you mind

Use the above phrases to fill in the blanks of the conversation (Telephonic)

A: Max hospital Medical sevicees,Annie Speaking. How may I help you?

B: Good afternoon. _____ Appointment with Dr Rastogi for next week? Preferably on Thursday morning.

A; Let me check the schedule next week. Well, I am sorry. I am afraid he won't in the hospital on Thursday morning but he has an opening in afternoon at 3.00 pm. _____ book an appointment at 3.00 pm?

B:No , _____ . I work full time. So it has to be either in the morning or evening. What about Friday at 8.30 am?

A: He will be busy at that time. But he has an opening at 9.15 am.

B: Great ! _____

5. Communication Games

Communication games are a fun way for the students to learn helpful methods through team interaction.

Games

5.1 Card Pieces

Card Pieces helps build negotiation skills and empathy, which are key components of effective communication.

What students need?

- Nine or more students
- Playing cards cut into triangles (to make your pieces, cut the cards diagonally and then diagonally again)
- Envelopes

Separate groups of three or four people into at least three teams. Each team will receive an envelope of mixed cut up playing cards. The teams then have 8 to 10 minutes to barter and trade pieces in order to complete their cards. The team with the most completed cards wins. This game works well because it helps student hone their negotiation skills to achieve the most successful outcomes.

5.2..Blindfold Game

Blindfold Game builds trust, listening and instructional skills.

- Four or more students
- Blindfolds
- Various “obstacles” such as boxes, chairs or books

How to play:

Construct an obstacle course with your various items. Divide your players into teams of two. Tie a blindfold on one member and have them stand at the “start” of the obstacle course. The second member must then guide the blindfolded member through the course by calling out directions. This game encourages cooperation, successful teamwork and trust, which is crucial for effective communication. When there is a lack of trust, it builds suspicion and prevents buy-in.

6. Basic Writing Skills

6.1 Sentences

A sentence is a group of words giving a complete thought. A sentence must contain a subject and a verb.

Simple, compound, and complex sentences

6.1.1 Simple sentence

A simple sentence is one independent clause that has a subject and a verb and expresses a complete thought.

- Must have a subject and a verb.
- Must express a complete thought.
- Must only have one clause.

Examples

- I am out of paper for the printer.
- Will you help me with the math homework?

6.1.2 Compound Sentence

A compound sentence allows us to share a lot of information by combining two or more related thoughts into one sentence.

Example

I drove to the office, and then I walked to the cabin.

6.1.3 Complex sentence

A complex sentence is a sentence that combines one independent clause with at least one dependent clause.

Example

- Although Rohan had some doubts, he found the courses very useful.
- Computers have come a long way since they first came on the market.

Activity- CHIT- CHAT

This activity simulates 'chatting' – a popular (online) communication can be used in the language-learning classroom for students who still find it too difficult to write without first having a little 'thinking' time, and also as a means of moving students away from being overly concerned with accuracy, and focussing more on successful communication.

The students will need one piece of paper for writing on simple sentences. To encourage students to write brief messages each time, this could be in the form of a 'chatting page'. (The activity will be done in pairs)

CHAT SHEET

Student A	
Student B	
Student A	
Student B	

6.2 Phrases

Phrases are a group of words that work together to communicate an element of speech.

The following figure represents the different types of phrases

Phrase:
a group of related words that is used as a single part of speech and does not contain a verb and its subject

Five Types of Phrases

Prepositional Phrase
Appositive Phrase
Participial Phrase
Gerund Phrase
Infinitive Phrase

Activity

The following activity may help the students to strengthen the concept further:

Description

Write phrases on both sides of the card or the paper. Show them only one side and ask them to guess the back side.

*To further build up the concept, few worksheets will be given to check how much they have learnt . One of the example is listed below

Identify the phrase type:	
1..Houses are [unbelievably expensive] just now.	Adjective Phrase Adverb Phrase Noun Phrase Prepositional Phrase Verb Phrase
2. We [met Paul] last week	Adjective Phrase Adverb Phrase Noun Phrase Prepositional Phrase Verb Phrase
3. 3. [A car that won't go] is not particularly useful	Adjective Phrase Adverb Phrase Noun Phrase Prepositional Phrase Verb Phrase
4.. I enjoy eating [in Indian restaurants]	Adjective Phrase Adverb Phrase Noun Phrase Prepositional Phrase Verb Phrase
5. . Don't you have to leave [early]?	Adjective Phrase Adverb Phrase Noun Phrase Prepositional Phrase Verb Phrase
6. Tell [him] not to worry.	Adjective Phrase Adverb Phrase Noun Phrase Prepositional Phrase Verb Phrase

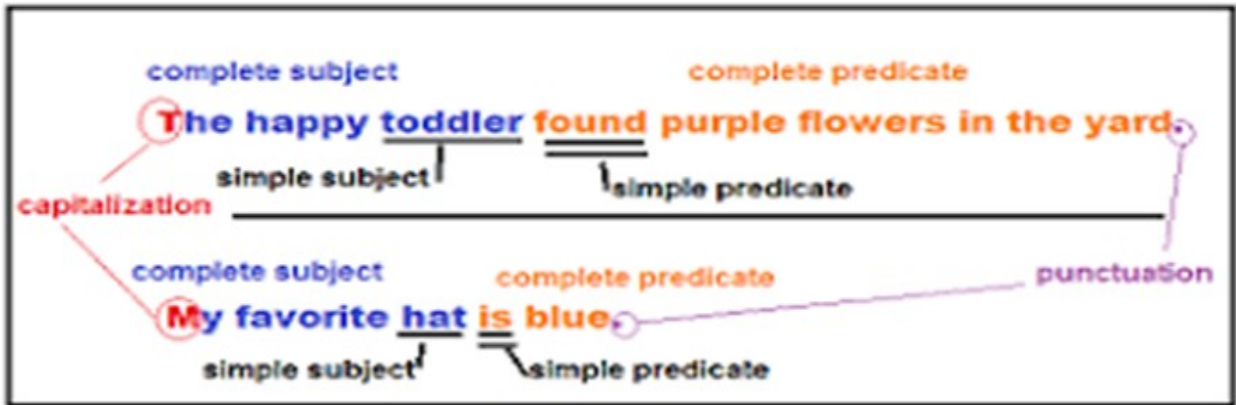
6.3 Parts of a Sentence

Every sentence can be broken into two parts

a) Complete Subject

b) Complete Predicate

- The complete subject consists of simple subject (The noun or the pronoun is the subject is about) and its modifiers
- The complete predicate is made of up of verb and its modifiers.



Complete Sentences

Yesterday after lunch the **students** were complaining about the short recess.

Here we will explore the theme of social media. Students will create an imaginary online 'wall' where they can interact with each other.

Activity

Making a Social Networking Profile

Name	
Age	
Gender	
Location	
Hometown	
Interested in(Hobbies)	
Strengths	
Why I am here	
Personality- Introvert/Extrovert	

This activity will help the students to make contacts, communicate and express themselves better .

6.4 Parts of speech

A category to which a word is assigned in accordance with its syntactic functions. In English the main parts of speech are noun, pronoun, adjective, determiner, verb, adverb, preposition, conjunction, and interjection.

The following figure represents **eight** parts of speech

The 8 Parts of Speech

Verb	An action: like run, jump, or read; or a state of being: like is or was.
Noun	A thing, or idea: rock, dog, John, democracy, birthday, gravity
Adverb	Tells how an action occurred: quickly, slowly, carefully
Adjective	Tells about a noun: big, red, Fred's
Pronoun	Used to replace a noun: it, I, them
Preposition	Describes relationship: on, over, for, beside
Conjunction	Joins words or phrases: and, or, because
Interjection	A word of surprise: Wow! Oh my!

The following link will help to reinforce the concept

(<https://www.youtube.com/watch?v=v9fCKTwyTJA>)



Activity 4

Class projects can be an excellent way to focus the whole class together towards a common goal. Taking some 'time out' from regular classes and doing something completely different can really help group dynamics and you may also give quieter or less able students a chance to shine. Making a class magazine is a project that will appeal to most groups as it allows individuals to work on what interests them.

Planning

*Bring in some magazines. Let the students have a look through them. The teacher will do a class survey on magazines at this stage or simply converse with the class about the type of magazines they like.

On the board brainstorm the different sections that magazines have. Try to include as much variety as possible so there's something for everyone. (Horoscopes, sports pages, film reviews, cinema news, fashion, photo stories, comic strips, puzzles, technology pages, music, interviews with famous people, recipes, jokes, problem pages etc. etc.) Making a class magazine should be an enjoyable experience for the students. This will improve their writing skills and simultaneously help them to express and know each other better.

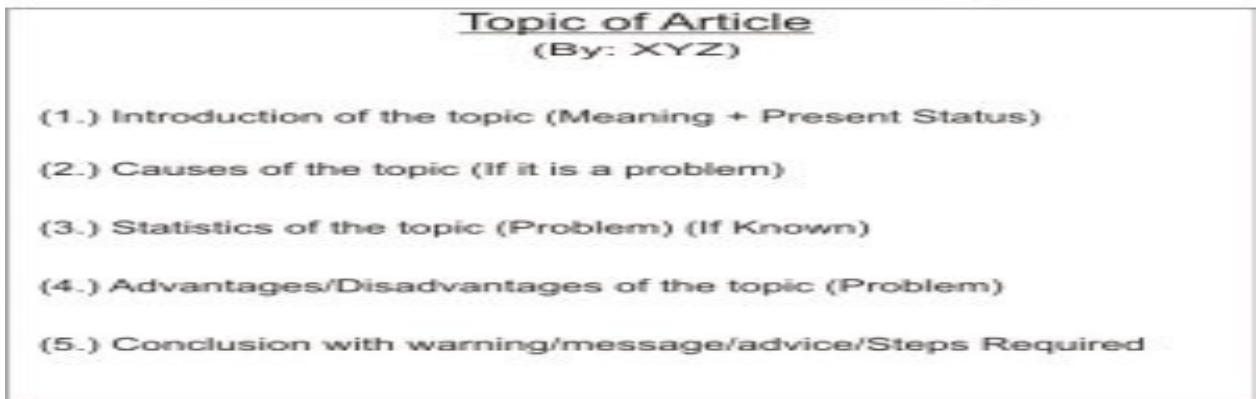
7. Article Writing

Article writing is the process of creating a non-fiction text about current or recent news, items of general interest or specific topics.

The following figure represents the format of Article writing

*

Format of Article Writing



The following link will help to build up the concept

 <https://youtu.be/q2197KT1iNE?list=RDQMaJwsUDCsYv4>

Activity 5

Doing surveys can be a useful way of getting your students to interact, produce question forms and collect and analyse real information.

This survey has been designed for younger learners and is based on the theme of school subjects.

Preparation

One class is going to survey a different class that they don't know. Examples of few questions which can be asked are listed below

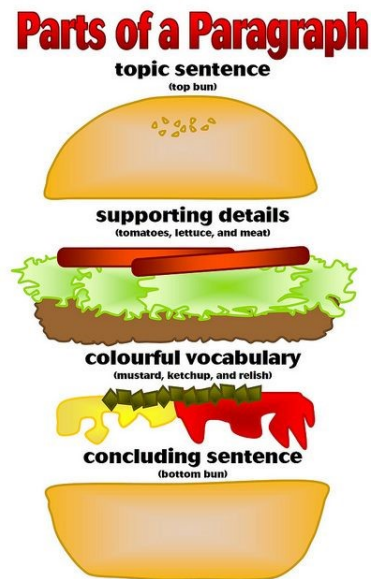
- 1) What's your favourite subject?
- 2) What's your worst subject?
- 3) What's the most important school subject?

After a brief discussion, students will write an article highlighting the problems students are facing in different subjects and remedial measures on the same. This activity gives them the chance to practise target language in context and it also prepares them for the survey with students they may not know.

7.1 Construction of the Paragraph

What is a paragraph?

A paragraph is a series of sentences that are organized and coherent, and are all related to a single topic.



Activity – A perfect story

This activity leads students into writing a short story using the past simple, present perfect simple and continuous, but in a more creative way. This activity aims to help students to recognise their own problems with paragraph construction and to identify errors, which improves their own re-drafting skills.

1. The students they are going to write a short story.
2. The students will read the following questions and decide, with a partner, what the missing words are, but not answer the questions. What is his / her name?
 - a) What is _____ about them? (e.g. strange / unusual / nice...)
 - b) What was their --problem last year?
 - c) What happened?
 - d) Why have they become so _____ ?
 - e) How many _____ have they - _____ ?
 - f) Who have they been _____ recently?
 - g) What have they been _____ for the last five years?

This activity aims to help students to recognise their own problems with paragraph(story) construction and to identify errors, which improves their own re-drafting skills

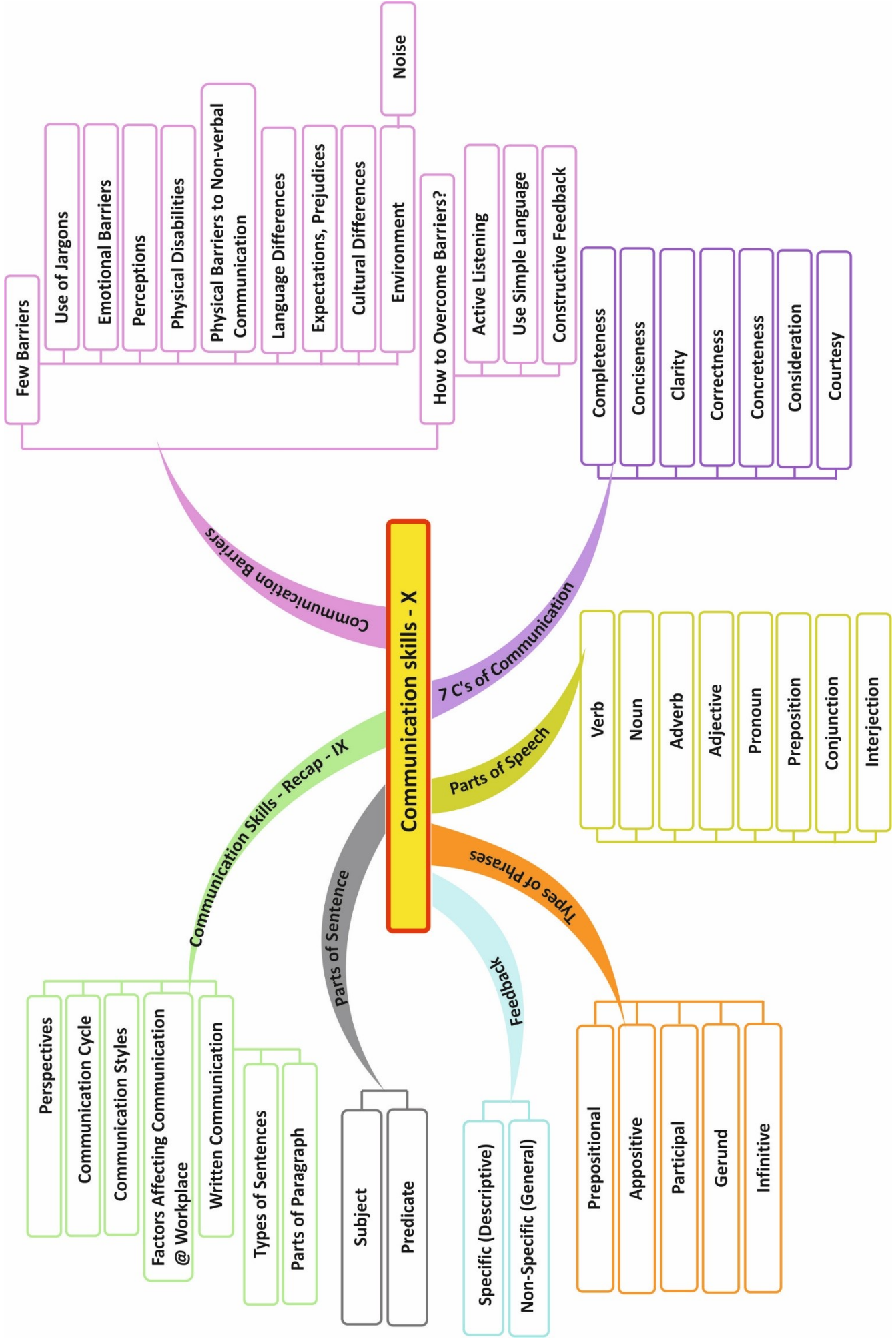
Summary

A classroom environment relies heavily on the quality of communication taking place within it. As an instructor, taking steps towards improving the communication skills of your students will contribute positively towards your classroom climate. Students with effective communication skills will be more likely to contribute to class discussions, will be more productive members in group projects, and will ultimately gain more from their experience in the class. Learning and practicing writing skills help students to handle professional and social tensions.

