

**SANT NIRANKARI PUBLIC SCHOOL**  
**AVTAR ENCLAVE**  
**CLASS – VIII**  
**WORKSHEET/ASSIGNMENTS :4<sup>TH</sup> WEEK**

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SANT NIRANKARI PUBLIC SCHOOL  
AVTAR ENCLAVE  
CLASS- VIII  
ENGLISH WORKSHEET  
CHAPTER- NOUNS AND PRONOUNS

**A. Write the type of underlined nouns in the given sentences.**

1. The joy of getting a surprise gift was clearly visible on his face. ....
2. We will go to Jaipur in the month of January. ....
3. A band of musicians performed at the annual function of the school. ....
4. Gold is a very precious metal. ....
5. Ram and Mohan are very good friends, no one can break their friendship.  
.....

**B. Fill in the blanks with correct form of nouns given in the brackets.**

1. Bengalis eat a lot of ..... (fish/fishes)
2. They were wearing ..... clothes. (cotton/cottons)
3. He shared his ..... with everyone. (experience/experiences)
4. The ..... of Malabar hills is well known. (beauty/beauties)
5. We have bought too many ..... for the occasion. (cake/cakes)

**C. Use apostrophe to change the following into the possessive form and rewrite the sentences.**

1. He went to the house where Mr Praveen lives.  
.....
2. She returned the books of Anu that she had borrowed.  
.....
3. I bought a delicious cake from the bakery of Rehman.  
.....
4. I loved the performance of the dance troupe.  
.....
5. Everyone appreciated the creations of the artist.  
.....

**D. Fill in the blanks with appropriate reciprocal and distributive pronouns from the box.**

Neither	each other	Either	one another
---------	------------	--------	-------------

1. They share their secrets with .....
2. .... of the two girls has stolen my pen.
3. .... of the students knew the answer to the question.
4. The students looked at ..... when surprise test was given.

**E. Correct the following sentences and rewrite them.**

1. I know the painter which has won the first prize.  
.....
2. They did the work yourself.  
.....
3. I searched for my books nowhere but it was everywhere.  
.....
4. This pen is your.  
.....

SANT NIRANKARI PUBLIC SCHOOL  
AVTAR ENCLAVE  
CLASS- VIII  
ENGLISH WORKSHEET  
CHAPTER- ADJECTIVES AND DEGREES OF  
COMPARISON

**A. Identify the adjectives in the following sentences and mention their kinds.**

1. Her brother greeted everyone at the seminar. ....
2. M. F. Hussain was a renowned artist. ....
3. Six students have already submitted the assignment. ....
4. He gifted her a diamond ring. ....
5. How much money do you need to buy the books? .....

**B. Make adjectives by adding suffixes to the words given below.**

1. help .....
2. cease .....
3. beauty .....
4. child .....

**C. Fill in the blanks using appropriate degrees of comparison.**

1. My hair is ..... than your hair but my mother's hair is the ..... in the family. (long)
2. I am very ..... today, I feel I am the ..... person in this world. (happy)
3. This joke is ..... than the previous one. (funny)
4. Sarika is the ..... girl in the school. (popular)
5. January is the ..... month of the year. (cold)

**D. Make sentences with the words, using comparatives as shown in the example.**

1. Gold – platinum (cheap)      **Gold is cheaper than platinum.**
2. Suresh – Ramesh (tall)      .....
3. Lead – Other metals (heavy)      .....

**A. Identify the subject and the predicate.**

1. The little girl danced at the party.
2. The boys were playing in the garden.
3. The father gifted a pen to his daughter.
4. My uncle is too weak to lift this heavy box.
5. My uncle has gone to the market.
6. I have seen this girl somewhere.

**B. Identify the given sentences as imperative, declarative, exclamatory or interrogative and add punctuation marks accordingly at the end.**

1. What a beautiful picture it is .....
2. I will come to meet you tomorrow .....
3. Have you finished your work .....
4. How sweet her voice is .....
5. Close the door .....