References

- : Google
- : You tube
- : British council Library







1. Stress

low productivity in all stages of life. Stress drains one's energy and focus, leading to a loss of concentration and clarity of mind.

Stress can be a positive stress, if taken in right sense and may help in achieving effective outcomes. But, the most common is negative stress that makes a person worrisome, less productive and may lead to various psychosomatic disorders too.

2. Meaning and Importance of Stress Management

Stress Management refers to focusing human efforts for maintaining a healthy body and mind capable of better withstanding stressful situations. Occasional stress is an unavoidable part of one's life. Stress refers to a "physical, mental, or emotional strain or tension". Small amounts of stress have a positive effect and they help us stretch ourselves to a new level. High levels of stress over prolonged periods need to be managed. A Stress well managed can help one view events and situations as challenges and contributes in the growth of individual. Unmanaged stress leads to anxiety and sorrow resulting in ill status of mental and physical health. Stress causal agents can have following origins.

2.1 Mental: Students can be left overwhelmed, if they are unable to handle their assignment submission deadlines and examinations grades. High expectations from self can leave one with chronic anxiety and stress.

2.2 Physical: As children grow up, they may seek more independence, may become critically conscious of their looks and have to cope up with hormonal changes. Issues related to general well-being and health of an individual can lead to low self-esteem and cause stress.

2.3 Social : Discord amongst family members, peer pressure for doing things which children would generally avoid , maintaining balance in relationships amongst friends, status show off may lead to stress at times.

2.4 Financial: Youngsters may have aspirational financial stress. This may be of becoming financially independent.

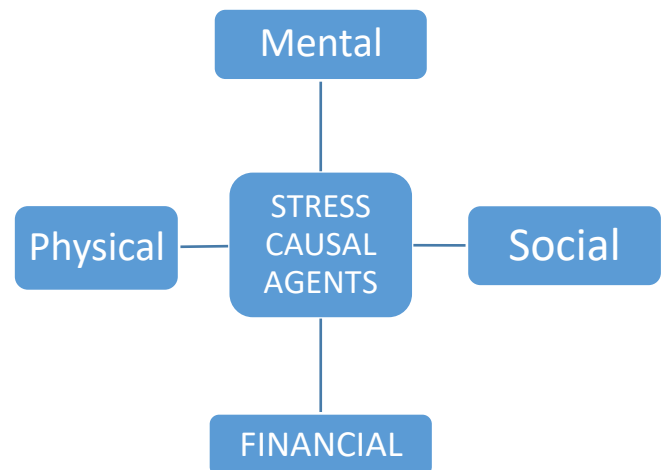


Fig. 1 Stress Causal Agents'

4.3 Meditation

It is a practice where an individual is supposed to focus his/her mind on a particular object, thought or activity to achieve a calm mental state reducing stress.

4.4 Enjoying

Recreational activities like watching movies, attending concerts, playing games, involving in adventure sports, singing, dancing or even sketching can help individuals transcend to a happier mental state and help manage stress.

4.5 Going On Vacations with Family and Friends

Vacations provide an opportunity of taking a holiday from our routine and appreciate different facets of life. Vacations can be taken up to friends and relatives' place as well as to far flung attractive locations. Vacationing helps in de-stressing individuals.

4.6 Taking Nature Walks

Taking nature walks in a pristine environment of a national park or a sanctuary or a trail in country side / village, brings us a calmness by allowing our over stimulated minds a chance to relax and helps us to relax.

5. Self-Reliance - Ability to Work Independently

Everyone who has been sent on this earth has been blessed in their own way. They together make this earth a beautiful place. Some can sing well, others are good at sports, some are intellectuals and some are good comedians. Everyone is special. But it is important that everyone learns the art of working independently. This typically means that one must learn to take ownership of the task assigned and leave no stone unturned in accomplishing the task. The individual who has the ability to work independently need not be supervised for the task completion.



5.1 Importance of The Ability to Work Independently

Following benefits of working independently advocate its importance.

- Ensures greater learning.
- Individuals feel more empowered and responsible.
- It provides flexibility to choose and define working hours and working mechanisms.
- Failure and success of the task assigned are accounted by individuals.
- Individuals become assets to organizations, groups and nations at large.
- It ensures creativity and satisfaction amongst individuals.

5.2 Enhancing Ability to Work Independently

Ability to work independently can be enhanced by being self-aware, self-motivated and self-regulated. Let's now learn what are these:

5.2.1 Self-Awareness

Having conscious knowledge of your own self, capabilities, feelings and one's own character is called as self-awareness. It helps individuals to chart their ways for working independently. They become aware of their strengths and weak points and work accordingly. They try to focus on strengths to become successful in various arenas of life.

5.2.2 Self-Motivation

Self-motivated individuals have an inner urge to do something, achieve their goals without any external pressure/lure for award or appreciation. It is a life skill and must be necessarily developed.

5.2.3 Self-Regulation

Self-regulation guides independent individuals as it helps them consider long term consequences rather than just transient feelings. It leads to a responsible and a value driven behaviour. It teaches self - control and well directed efforts to reach goal. Self – regulation inculcates discipline that helps in consistent efforts to move towards goal.



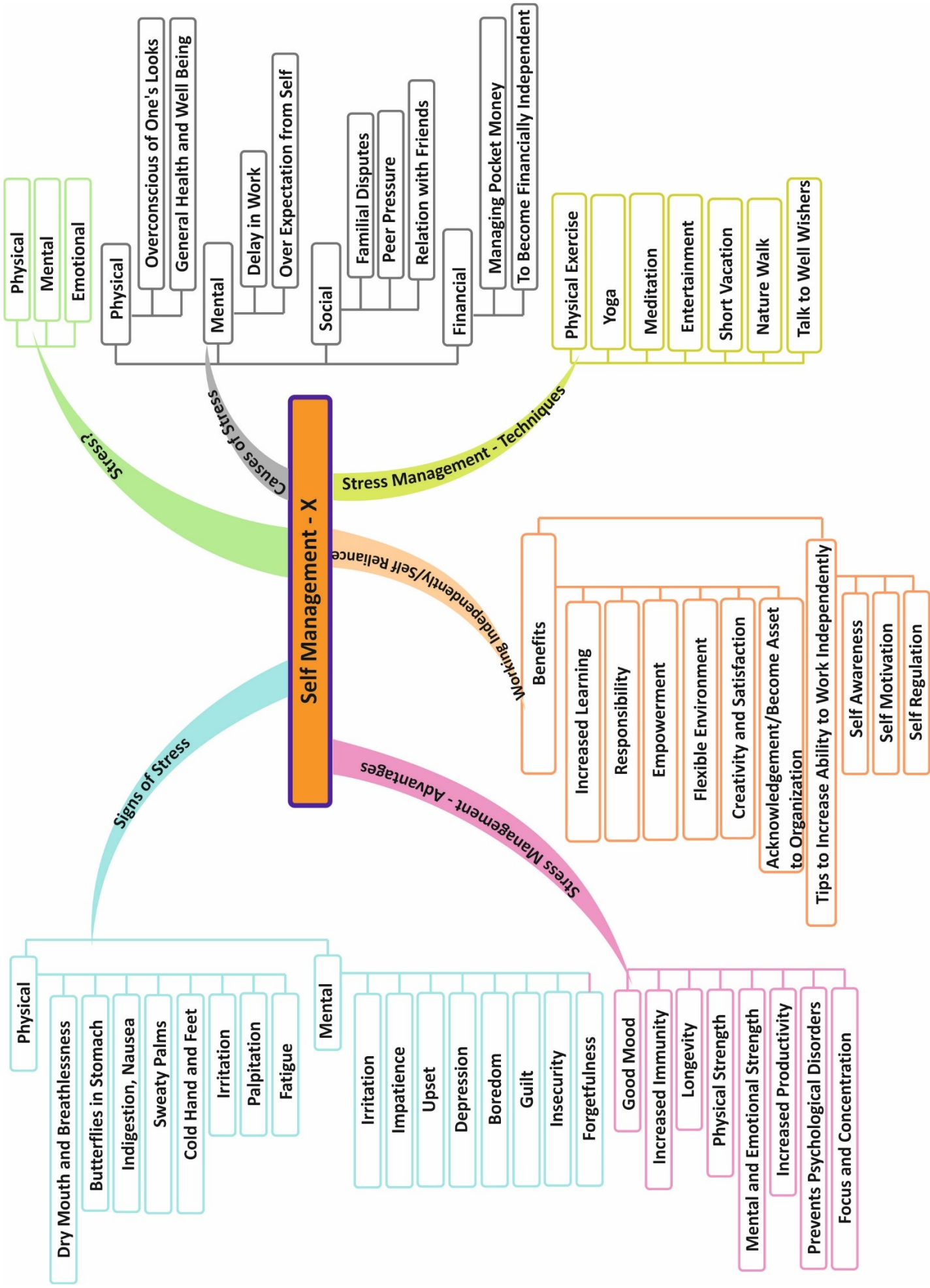
Lets' Do It !!

Session A. Doing a yoga session/ meditation and discussing with students about their experiences.

Session B. Asking students to prepare a write-up/essay on experiences during a holiday trip.

Session C. Asking students to present a talk on "what I Wish to become and what I do about it".

Session D. Planning of an activity in groups for creating a plan for school fest/ any event in school/ class party and demonstrating how individual members contributed, discuss about the qualities required for working independently as well as in a team. Try to list out the qualities shown by all team members during accomplishment of the task.



Self Management - X

Signs of Stress

- Physical
 - Dry Mouth and Breathlessness
 - Butterflies in Stomach
 - Indigestion, Nausea
 - Sweaty Palms
 - Cold Hand and Feet
 - Irritation
 - Palpitation
 - Fatigue
- Mental
 - Irritation
 - Impatience
 - Upset
 - Depression
 - Boredom
 - Guilt
 - Insecurity
 - Forgetfulness

Stress?

- Physical
- Mental
- Emotional

Causes of Stress

- Physical
 - Overconscious of One's Looks
 - General Health and Well Being
- Mental
 - Delay in Work
 - Over Expectation from Self
- Social
 - Familial Disputes
 - Peer Pressure
 - Relation with Friends
- Financial
 - Managing Pocket Money
 - To Become Financially Independent

Stress Management - Techniques

- Physical Exercise
- Yoga
- Meditation
- Entertainment
- Short Vacation
- Nature Walk
- Talk to Well Wishers

Working Independently/Self Reliance

- Benefits
 - Increased Learning
 - Responsibility
 - Empowerment
 - Flexible Environment
 - Creativity and Satisfaction
 - Acknowledgement/Become Asset to Organization
- Tips to Increase Ability to Work Independently
 - Self Awareness
 - Self Motivation
 - Self Regulation

Stress Management - Advantages

- Good Mood
- Increased Immunity
- Longevity
- Physical Strength
- Mental and Emotional Strength
- Increased Productivity
- Prevents Psychological Disorders
- Focus and Concentration



Unit 1. Distinguish between different Operating Systems

1.1 Classes of Operating systems

As we all know that computer is a very useful machine. It is very important to properly start the computer and after finishing the work, it needs to be properly shut down. If the power of the computer is switched off, and the files you were working on were not closed, the files and the operating system may get corrupted.

1.1.1 Operating System

An operating system is a software that serves as an interface between the user and the computer.

Some of the functions of Operating system are:

- It manages all the devices of a computer and keeps track of the status of the device, whether it is busy or not.
- It also checks whether the device is functioning properly or not.
- It also controls software resources of the computer.
- It manages the computer memory and keeps track of which memory space is in use by which program and which space is free.
- It manages the structure of the files and directories on a computer system.
- It keeps track of the amount of disk space used by a specific file.
- It allows you to create, copy, move and delete files.

1.1.2 Types of Operating Systems

We have already discussed about some commonly used operating systems in class IX. These are:

- **DOS** (Disk Operating System)
- **Windows** It is an operating system developed by Microsoft.
- **Linux** It is an operating system designed for personal computers. It is a free and open-source software
- **Mobile operating Systems**
 - ✓ **Android**
 - ✓ **Symbian**
 - ✓ **Windows Phone**
 - ✓ **iOS**

The different types of operating systems are as follows:

Interactive (GUI-based) A graphical user interface is a user-friendly operating system in which commands can be entered by clicking/double-clicking/right-clicking a mouse. Windows operating system is an example of an interactive operating system.

Single-user , single-task operating system This type of operating system allows only one user to do a task on the computer and one thing at a time.

Single-user, multi-task operating system This type of operating system is used on Desktop computers, laptops, where a single user can operate on several programs at the same time. For example, Windows, Apple MacOS are examples of single-user multi task operating system.

Multi-user A multi-user operating system enables multiple users to work on the same computer at different times or simultaneously.

Real Time A real time operating system is used to control machinery, scientific instruments, like robots, in complex animations and computer controlled automated machines. A real-time operating system is a computing environment that reacts to input within a specific period of time. It manages the resources of the computer so that any particular operation is executed in the same amount of time every time it is executed. Windows CE and Lynx OS are examples of real-time operating systems.

Distributed A distributed operating system runs on a set of computers that are interconnected by a network. It combines the different computers in the network into a single integrated computer and storage location. Windows, UNIX, and LINUX are examples of distributed operating systems.

1.2 Menu, icons, and task bar on the Desktop

Let's discuss about Windows 7 operating system.

1.2.1 Windows 7 operating system

Windows 7 is an operating system developed by Microsoft and is used on personal computers.

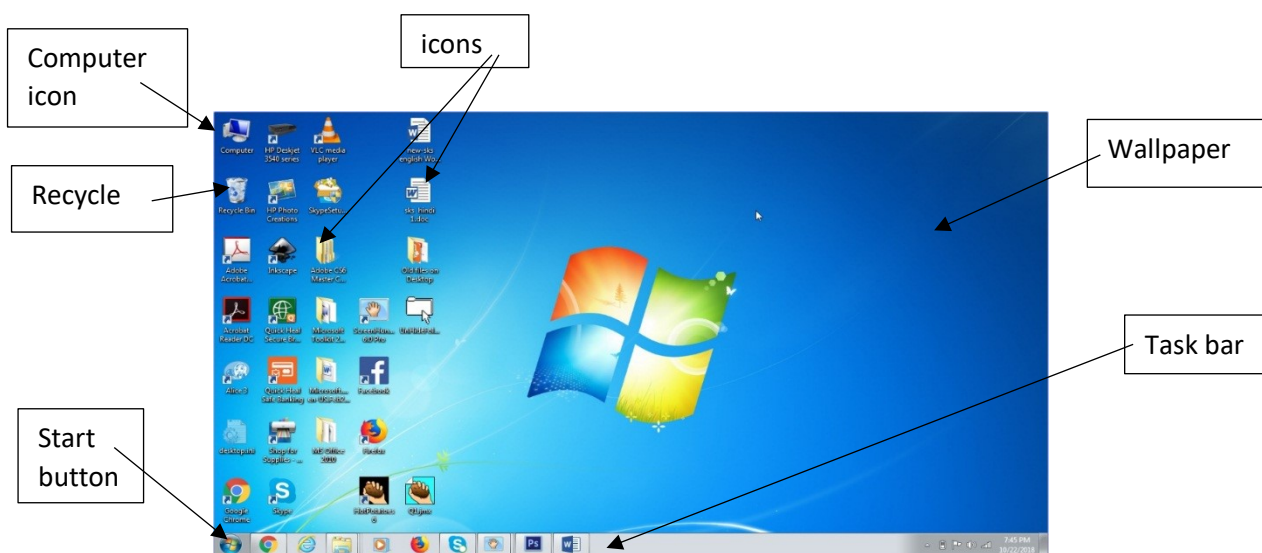
After loading Windows 7, the first screen that appears on the monitor is called **desktop**. From the desktop, you can access different components of Windows 7.

By default, Windows 7 has a picture for the desktop background. This is called **wallpaper**.

Small pictures on the desktop are called **icons**. These icons represent files, folders, applications, etc. At the bottom of the desktop is a long bar called the Taskbar. To the left of the taskbar is the Start button.

1.2.2 Components of Windows 7 Desktop

The components of Windows 7 Desktop are shown in **figure 1**.



We already know that use of following icons. Let us revise the use of some of the commonly used icons.

Computer : It displays all the storage areas of the computer . Through the **Computer icon**, you can access all drives, files, and folders on the computer. When you double-click Computer icon, a window shown below in **Figure 2** appears on the screen.

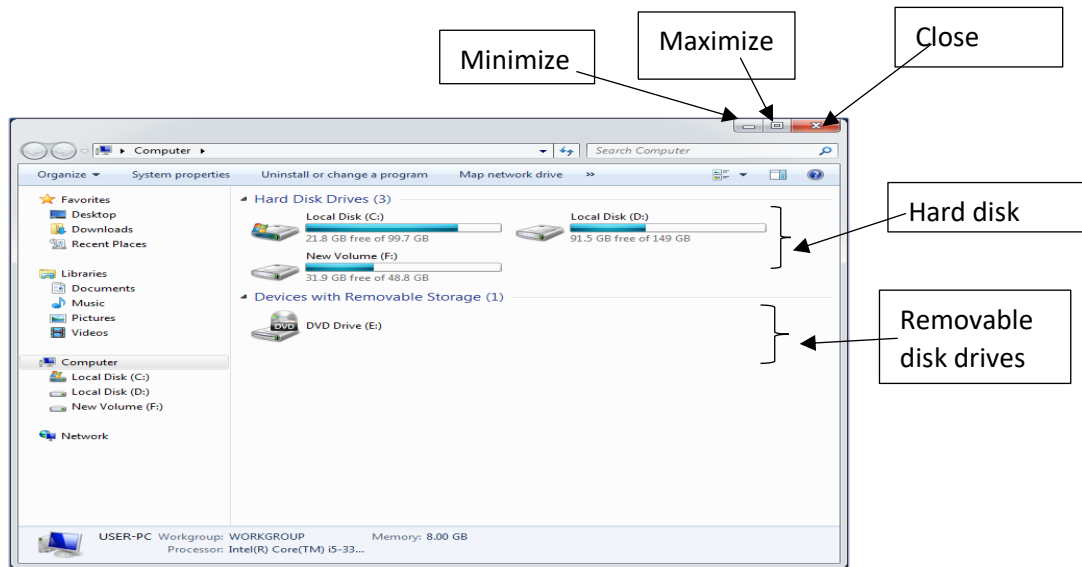


Fig 2 Computer Window

Taskbar

Taskbar is the long horizontal bar present at the bottom of the screen. To left of the Taskbar is the **Start** button and to the right appears **Date/Time**. You can also see icons of active applications and some shortcuts on the Taskbar

The main components of Taskbar are shown in the following **figure 3**:

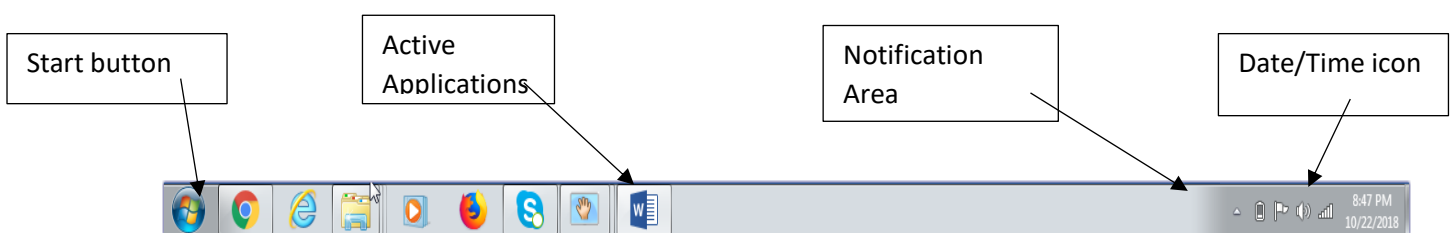


Fig 3 Taskbar

Start button It is located on the left of the taskbar. Clicking the Start button (Figure 4) opens the Start menu and provides access to programs and features, like:

- **Shut Down**:- allows the user to turn off the computer
- **All Programs**: - Provides access to all the installed programs and applications. To start an application, just click it.
- **Search Box**: - This allows the user to search a file or a folder or run executable files.
- **Control panel**: - This allows the user to change various settings.

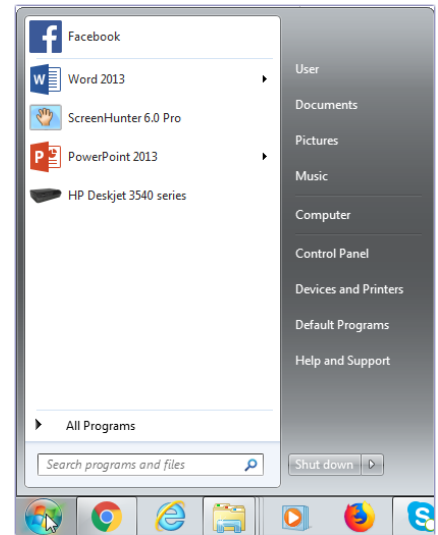


Fig 4 Start button

Recycle Bin

Files and folders deleted by the user are stored in the Recycle Bin. From Recycle Bin, you can retrieve files or folders deleted by mistake.

Lets Try It

1. Start your computer.
2. Name the operating system in your computer. _____
3. Identify three main icons on the desktop and write their names

4. Identify and write names of three files on the desktop.

5. Identify the position of the taskbar on the desktop. Is it at the top, bottom, left or right?

6. Double-click the Computer icon on the desktop.
 - a. The Computer window opens up.
 - b. Click the Minimize button to reduce the window to a button on the taskbar.
 - c. Again click the Computer icon on the taskbar to restore the Computer window.
 - d. From the Computer window, identify and write the hard disk drives in your computer.



Worksheet

1. What is an operating system?

2. Mention any three functions of operating system.

3. Name any three operating systems for computers

4. Name any three mobile operating systems.

5. What is the name given to the screen that appears after Windows operating system is loaded?

6. Small images on the desktop are called _____

7. Name two special icons on the Desktop .

8. Name the icon that provides access to all the drives, files and folders on a computer.

9. Name the button to the left of the taskbar.

10. Picture for the desktop background is called _____.

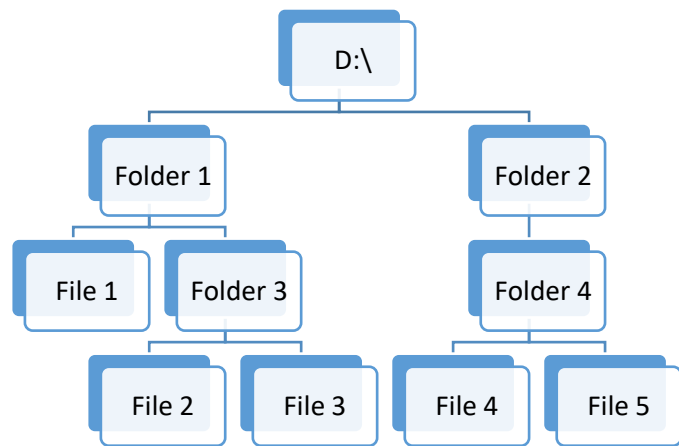
1.3 File concept, file operations, file organization, directory structures and file-system structures

Everything you store on your computer is stored in the form of a file. File system is a way in which you give name to a file, store it and retrieve it. There are specific naming conventions for naming files or folders, like characters that can be used, maximum number of characters, etc.

Files can be separately placed into groups, called folders/directories. Each directory/folder can contain related files and/or sub-folders. A sub-folder may

contain one or more files and sub-folders within. This allows easy accessibility of files.

Files are managed in a hierarchy. This allows you to view the files in the current directory and then move to sub-directories.



1.4 Creating and managing files and folders

1.4.1 Creating a folder

The steps to create a new folder are:

1. Double-click the **Computer icon**. (Fig 5)
2. Select the drive in which you want to create a new folder. Say, Local Disk D:.
3. Window will open up showing files and folders in Local Disc D: (Fig 6)

Click **New Folder** on the toolbar.

Or

Right-click anywhere in the blank area of the right column. A shortcut menu appears.

Select **New > Folder** from the shortcut menu. (Fig 7)

4. A new folder is created with name **New Folder** highlighted (Fig 8).
5. Type a name for the folder (Fig 9).

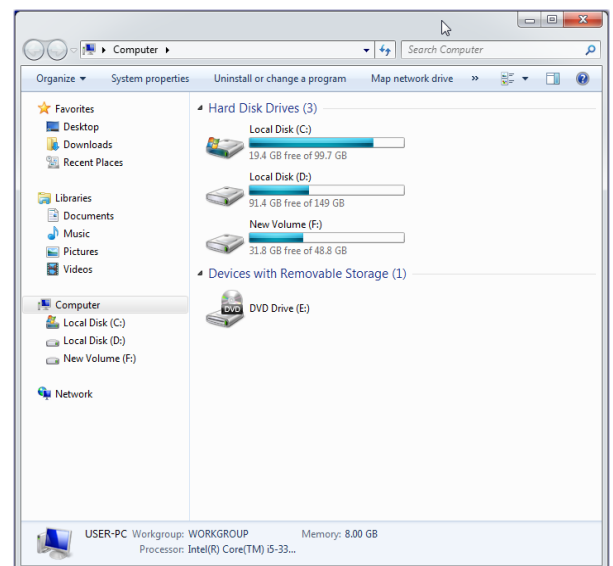
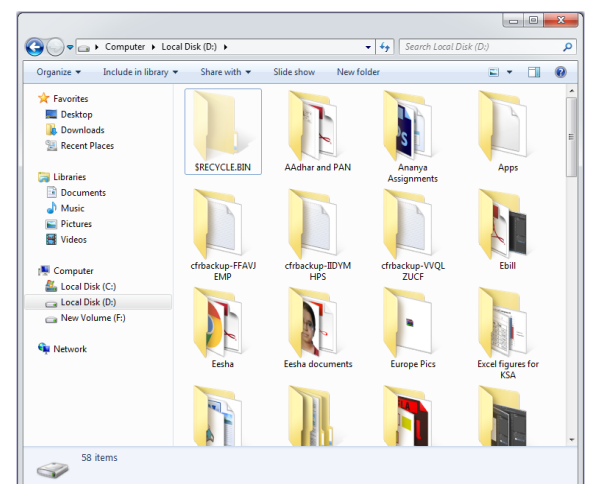


Fig 5 Computer Window

Fig 6 Files and folders in Local Disc



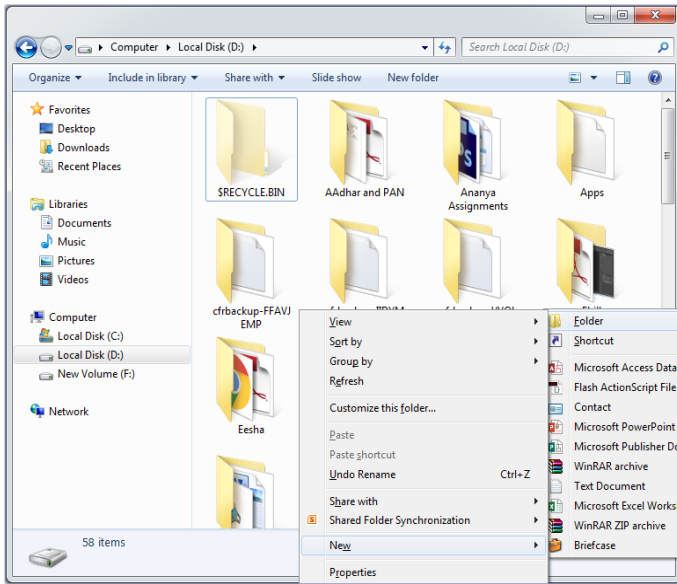


Fig 7 Shortcut menu

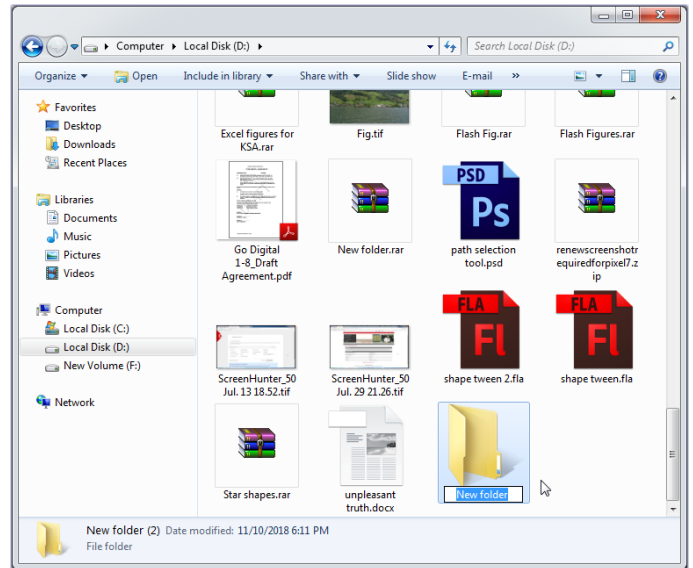


Fig 8 New Folder created

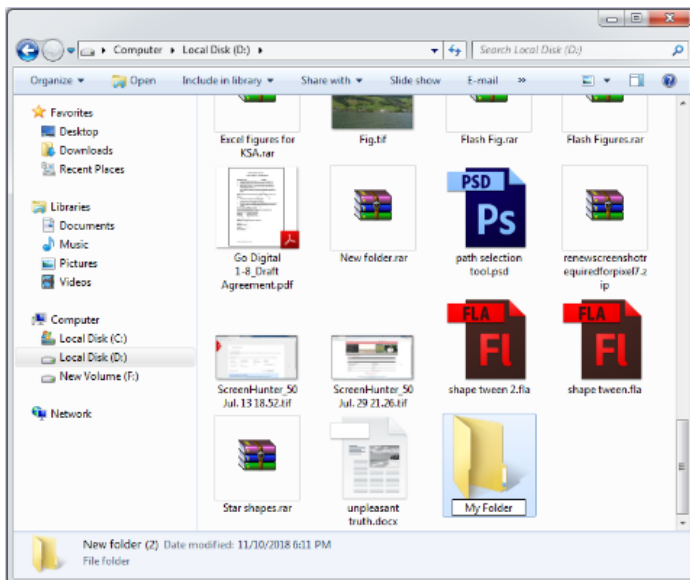
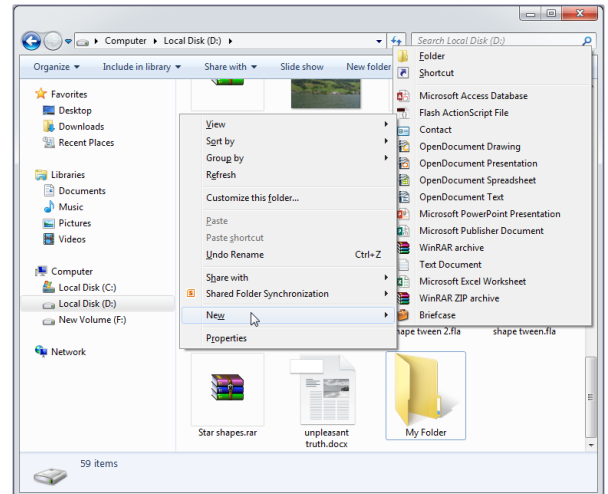


Fig 9 Naming a folder

1.4.2 Creating a file

To create a new file:

1. Right-click anywhere in the blank area of the right-column.
2. In the Shortcut menu, click **New** and select the type of the file you want to create. (**Fig 10**)



1.4.3 Renaming folders and files

To rename a file or a folder, the steps are:

1. Right-click the file or the folder.
2. From the shortcut menu, select **Rename** option (**Fig 11**).
3. Type the new name or edit the existing name and press the Enter key.
Or
Just select the file/folder and press Function key F2.

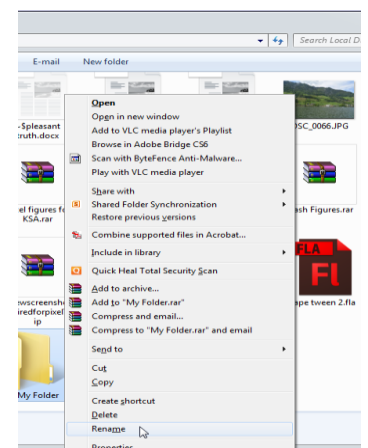


Fig 11 Rename option of Shortcut menu

1.4.4 Deleting files or folders

To delete a file or a folder:

1. Click the file or the folder.
2. Press the **Delete** key.
Or
Right-click and select **Delete** option from the **Shortcut menu**.

Lets Try It

1. Start your computer.
2. Double-click the Computer icon.
3. Select Local Disk D:.
4. Create a folder named 'MyNew Folder' in Local Disk D:
5. Rename this folder as 'My Folder 1'.

Worksheet

1. Similar types of files can be placed into group called _____.
2. Mention any one way in which can create a new folder.

3. To change the name of the folder, right-click and select _____ option from the Shortcut menu.
4. How can you delete a folder?

1.4.5 Copying Files and folders

When you copy a file or a folder, duplicate of the original file or folder is created at the new location, the original remains as it is.

You can copy a file or a folder in any one of the following ways:

1. Shortcut menu:

- a. Right-click the file or the folder you want to copy.
- b. Select **Copy** option from the **Shortcut** menu. (Fig 12)
- c. Select the drive or the folder where you want to make a copy of the selected file or folder.
- d. Right-click and select **Paste** option from the **Shortcut** menu.

2. **Drag and Drop method:** To copy a file or a folder, hold down the Ctrl key while dragging it to the new location.

3. Using Keyboard:

- a. Select the file or the folder.
- b. Press Ctrl + C to copy the file or the folder.
- c. Open the destination folder.
- d. Press Ctrl + V to paste the copied file.

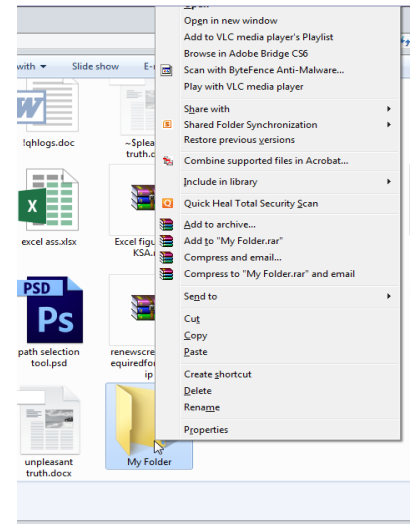


Fig 12 Shortcut menu

1.4.6 Moving Files and folders

When you move a file or a folder, the original file or folder is moved to the new location.

You can move a file or a folder in any one of the following ways:

1. Shortcut menu:

- a. Right-click the file or the folder you want to copy.
- b. Select **Cut** option from the **Shortcut** menu. (Fig 12)
- c. Select the drive or the folder where you want to move the selected file or folder.
- d. Right-click and select **Paste** option from the **Shortcut** menu.

2. **Drag and Drop method:** To copy a file or a folder, select the file and drag it to a new location.

3. Using Keyboard:

- a. Select the file or the folder.
- b. Press Ctrl + X to cut the file or the folder.
- c. Open the destination folder.
- d. Press Ctrl + V to paste the copied file.

1.4.7 Permanently Deleting Files

You can permanently delete the contents of the Recycle Bin in any one of the following ways:

Right-click the **Recycle Bin** icon and then

click **Empty Recycle Bin.**(Fig 13)

OR

1. Double-click the **Recycle Bin** icon.
2. The **Recycle Bin window** appears.
3. Click **Empty the Recycle Bin.** (Fig 14)

1.4.8 Restore Files/Folder from Recycle Bin window

To recover a file from the **Recycle Bin**, right-click the file, and then click **Restore**.(Fig 15)

Or

Select the file and click **Restore this item**

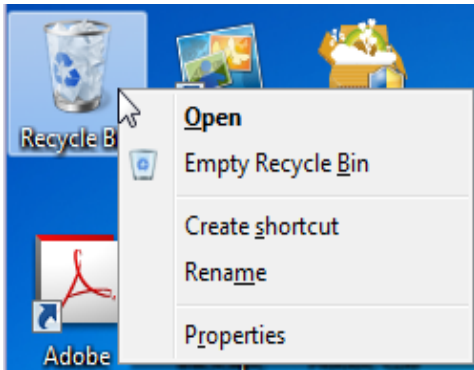


Fig 13

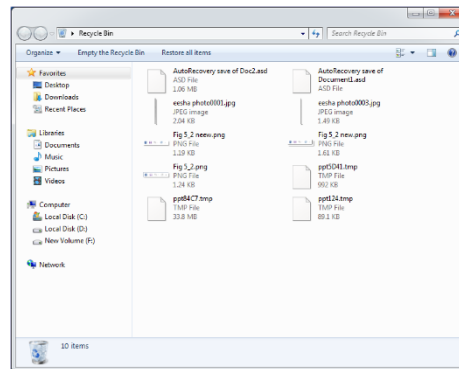


Fig 14 Empty Recycle Bin option

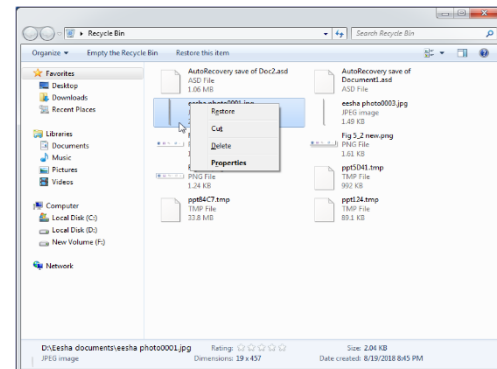


Fig 15 Restore

Lets Try It

1. Start your computer.
2. Double-click Computer icon.
3. Double-click Local Disk D:
4. Create a new folder name in Local Disk D:
5. Rename this new folder as 'My Text Files'.
6. Copy this folder to My Documents.
7. Open folder 'My Text Files' in My documents.
8. Create another folder named 'My New Files'.
9. Move this folder 'My New files' on the desktop.
10. Delete the folder 'My New Files'
11. Restore the deleted folder.

Lets Try It

1. Start your computer.
2. Start Notepad.
3. Type few sentences about your school.
4. Save the file in the folder 'My New Files' created in the previous assignment.

Worksheet

1. What is the difference between moving and copying a folder?

2. Differentiate between file and folder.

3. Name the set of commands to move a folder from one location to another.

4. Name the place where deleted files are placed.

5. How can you empty the recycle Bin?

Unit 2. Apply Basic Skills for Care and Maintenance of Computer

2.1 Importance and need of care and maintenance of computer

Computer systems require maintenance so that the system works efficiently. Poor maintenance may lead to system failure.

Regular care and maintenance may help you detect any issues at an early stage and keep it functioning well.

Since a lot of important data is stored in the computer, it is necessary to have regular maintenance of the computer to be done.

Computer virus, malware, and other harmful software can cause damage to the working of the computer. If anti-virus is installed in the computer, and is updated and run periodically, then any loss of data can be prevented.



A large number of files are stored on the computer. These files can be disorganized and fragmented and may result in slowing down of the computer.

Regular maintenance of the system includes installing updates, security, taking backups, scans, etc

Both internal and external parts of the computer system should be taken care of.

1. Keep the computer dust free.
2. Do not eat or drink while working on the computer. Food or drink may spill on the system.
3. To keep the keyboard clean, make sure your hands are clean before using it.
4. CDs and DVDs should be handled carefully so that it does not get any scratches.
5. Keep keyboard covered when not in use.

2.1.1 Cleaning the computer components

Computer components need proper care to last longer. Preventive maintenance increases the life of the components.

For example, a cable is damaged, but still working. It should be replaced or repaired immediately to prevent any other damage.

Fan in the CPU helps to cool down the CPU as it gets heated while working. If the cooling fan is blocked, may be due to dust and is not repaired or replaced, computer can easily catch fire. Therefore, regular inspection of the components is required. This increases the lifetime of the hardware.

General precautions to be taken while cleaning the computer components are:

- Always Power Off the computer system before cleaning.

- Never spray cleaning fluid directly on the component of the computer. First spray the liquid on the cloth and then wipe the component.
- Do not allow the cleaning liquid to drip near the circuit board.
- Preferably use anti-static wrist band which helps to prevent building up of static electricity near electronic device.

Lets Try It

Discuss the need of care and maintenance of computer

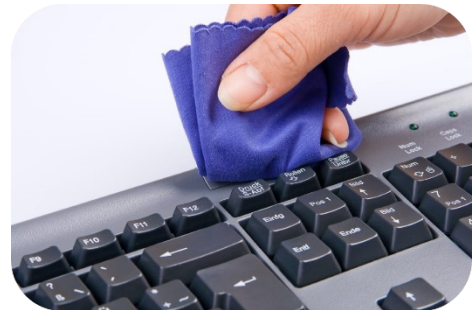
Let's discuss how to clean some common peripheral devices of computer

<A> Computer monitor

To clean the computer monitor, you can use a soft lint-free cloth, like cotton and water or special cleaning liquid. You should not spray water or cleaning liquid directly on the computer monitor as it may run through the seams. Spray water or cleaning liquid on the cloth and gently wipe the computer monitor

 Keyboard

Dirt and dust can cause damage to the keyboard. Keys of the keyboard may not function properly if dirt enters the keys. You should always clean the keyboard periodically by holding upside down and shaking it. You can also clean it by blowing it with compressed air. After this, use a damp lint-free cloth to clean top of the keys. You should never spray any liquid cleaner or water directly on the keys of the keyboard.



<C> Optical Mouse

You can clean the bottom of the optical mouse with a clean lint-free cloth. Lens area can be cleaned by blowing air or cotton swab.

<D> Digital camera

Never touch the lens of the camera. To remove the dust, you can use soft lens brush or wipe with a soft dry cloth. For stubborn dust, you can use special fluid for lens cleaning which should be first put on the tissue and then wipe the lens. Never put the fluid directly on the lens.

<E> CDs and DVDs

Keep CD/DVD in proper case to prevent damage. If there is some dirt on the CD or DVD, it may not work at all. Finger prints and dirt can be removed by lightly rubbing with a clean lint-free cotton cloth. If the dirt is hard to remove, you can use special cleaning fluid. Put the drop of fluid on a swab of cotton and gently rub on the media.

Lets Try It

Demonstrate the procedures for cleaning the components of the computer system and other peripheral devices

2.1.2 Preparing maintenance schedule

Regular maintenance of the computer system is very important.

Some of the maintenance activities are:

- Keep the components of the computer, like keyboard, mouse, monitor, etc. clean.
- Replace hardware that is not functioning properly
- Keep food items away from the computer
- Cables and chords should not be messed up
- Removing unauthorized software from the computer
- Take regular backup of the data
- Ensure backups are working properly by periodically restoring or checking of data. You should use external hard drive for backup of data on your computer.
- Run anti-virus periodically
- Keep anti-virus software up to date
- Do not overcharge the batteries
- Do not block the vents
- Always shut down the computer properly

Regular scans should be done to check for viruses, malware, etc. An effective antivirus software should be installed in your computer. Always keep your anti-virus software updated so that it can detect new viruses. Full system scan should be done to periodically, preferably weekly to scan for viruses.

A regular disk defragmentation should be done to remove all unnecessary information that slows down the computer. Disk defragmentation done at regular intervals helps the disc space to be used at an optimal level.

Take regular backup of the data on your computer. In case the data is lost due to any reason, system failure, virus attack, etc. , you can easily retrieve your data using backup files till your last update.

System should be upgraded with new updates that were not there at the time of purchase, like, increasing RAM, to improve the performance. Also storage space should also be increased for storage of more information.

If you are getting some disc errors, then make sure that temporary internet files are deleted from time to time.

Softwares should be updated regularly so that it works with maximum efficiency.

Lets Try It

1. Discuss the importance and need of care and maintenance of computer.
2. Discuss how to clean different components of the computer system.

Worksheet

1. What is the possible cause of slowing down of computer?
2. Why keyboard should be covered if not in use?
3. What general precautions should you take while cleaning the computer/ components?
4. List some of the maintenance activities for the computer system.
5. Why regular disk defragmentation should be done?

2.1.3 Protecting computer against viruses

A computer virus is a software program that attaches itself to other programs and alters their behavior. A virus may or may not be destructive. Some viruses erase data or corrupt programs on the computer. VIRUS is an acronym for Vital Information Resource Under Seize.

When a virus enters a computer system, it makes copies of itself and carries out the harmful tasks that it is programmed for.

Some viruses get activated at a certain date and time. Viruses also attach to the files stored on the computer or the storage media and harm these files.

A virus may get attached to e-mail messages and spread from one computer to another.

A computer virus can infect only the software and not the hardware, but computer may stop working.

A computer can get infected with virus in any of the following ways:

- Infected files
- Infected pen drives
- Infected CD-ROMs/DVD-ROMs
- Through infected file attachment of e-mails

A computer virus cannot do the following:

- It cannot infect files on CD or DVD, if they are closed for writing.
- It cannot infect computer hardware like, keyboard, mouse, etc.

How do we know that our computer is infected with virus? Sometimes, computer shows strange behavior. Some of the common signs of a virus attack are:

- Computer runs very slow
- There is change in the file size
- Computer often stops responding
- There is an increase in number of files (unusual)
- Unusual error message appears on the screen
- Computer restarts on its own

Lets Try It

1. Discuss the difference between human virus and computer virus.
2. Discuss various signs that indicate that computer is infected with virus.
3. Discuss various ways in which computer may get infected with virus.

2.1.4 Scanning and cleaning viruses and removing SPAM files, temporary files and folders

The following points should be kept in mind to prevent virus infection:

- Install and use anti-virus software.
- Keep anti-virus software updated.
- Scan all the files that you download from the Internet
- Do not open e-mails of an unknown person/sender
- Don't allow any untrustworthy person to use your system.
- New use unknown pen drive/CD on your computer
- Never click on the windows that pop-up when you are surfing the Internet.

<A> Preparing computer against virus

To prevent our computer from being infected with virus, we should install anti-virus software, run it periodically and keep it updated so that it can scan and remove new viruses.

Antivirus software is a program designed to detect and remove malicious programs from the computer.

Some examples of antivirus software are McAfee Virus Scan, Norton AntiVirus, Microsoft Security essentials, and Quick Heal.

For an anti-virus program to be effective:

- It needs to run in the background at all times.
- Keep the anti-virus software updated so that it can recognize new viruses.
- Run full disk scans periodically.

 Scanning and cleaning virus

Let us discuss how to use Quick Heal Total security to scan the computer system.

1. Click **Start** ➤ **All Programs** ➤ **Quick Heal Total Security** ➤ **Quick Heal Total Security**.

Or

Double-click the **Quick Heal Antivirus icon** on the desktop.

2. The main window of **Quick heal Total Security** opens up (**Fig 1**).

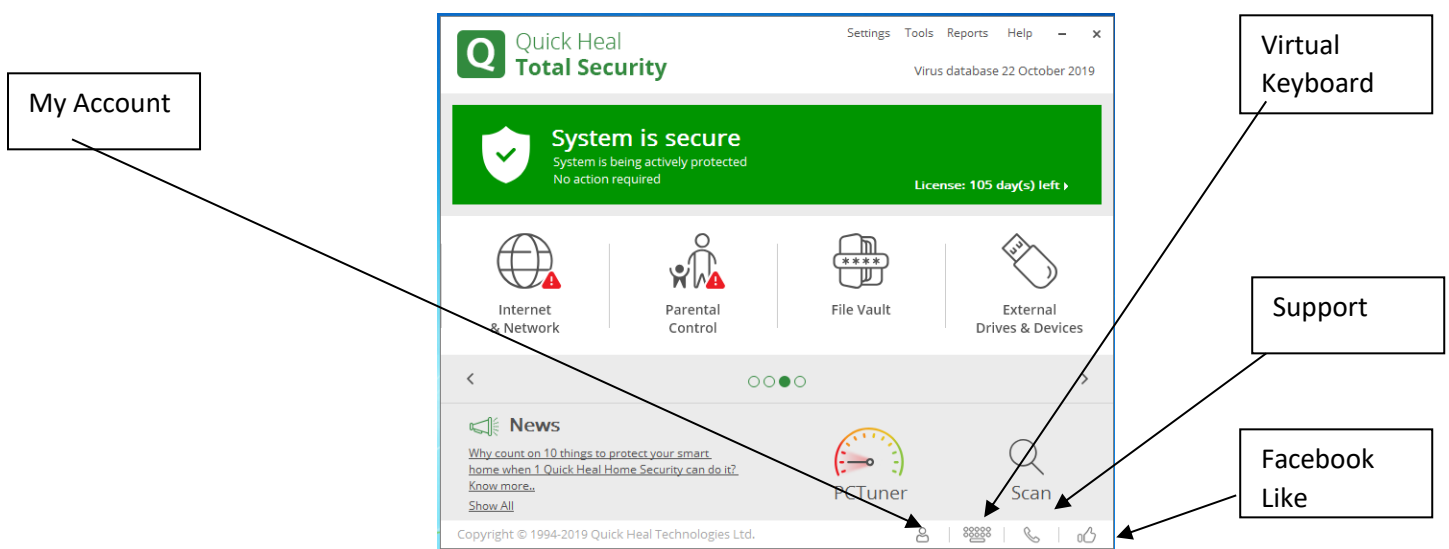


Fig 1 Main window of Quick Heal Total Security

To perform full system scan,

1. Click **Scan** ➤ **Full System Scan**.
2. The scan process will begin
3. On completion of the scan, the scan statistics and reports are provided.
4. Click **Close**.

Other antiviruses, like, Norton Antivirus, McAfee, etc. have almost the same method to scan full computer system for viruses and remove them.

Lets Try It

1. Name the antivirus software installed in your computer.
2. Scan your computer with the anti-virus software installed in your computer.

Worksheet

1. Mention few ways in which a computer gets infected with virus.
2. Can computer virus infect hardware?
3. What are the common signs of a virus attack?
4. How can you prevent your computer from virus infection?
5. What is the use of antivirus software? Name any two commonly used anti-virus software.

<C> Removing Temporary Files

Temporary files are created when you are running computer programs. Microsoft Windows and Windows programs often create a .TMP file as a temporary file. Temporary files are also created by web browsers to store your web browser history.

These temp files take up a large amount of disk space so should be removed to clear space.

The steps to remove temporary files are:

1. Double-click **Computer icon** on the desktop.
2. The **Computer Window** opens.
3. Right-click Local Disk C: and select **Properties option** from the **Shortcut menu** (Fig 2)
4. The **Properties window** opens. (Fig 3)
Click **Disk Cleanup**.
5. The **Disk Cleanup for C: window** appears (Fig 4)
6. Click the **Check box** next to **Temporary Files, Temporary Internet files, etc.** that you want to delete.
7. Click **OK**.
8. A confirmation message will appear (Fig 5).
9. Click **Delete Files**.
10. Windows will delete all the temporary files on the computer.

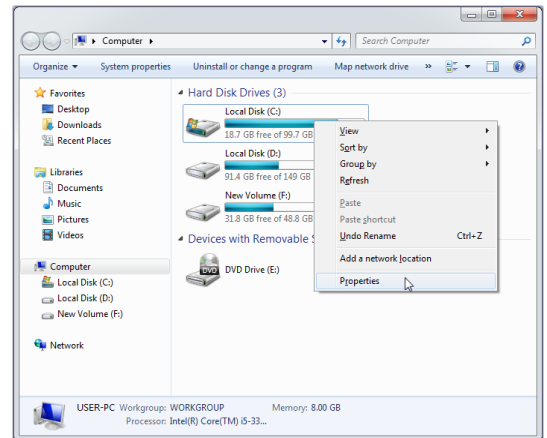


Fig 2 Computer window

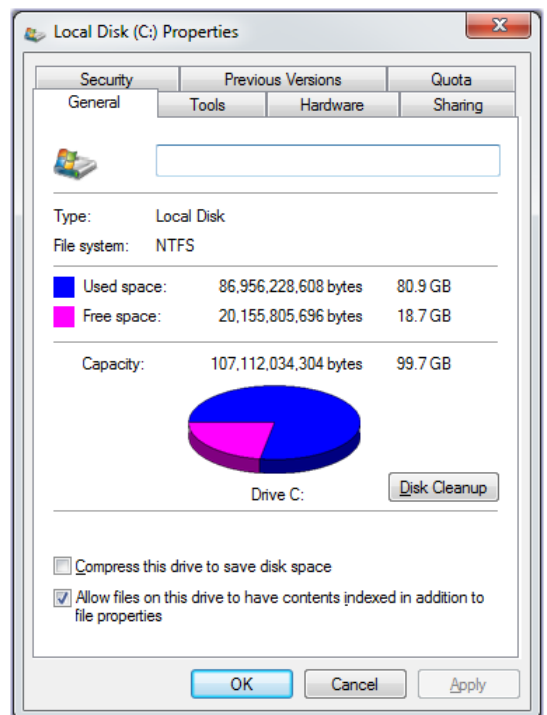


Fig 3 Properties window

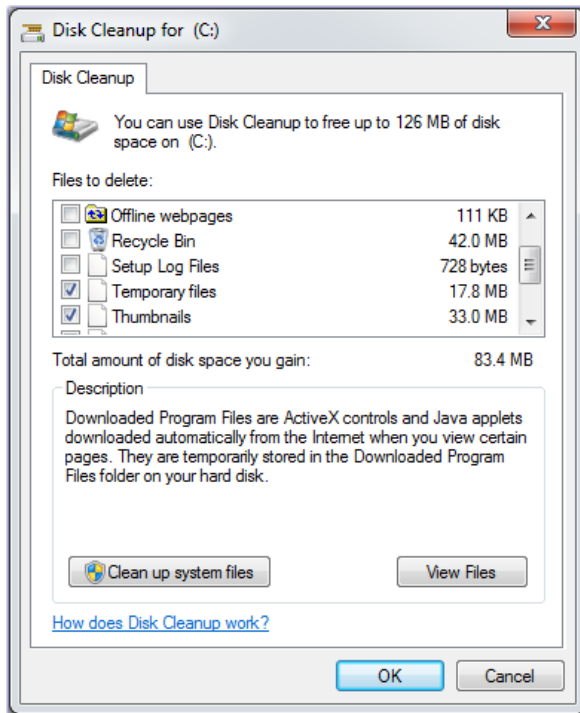


Fig 4 Disk Cleanup window

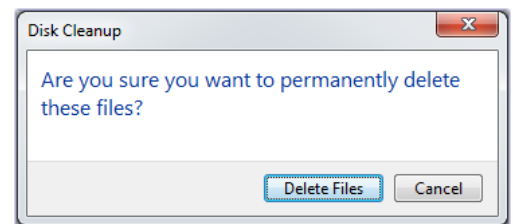


Fig 5 Confirmation

<D> Removing files of Temporary Folder

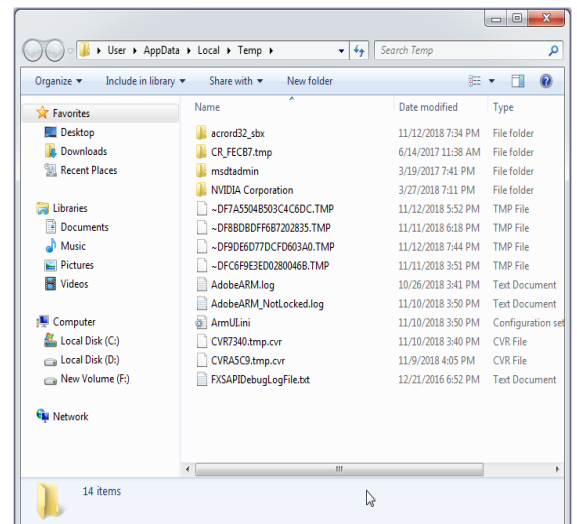
The steps to remove files of temporary folder are:

1. Press **Windows button + R** on the keyboard.
2. The **Run dialog box** appears.
3. Type **%temp%** (**Fig 6**)
4. The **Temp folder** opens (**Fig 7**)

Click **Ctrl + A** to select all the files in the folder. (**Fig 8**)

Press **Delete** key.

5. A message box appears. Click **Yes** to confirm. (**Fig 9**)



- All the files in the Temp folder will be deleted. Some files which are related to current open files may not get deleted. You can ignore those files and close the pop-up window.

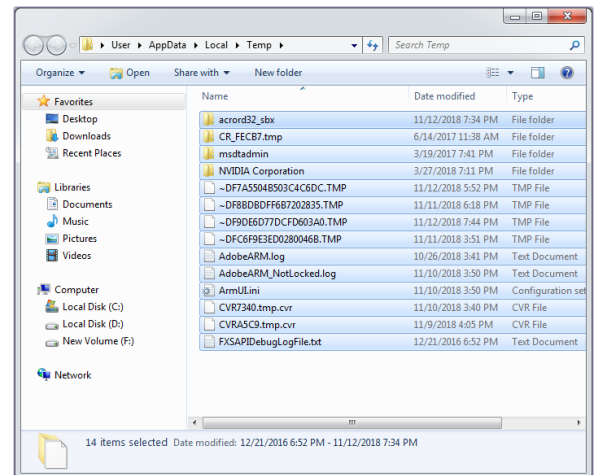


Fig 8 Selecting files in Temp folder

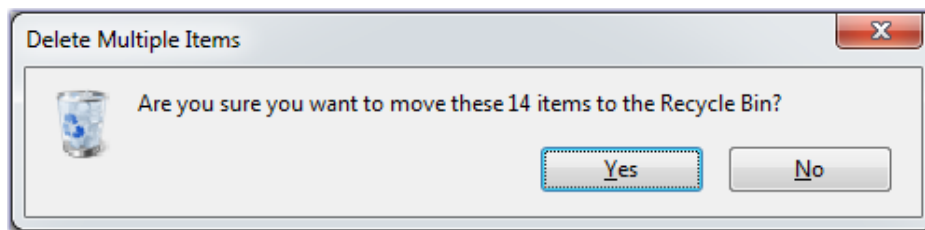


Fig 9 Message Box

<E> Firewall

A computer firewall could be a programmable device or a software or a network security system that monitors and controls incoming and outgoing network traffic based on user-defined security rules.

Firewalls enhance the security of computers connected to a network, such as LAN or the Internet. A firewall typically establishes a barrier between a trusted internal network and untrusted external network, such as the Internet. Firewall inspects each packet of data whether incoming or outgoing and determines whether it should be allowed to pass or be blocked.

The main purpose of a firewall is to reduce or eliminate the occurrence of unwanted network communications while allowing normal traffic.

<F> Cookies

In computing, cookies are small files which are stored on a user's computer when you visit a website on the internet. These files are designed to hold data specific to a particular client and website.

When you visit a website, it sends a cookie to your computer where it is stored in a file. Only the website that creates a cookie can read it. Other servers cannot access this information.

These files typically contain information about your visit to the webpage or record your login information. This may not always be bad.

For example, if you are exploring an online shopping website, most of the online retailers use cookies to keep track of the items in a user's shopping cart. If there is no cookie, your shopping cart would be reset to zero every time you click on a new link on the website and it would not be possible to buy anything online.

Under normal circumstances, cookies cannot transfer viruses or malware to your computer. But. Some viruses and malware may get disguised as cookies.

You can manage your cookies in order to protect your online activity.

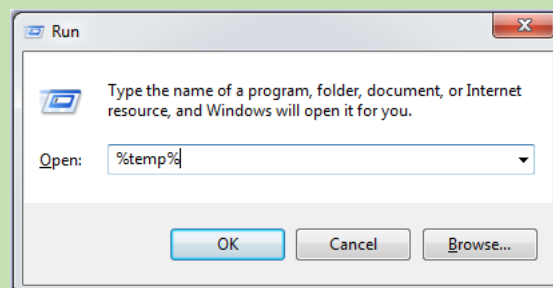
Each browser stores cookies in different location. Every browser gives a range of options for handling cookies. Most browsers store cookie settings under Privacy options. You can use browser's help files to control cookie settings.

Let's Try!

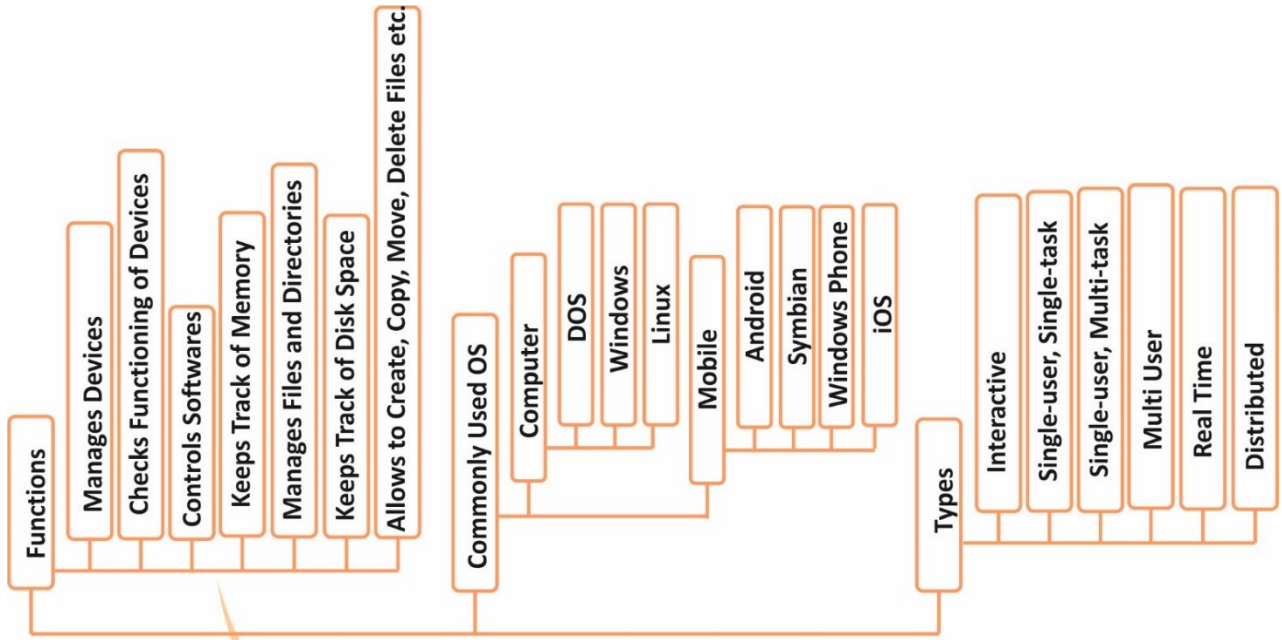
1. Remove temporary files from your computer.
2. Remove all the files in the Temporary folder of your computer.

Worksheet

1. How are temporary files created in computer?
2. Why we should remove temporary files from the computer?
3. Identify which of the following is a temporary file.
 - a. Project.docx
 - b. Mathsite.tmp
4. How can you select all the files in a folder using the keyboard?
5. Which key combination will you press to get the Run dialog box?
6. What command will you write in the Open text box to open the Temp folder?



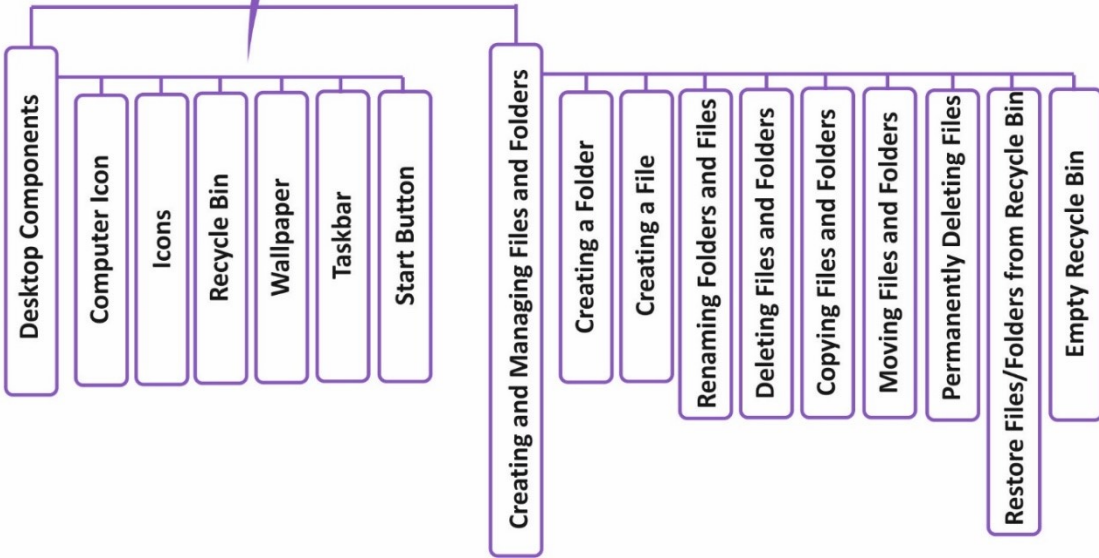
7. What are cookies?
8. What is a firewall in computing?

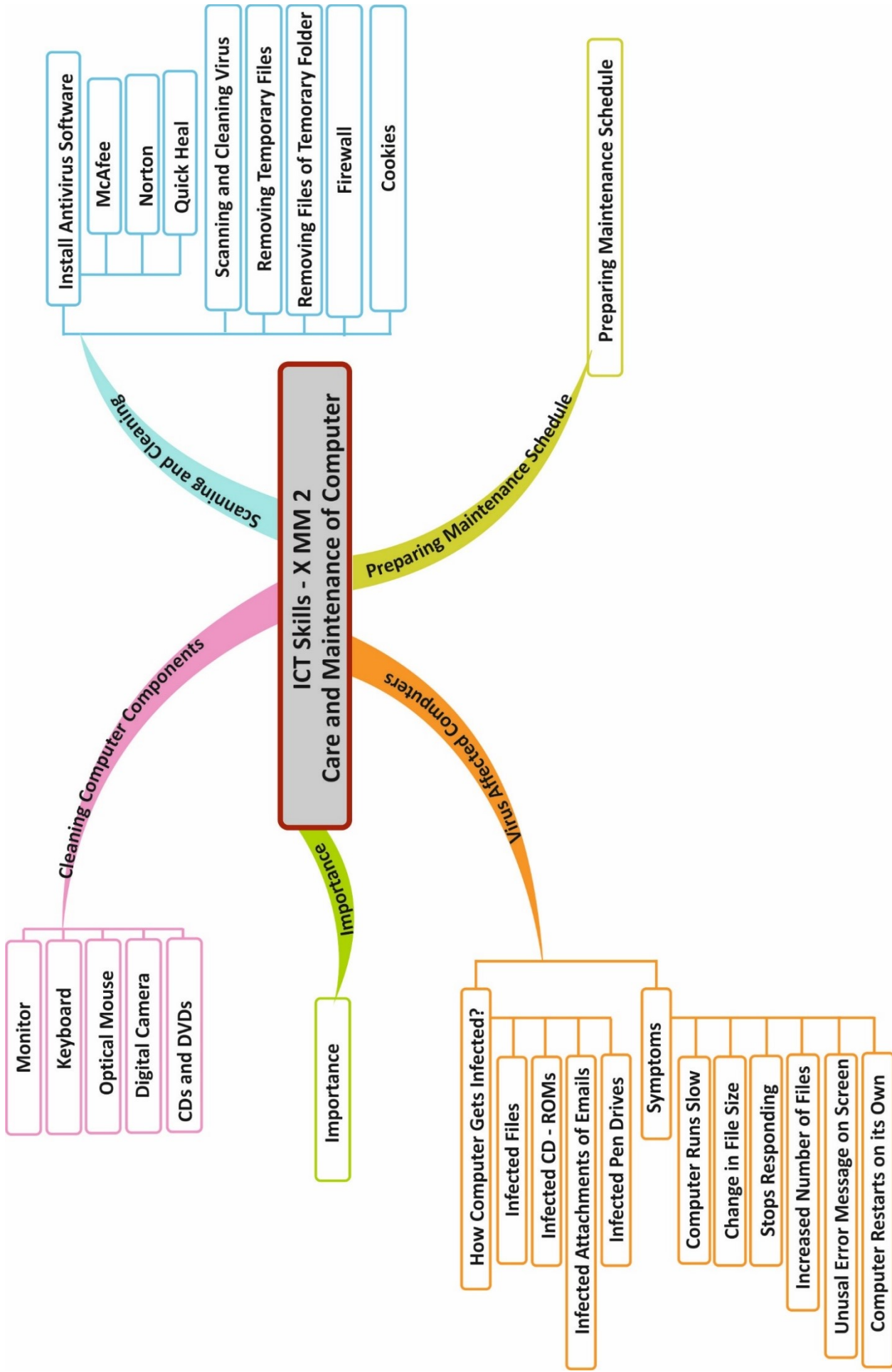


Operating System - Functions

ICT Skills - X MM 1

Windows 7 OS





1. Introduction

Entrepreneurship remains a new concept in terms of how it can be developed, what is needed to practice entrepreneurship, how it can be beneficial for an individual etc. It is important to understand what defines an entrepreneur. While some qualities and skills are observed in successful entrepreneurs, an entrepreneur has to perform certain functions to form an enterprise. There are pros and cons involved with choosing the entrepreneurial path. There are many myths and fears that deter people from taking the entrepreneurial journey. In this chapter, we will look at how entrepreneurship impacts society and has the potential to bring a difference in the mindset and skill set of an individual.



2. Entrepreneurship and Society



While the concept of entrepreneurship has a fairly wide meaning, it is simply described as starting a business using the resources available to a person. An entrepreneur combines factors in a creative manner in order to generate value for customers and create wealth. Society is described as an aggregate of people living together in a community, who associate for various engagements including business. The definitions of the two concepts shows clearly that there is a direct relationship between the two.

The beauty of entrepreneurship in a society is that as businesses prosper the impact the businesses create also increases. It is due to entrepreneurial activity that the society is provided with goods and services. In turn, society provides market for products and services provided by the entrepreneur.

Entrepreneurship has some positive impact on society such as:

- Accentuates economic Growth
- Fosters Creativity
- Stimulates Innovation and Efficiency
- Creates Jobs and Employment Opportunities
- Solves the problems of the society
- Encourages welfare of the society

Society plays a role in boosting entrepreneurship by:

- Creates needs and demands
- Provides raw materials
- Enables financial support
- Creates a need for education
- Catalyses policy formation and reform
- Facilitates networking
- Supports infrastructure development

However, entrepreneurship also creates some adverse impact on society sometimes. This happens in the form of environmental degradation, trade imbalance, labour exploitation etc.

Some common entrepreneurship activities related to society include:

2.1 Social Entrepreneurship: Social entrepreneurship can be understood as creation of sustainable solutions for social problems that leads to social change by employing entrepreneurial mindset, processes and operations. In social entrepreneurship research is conducted to completely define a specific and core social problem. Many social problems are tackled by social entrepreneurs such as low reach of quality education, health and sanitation, unemployment, child labour etc.



2.2 Agricultural Entrepreneurship: Agricultural Entrepreneurship can be defined as being primarily related to the marketing and production of inputs and products used in agricultural activities. Farmers have benefited the most with rise in agricultural entrepreneurship as it has led to low-cost innovations in farming processes.



2.3 Women Entrepreneurship: Women entrepreneurship is referred to the entrepreneurial activity led by women, where women undertake risks, create enterprises, organise factors of production, innovate with products/services and generate employment opportunities. Government of India has defined women entrepreneurship as “an enterprise owned and controlled by a woman having a minimum financial interest of 51 per cent of the capital and giving at least 51 per cent of the employment generated in the enterprise to women.”

2.4 Small Scale Entrepreneurship: Small scale entrepreneurship refers to starting industries in which manufacturing, trading, providing services, productions are done on a small scale or micro scale. These businesses serve as the backbone of many developing countries.

4.1.2 Risk taking: Risk taking is about taking responsibility and planning for a loss or mishap that may occur in the future due to unforeseen contingencies. Some common risks entrepreneurs take are around return on investment, hiring of new employees, working with vendors etc. An entrepreneur plays the function of developing a certain risk-taking appetite and taking calculative risks to reduce adverse consequences.

4.1.3 Innovation: Entrepreneurs innovate by introducing new concepts, products, services, designs, ideas etc. They may introduce something new and innovative in any branch of economic activity. In today's world, a new business cannot survive and sustain without innovating in some manner. An entrepreneur foresees a potentially profitable opportunity and innovates in the effort to exploit it.

4.2 Promotional functions

4.2.1 Idea Discovery: The first step towards entrepreneurship is discovery of a business idea. An entrepreneur comes up with a business idea and thinks about ways to implement it. It is about seeking opportunities for a specific type of business and finding ways to commercialize on it. Usually, entrepreneurs work around the process of idea discovery by exploiting natural resources, finding a market need or calculating the profit potential.

4.2.2 Detailed Investigation: While coming up with ideas can seem like an easy process, the challenge is to understand if the idea has the potential to turn into a viable business venture. For this, an entrepreneur conducts research, investigates and evaluates an idea considering various factors and estimates the total demand for a new product or service.

4.2.3 Assembling the Requirements: Some basic business requirements include infrastructure or office space, human resources, key vendors or partners, working capital etc. In a manufacturing or product-based business, some requirements are selecting the factory site, sourcing plant and machinery, hiring staff, finding the right suppliers etc. No matter what is the type of the business, an entrepreneur has to work towards assembling and organizing all the requirements once he/she is sure about the practicality and profitability of the proposition. Once this function is performed, the project is set to start smoothly.

4.2.4 Financing: Raising capital for a business is one of the core functions that entrepreneurs perform themselves, not just at the initial stage of the business, but even to grow and scale the business. First, the requirements of finances are estimated. Next, the sources from which capital will come are determined. This includes calculating the long-term and short-term financial requirements and considering the debt equity ratio.

4.3 Managerial functions

4.3.1 Planning: An entrepreneur documents a business idea in the form of a business plan, to detail each element of the business such as product or service description, operations, marketing, finance, accounting, growth plan etc. A business plan serves as a guide to determine the business objectives and the course of action. It helps to detail the "what, when, how and who" of doing every specific task.

4.3.2 Organizing: Organizing in the managerial context refers to setting specific and attainable goals and objectives to be achieved by different departments and by each employee. It is about arranging, directing, guiding, coordinating and controlling the key business activities.

4.3.3 Directing: Directing is about initiating planned action and ensuring that each employee is performing effectively. This also includes doing continuous performance reviews and organizing tasks according to plans.

4.3.4 Staffing: Staffing refers to different sub-processes around human resource management, such as manpower planning, recruitment, selection, placement, training, transfer, salary, promotion, payroll, appraisal etc. The objective of staffing is to fill a particular position with the right employee at the right time.

4.3.5 Leadership: Leadership is more of a skill than a function for an entrepreneur as he or she has to lead, guide and supervise people who work for the business. As a leader, an entrepreneur guides, directs, and influences the work of others to attain specific goals. An entrepreneur acts as a mediator between the individual and the organisation to ensure mutual benefit satisfaction.

4.3.6 Communication: Communication enables exchange of feelings, ideas, emotions, information and knowledge between two or more persons. An entrepreneur has to communicate every single day, in the form of writing, responding, drafting emails, verbal instruction, discussion etc. On an average, entrepreneurs spend 75%-90% of their work time communicating with others.

4.3.7 Supervision: Supervision is a key skill as even overseeing that things are being executed well is important. An entrepreneur might delegate tasks and give instructions, but it is important to ensure that these instructions are carried out well. For example, some tasks entrepreneurs supervise are tracking utilisation of resources, correcting subordinates where they go wrong, getting the required work done as directed, ensuring all functions of the business are running smoothly etc.

4.3.8 Motivation: Along with guiding employees, an entrepreneur also plays a role of motivating them and encouraging positive behaviour and culture within the organization. Motivating employees is about creating an urge in them to exhibit a desired behaviour and positive attitude towards work. Employees with high motivation automatically do other things alongwith it to perform successfully, such as being productive, flexible, competitive, comprehensive, efficient etc.

4.3.9 Co-ordination: Co-ordination between different departments of the business helps to ensure that work happens in a timely manner. Activities of all employees must be channelized towards goal achievement. An entrepreneur has to set certain targets, measures, goals etc. with different departments to ensure all are coordinating and working effectively internally as well.

4.3.10 Controlling: Sometimes controlling is necessary for the entrepreneur to set company rules and policies. Controlling function helps the entrepreneur to set performance standards, measure and compare productivity and performance, identify variations, take corrective action etc.

4.3.11 Negotiation: An entrepreneur negotiates terms and conditions for many parts of the business such as payment terms and timelines, salaries of employees, vendor quotations etc.

4.4 Commercial Functions

4.4.1 Production and Operations: Depending on whether it is a service business or product business, an entrepreneur has to perform the function of managing production or operations. For a manufacturing business, production related activities include sourcing of raw materials, checking functioning of machinery, utilising maximum capacity, meeting order requirements etc.

4.4.2 Finance and Accounting: While finance is more focused on raising funds and managing them, accounting helps to record and analyse the financial position of the business. Thus, an entrepreneur has to prepare and analyse cash flow statements, income sheet, balance sheet etc.

4.4.3 Marketing: Marketing is about moving the product or service from producer into the hands of the end customer or user. It involves promotion, advertising, distribution, customer service etc. An entrepreneur has to perform this function to make people aware about the offerings of the business and makes sales.

4.4.4 Human Resource Management: Human Resource Management (HRM) refers to recruitment, employment, selection, training, development and compensation of the employees with an organization. An entrepreneur performs this function as no business can function without people.

Activity II

Read the task given below and write the function performed by the entrepreneur, Vishal Shekhar Sharma, the founder of the payments and e-commerce platform, Paytm. You may write more than one function for a given task.

- Vijay did not know what was his business idea exactly. So, he thought of choosing three basics of internet services and experiment with them – content, advertising and commerce. After testing all three services in some form, he innovated by proposing the payments platform of Paytm to investors.

- Vijay considered part success of Paytm payment platform to its customer promotion and retention. Even before the roll-out of e- wallet services, Vijay had conceptualized a way to make people aware of the service. A strong 24x7 customer care service helped to establish trust among customers.

- Vishal believes that maintaining the success of the company cannot be done without good teamwork. For that, he ensures that the right people are hired who share the same passion and motivation to believe in the vision of the company. Similarly, he believes in guiding and training employees to be entrepreneurial in their own way.

- While trying to set up One97 communications, the parent company of Paytm, Vijay once ended up with a loan of Rs. 8 lakhs. This was a huge amount for him as he had taken the principal amount at

24% interest, which was very high. Vijay took up odd jobs to gather money to pay back the loan. It was after paying back the debt, that Vijay started focusing on raising funds for Paytm.

- Owing to demonetisation, Paytm's business thrived and grew more than 200%. To account for this growth, Vijay supervised the work across all departments of accounting, operations and information technology. He also made a systematic plan to manage growth.

5. Role of Entrepreneurs

5.1 Innovator's Role: Entrepreneurs innovate by bringing unique and new products and services into the market. In many cases, these are improved versions of existing products or services available. Innovation fuels economic growth and helps to boost global presence of products and services.

5.2 Agent's role: Entrepreneurs act as 'Agents of Change' as they identify opportunities, solve problems, offer effective solutions, establish enterprises, set up industries and bring positive change for the economy.

5.3 Coordinating role: An entrepreneur coordinates many things such as factors of production, delegated tasks, smooth functioning across different business departments, timely delivery of inputs and outputs etc. However, by combining resources in an optimal and best possible manner, an entrepreneur even makes use of under-utilized resources in an economy.



5.4 Risk assumption role: Entrepreneurs are not risk averse and they realize that taking risks is a part of business. The fruit of bearing risks can be profit, which leads to wealth generation for overall economy.



5.5 Capital formation role: Mobilization of idle savings takes place when money is invested in a business. This mobilisation of capital leads to development of assets, trade activities, increase in capital availability and economic development.

5.6 Imitating role: In many developing countries, entrepreneurs either imitate or adapt the innovations of developed nations. These innovations are adapted according to the local needs and conditions and work towards overcoming the entrepreneurial challenges.

5.7 Employment Generation role: Businesses cannot function without employing people. Skilled professionals, unskilled labour and managerial staff are all required by businesses. Hence, entrepreneurship solves the problem of unemployment, which is a major problem in economic development.

5.8 Status transformation role: Since more and more people are employed by entrepreneurs, overall income and standard of living of the society increases. This encourages equitable distribution of wealth and reduces income disparity in the economy.

5.9 Balancing role: Entrepreneurship is encouraged with small and micro enterprises and small-scale industries as well. This encourages regional development and removes development imbalances in the economy.

Activity III

Read the short story below:

As Chairman of Tata Industries, Ratan was instrumental in bringing a wide range of reforms within the company. During his tenure, TCS (Tata Consultancy Services) did an IPO. Tata Motors was also listed in the New York Stock Exchange. Ratan Tata led the bids for Corus, an Anglo-Dutch steel and aluminium producer as well as for Jaguar and Land Rover brands from the Ford Company. In 2000, Tata's food division also acquired tea firm Tetley.

Under his stewardship, Tata group witnessed the launch of India's first truly Indian car, 'Indica'. In the year 2009-10, the group's revenues have grown nearly 12-fold, totalling USD 67.4 billion. Ratan Tata has also been on the advisory boards of Mitsubishi Corporation, Fiat Spa, Alcoa, Rolls Royce, JP Morgan Chase, American International Group, Temasek Holdings and the Monetary Authority of Singapore.

Ratan Tata was the sole leader in creating one of India's biggest cohesive business groups from overlapping businesses across multiple companies, which could successfully sustain in the economic challenges of 1990s. While the group pulled out of businesses such as textiles, cement and cosmetics, it increased its focus on other businesses such as software and steel, and entered new businesses such as telecommunications, consulting, finance and retail.

Over two thirds of Tata Group is owned by charitable trusts that finance good causes. Tata showcased extreme generosity and leadership during the 26/11 attacks in Mumbai, India. He supervised all the activities outside the Taj hotel to help the victims. He personally visited the families of all the 80 employees who were either killed or injured and provided monetary relief to the victims and their families.

In his final year as chairman, Ratan Tata was keen to foster innovation. In order to show that failure is an increasingly central part of any business strategy, a unique annual competition was instituted: a prize for the best failed idea. By recognizing failure and even rewarding it, Ratan Tata was keen to show that failures are likely in the pursuit of innovation.

significantly create advancement in an industry. Hence, during any major changes in the economy, entrepreneurs adapt and do not have to go out of business.

6.3 New markets: Entrepreneurs can often ‘redefine the rules’ of an established industry. They do this by creating new markets for existing products and slightly innovating in small ways to suit the needs of a new target market.

6.4 New values: Sometimes, entrepreneurs choose ethics over profit and offer a more ethical product to the world and are transparent about it. For example, Jaipur Rugs has multiple artisans who work towards making rugs that are sold around the world. However, Jaipur rugs is very transparent about their artisan community and they ensure that artisans are given a fair share of profit.

7. Myths of Entrepreneurship

There are many myths about characteristics and traits of entrepreneurs. With the set of activities, they perform, entrepreneurs start to be described in a certain way. However, these descriptions and conclusions are made after the entrepreneur is already successful. It might not apply when a person starts from scratch to move towards entrepreneurship. It might not apply universally to all entrepreneurs. Let us look at some of these myths in detail.

7.1 Entrepreneurs are born a certain way

It is an assumption that entrepreneurial qualities are inborn and that only people with certain natural talents can become entrepreneurs. This is a myth and research had established that almost anyone can be an entrepreneur with the right skills, drive and passion. There is no set defined way to point towards personality types of entrepreneurs. Entrepreneurship is a learned skill, not a natural-born ability.

7.2 Great ideas are what makes entrepreneurs

In actuality, there is no real or commercial value of just an idea. People who are able to execute the idea and turn it into a business are referred to as entrepreneurial. Entrepreneurs do not necessarily reinvent the wheel. Many times, they take existing ideas to make a business out of it.



7.3 Entrepreneurs have to take a lot of risk

While entrepreneurs definitely have to bear some risks, they do not necessarily put themselves in high-risk situations. Entrepreneurs take calculated risks and weigh risk versus reward.

7.4 Businesses either skyrocket or fail

Although select few start-ups skyrocket and receive all the media attention, it is easy to adopt an all-or-nothing outlook on entrepreneurship. While many ventures make it big and many fail, a lot of businesses are run with patience and strategy with a focus on self-sustenance and gradual growth.

7.5 A lot of money is required to start any business

While certain amount of capital is required for take a business off the ground, it varies depending on the business. The key in entrepreneurship is to start with resources available and grow slowly and steadily. It is not necessary that one should fear or deter from entrepreneurship due to lack of financial resources.

7.6 One must know everything before starting a business

Entrepreneurs continuously thrive to be in a constant state of learning. Being new and even somewhat naïve can be an asset in today's rapidly changing world, because succeeding at entrepreneurship requires energy, innovation and the ability to push yourself outside your comfort zone. What actually counts is not what you know, but how fast you can learn.

Activity IV

In the following exercise, mention if the following statement are 'True' or 'False' for myths of entrepreneurship

1. Entrepreneurs who do not have an innovative idea cannot succeed _____
2. Entrepreneurs exhibit high risk-taking ability, but they take calculative risks _____
3. Success in entrepreneurship is mainly about keeping a business sustainable and afloat _____
4. Nothing matters more than the business idea _____
5. One can acquire and develop entrepreneurial skills _____
6. Entrepreneurship is a process of constant learning _____

Activity V

It is a myth that a lot of money is required to start any venture or entrepreneurial project. Let us do an exercise to break this myth. Imagine you have Rs. 500 and your goal is to make as much profit as possible from it. You can double it to earn Rs. 1000. You can earn more than 1000 or you can even earn in lakhs. How would you do it? Write your ideas below:

8. Entrepreneurship as a Career – Why Entrepreneurship for You?

Being an entrepreneur may appear as though an implausible profession to numerous youngsters. A few people are not even aware that having their very own business or independent work can be a choice. Other people who are aware, never at any point think about it in their whole lifetime. This is on the grounds of an imperfect perception that we were destined to work for big companies.

While there is nothing wrong with working for any organisation, it is basic for youngsters to be educated that they have two options – they can be job creators or job seekers. Once the awareness of the two career choices comes in, it is important to understand how taking the route of entrepreneurship benefits an individual.



8.1 Nurtures development of entrepreneurial skills and capabilities: Entrepreneurship cultivates unique skills and encourages outside the box thinking. It instils confidence, creates opportunity, offers solutions and stimulates the economy. Entrepreneurship education provides with the skills and knowledge to come up with business ideas and develop ventures. It is broadly about learning to practice core business areas such as marketing, sales, finance, accounting, management etc. and developing skills such as effective communication, creative problem solving, adaptability etc.

8.2 Enables application of an entrepreneurial mindset: Entrepreneurial mindset and skills are not necessarily only relevant to becoming an entrepreneur, but also in any field. Even the top employability skills of today are basically entrepreneurial skills. In fact, having an entrepreneurial mindset and wide range of business-relevant skills acquired through studying entrepreneurship would make one an ideal candidate in most fields.

8.3 Develops the ability to handle failure and ambiguity: In the Indian culture, since childhood failure is looked upon as something intolerably bad. However, a critical part of learning in the entrepreneurial process is to learn from failure. Hence, going through this process helps to learn from mistakes, take failure positively and stay motivated to work towards achieving the goal. Similarly, just like life is uncertain, business is full of ambiguity. While actually finding solutions to deal with ambiguity, one develops certain traits such as risk management, perseverance and persistence.

8.4 Enhances critical thinking and problem-solving ability: The ability to think critically and solve problems is essential to succeed in the world of business. The focus of learning is not on these aspects during our school years. Learning entrepreneurship exposes one to numerous opportunities that force one to think critically, analyze all alternatives and consider possible solutions.

For example:

Interest: Playing Basketball

Job: NBA Basketball player, Basketball coach

Business: Academy for Learning Basketball, Online Mock Basketball competition

My Interests

Jobs related to my interests

Businesses I can start around my interests



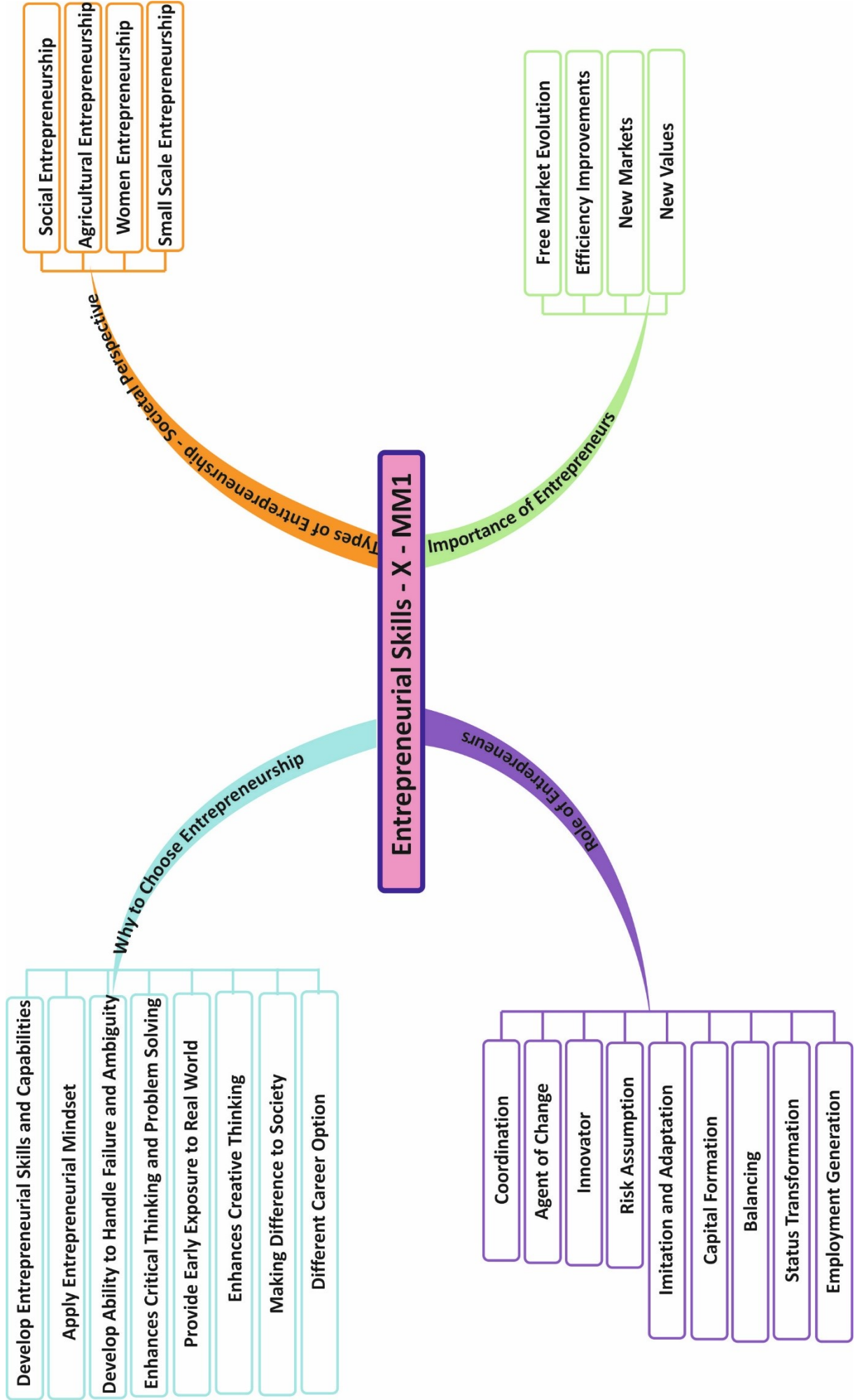
Skill- Based Activities

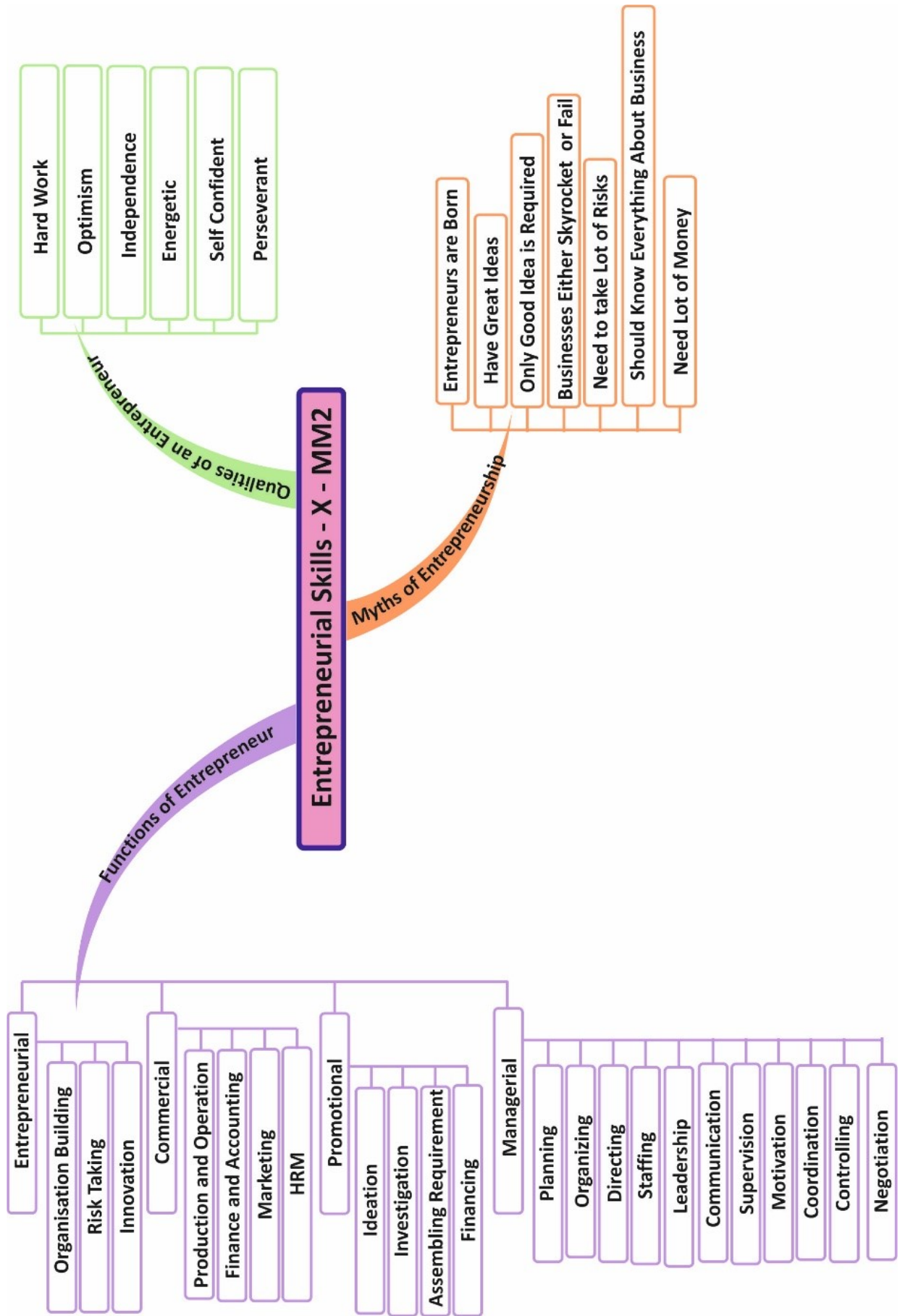
I. Career as an entrepreneur

- Write a note on entrepreneurship as career option
- Enlist your strengths and weaknesses and compare them with entrepreneurial qualities.
- In groups, discuss about the qualities you have or you want to develop to become a successful entrepreneur. Focus on ways to develop these qualities in your daily lives.

II. Business Processes and Planning

- Collect success stories of first generation and local entrepreneurs.
- Collect information and related data for a business.
- Make a plan in team for setting up a business.







2. Introduction

Traditional Indian beliefs inform us that there has been a strong relation between Man and Nature. Our ancestors used to worship nature – The Sun, The Ganges, The Banyan etc. Technology may not have been advanced in those times but our forefathers knew the importance of the five elements of nature – *Prithvi* (Earth), *Agni* (Fire), *Jal* (Water), *Vaayu* (Air), *Aakash* (Space). They understood what it means to be to live without any of these elements. May be this is the reason they considered nature as supreme and worshipped these elements.



As the human race progressed, we neglected the vitality of these elements in our lives. In pursuit to fulfil our unending wants we started exploiting the nature that has resulted in what we see today, the scarcity. There is scarcity of clean water to drink, scarcity of pure air to breathe, scarcity of unadulterated food, rising issue of global warming, depletion of ozone layer. The list is long and unending.

Everyone in the world today is talking about the measures to curb these rising problems. There are World Summits being organised to find a solution to these global problems. And the solution to these problems is only one – **SUSTAINABILITY**.



As per Collins English Dictionary, 'the ability to be maintained at a steady level' is Sustainability. Our Indian tradition has long ago relied and survived on the concept of Sustainability. To put it short and precise, sustainability is an art of living where we respect our environment and make use of the available resources only to the extent where we can replenish what is available to us for the accessibility of future generation.

Sustainability focuses on how human beings can live in peace and harmony with nature without creating ecological disturbance. The aim is that we visualize the long term impact of our actions on environment and take corrosive measures to maintain balance between our demands and the supply of natural resources.

2. Sustainable Development

The concept of sustainable development received its first major international recognition in 1972 at the UN Conference on the Human Environment held in Stockholm. The term was not referred explicitly, but nevertheless the international community agreed to the notion.

The term was popularised 15 years later in Our Common Future, the report of the World Commission on Environment and Development, which included what is deemed the 'classic' definition of sustainable development: "development which meets the needs of the present without compromising the ability of future generations to meet their own needs".

The concept of sustainable development formed the basis of the United Nations Conference on Environment and Development held in Rio de Janeiro in 1992. The summit marked the first international attempt to draw up action plans and

strategies for moving towards a more sustainable pattern of development. Sustainable development was the solution to the problems of environmental degradation discussed by the Brundtland Commission in the 1987 report Our Common Future.

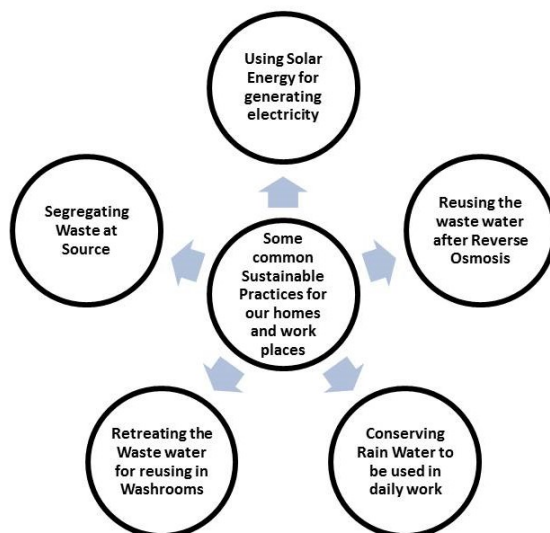
Collins' English Dictionary defines Sustainable Development as the economic development that is capable of being maintained at a steady level without exhausting natural resources or causing severe ecological damage.

Sustainable development focuses on long term, integrated approach to develop a healthy, social and economically viable

society. The aim is to inculcate the value of self-resistance amongst the people to save natural resources for everyone to utilize judiciously and still ensuring its availability for future generations.

To start with, we first need to understand that every small step taken by us to create clean and green environment will contribute in Sustainable Society.

In our daily life we can contribute to create a Sustainable Society by following 4Rs' and 1U of Sustainability. These are **REFUSE, REDUCE, REUSE, RECYCLE** and **UPCYCLE**.





To create a sustainable environment, we must first **REFUSE** to use products that may harm the environment.

REDUCE is the next step, that is minimizing the use of the products that may cause harm to environment.

We must **REUSE** these products as far as possible, in order to reduce the waste generation.

Next comes **RECYCLE**. After reusing the product, we must try to recycle it as far as possible. When we recycle any product, the quality is usually affected and the

new product is not of the same quality as the original product. In these modern times, another smart way has seen its emergence, this is the U in sustainability – **UPCYCLING**. This allows the scope of human skills to get their due. Any product that is not usable can be upcycled with creativity and innovation. **UPCYCLING** of products could be done manually as well as with help of machines, giving a new look to the old product and making it look desirable.



By following the 4 R's and 1 U, we all can contribute in reducing waste generation thereby protecting the resources and keeping the environment safe.

3. Importance of Sustainable Development

Though the concept of Sustainability and Sustainable Development is slowly but widely attracting everyone's attention, including the United Nations, but still there are many questions unanswered. It is not evident as to how the sustainable future looks like but with improvising technologies, but the responsibility to create green solutions will definitely pave the way forward.

In the 21st Century the importance of adopting sustainable techniques for sustainable development is of grave importance.

1. Judicious use of resources is of prime importance since the exploitation of resources is causing its depletion. We need to curb our usage to ensure that resources like air, water, forests are available to future generation. This would also mean that the resources are in their pure form.
2. Not only for the next generation but even for the existing generation, the quality of basic resources is deteriorating leading to major health concerns such as Cancer, Bronchitis etc. Ensuring sustainability will help curb these problems.

3. Rising demands is leading to economic disparity. The rich is becoming richer while the poor is becoming poorer. The uneven distribution of available resources across different economic fronts is leading to discrimination, giving rise to crime and creating social imbalance. To ensure proper balance Sustainability is important.
4. Environmental problems like Climate Change, Emission of Green House gases are alarming. If everyone draws a line for themselves, we will be able to combat these issues with the help of Sustainable Development.
5. Adoption of Sustainable Development in our daily life and at our work place will also promote economic growth. Young entrepreneurs with minimum investment can produce better output. Introduction of Solar Power Plants, Waste Water Treatment Plants, Electric Vehicles etc. will not only help in protecting Environment but shall also contribute in Saving money and resources. The economy that reduces environmental risks and strikes ecological balance is termed as Green Economy.



ACTIVITY

A 1



Write slogans / poems to highlight the importance of conserving water.

Thus, the following may be considered as the driving force to promote Sustainable Development:

- i. Protecting and living in harmony with the Nature
- ii. Considering all human being as equal
- iii. Promoting good governance
- iv. Using Science & Technology responsibly
- v. Creating healthy, social and economically viable society

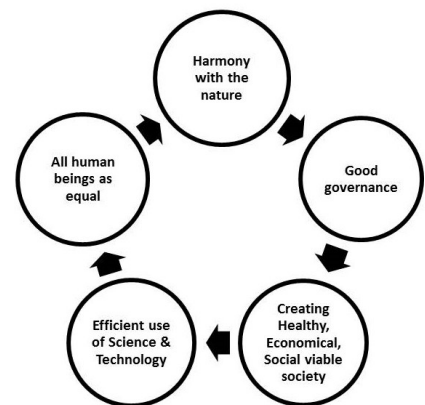


Fig: DRIVING FORCES TO PROMOTE SUSTAINABLE DEVELOPMENT

4. Sustainable Development Goals



To ensure that Sustainable Development is ensured in our communities and world at large United Nations Member States in 2015 adopted 17 SDGs (Sustainable Development Goals) as a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030. These SDGs are integrated and recognize that action in one area will affect outcomes in others, and that development must balance social, economic and environmental sustainability. These are:

- i. No poverty
- ii. Zero Hunger
- iii. Good Health and Well Being
- iv. Quality Education
- v. Gender Equality
- vi. Clean water and Sanitation
- vii. Affordable and Clean Energy
- viii. Decent Work and Economic Growth
- ix. Industry Innovation and Infrastructure
- x. Reduced Inequalities
- xi. Sustainable Cities and Communities
- xii. Responsible Consumption and Production
- xiii. Climate Action
- xiv. Life Below Water
- xv. Life on Land
- xvi. Peace, Justice and Strong Institution
- xvii. Partnership for the Goals

If we as individuals become alert and cautious towards creating and promoting sustainable development, we will certainly be able to have a flourishing green economy where interdependence will be appreciated and our future generation will be able to lead a healthy life.

Project Work - 2

Make a policy for your school to manage waste. The policy must incorporate the objectives and the expected outcomes. Remember to define the roles to students, teachers and other members of your



Sources

http://www.sd-commission.org.uk/pages/history_sd.html

<https://www.undp.org/content/undp/en/home/sustainable-development-goals.html>