**C. Circle the direct objects and underline the indirect objects, if any, in the following sentences.**

1. The audience listened to the song with full attention.
2. Please buy me a new dress for the party.
3. She gifted a new watch to her brother.
4. She taught Science to Mohan.
5. My grandfather told me a story.

**D. Circle the phrases in the following sentences and identify whether they are adjective, adverb or noun phrases.**

1. He is a boy of seven years. ....
  2. The train moved at a slow speed. ....
  3. She likes to cook food. ....
-

Date

संत निरंकारी पाठलक स्कूल

अवतार सन्कलेव

कक्षा - आठवीं

विषय - संस्कृत

कार्यपत्रिका

पाठ - 1

सुभाषितानि

प्र०१. शकपकेन उत्तरत ।

(i) व्यसनिनः किं नश्यति ?

(ii) कस्य यशः नश्यति ?

(iii) मधुमक्षिका किं जनयति ?

(iv) मधुरसूक्तरसं के सृजन्ति ?

(v) अधिनः केभ्यः विभ्रुखा न यान्ति ?

प्र०२. संस्कृतपदानि लिखत ।

(i) कडवा

(v) तिनका

(ii) पूँछ

(iii) लोभी

(iv) मधुमक्खी

प्र०३. प्रश्ननिर्माणं कुरुत ।

(i) शुणाः शृणुषु शुणाः भवन्ति ।

(ii) नद्यः सुस्वादुतोयाः भवन्ति ।

(iii) लुब्धस्य यशः नश्यति ।

(iv) मधुमक्षिका माधुर्यमेव जनयति ।

(v) तस्य मूर्ध्नि तिष्ठन्ति वायसाः ।

प्र०४. पदानि पृथक् कुरुत ।

(i) माधुर्यमेव

(iii) महात्मानाम्भुक्तिः

(ii) अल्पमेव

(iv) देवमेव

4. The girl d

5. He wante

6. The man i

E. Identify the

1. The kind r

2. They like

3. My dog, B

4. Your uncl

5. She keeps

Date

संत निरंकारी पब्लिक स्कूल

अवतार एन्क्लेव

केक्षा - आठवीं

विषय - हिंदी

कार्यपत्रिका

पाठ - 1

कविता - ध्वनि

1. कवि को ऐसा विश्वास क्यों है कि उसका अंत अभी नहीं होगा?
2. फूलों को अनंत तक विकसित करने के लिए कवि कौन-कौन-सा प्रयास करता है?
3. कवि पुष्पों की तंद्रा और आलस्य दूर करने के लिए क्या करना चाहता है?
4. वसंत को ऋतुराज क्यों कहा जाता है?
5. वसंत ऋतु में आने वाले त्योहारों के नाम लिखें और किसी एक त्योहार पर लिपि लिखें।
6. कविता में से विशेषण शब्द चुन कर लिखें।

**SANT NIRANKARI PUBLIC SCHOOL**

**AVTAR ENCLAVE**

**PASCHIM VIHAR**

**ASSIGNMENT**

**CLASS - VIII**

**Chapter - RATIONAL NUMBERS**

**Given on 24<sup>th</sup> April'20**

**Submit on 26<sup>th</sup> April'20**

1. Pick up the rational numbers from the following numbers:  
6/7, -1/2, 0, 1/0, 100/0
2. Find the reciprocal of the following rational numbers:  
i)  $-\frac{3}{4}$

- ii) 0  
 iii)  $\frac{6}{11}$   
 iv)  $\frac{5}{-9}$
3. Write two such rational numbers whose multiplicative inverse is same.
4. What property the following expression shows:  
 i)  $\frac{2}{3} + \frac{4}{5} = \frac{4}{5} + \frac{2}{3}$   
 ii)  $\frac{1}{3} \times \frac{2}{3} = \frac{2}{3} \times \frac{1}{3}$
5. What is the multiplicative identity of rational numbers?
6. What is the additive identity of rational numbers ?
7. Write the additive inverse of the following :  
 i)  $-\frac{6}{7}$   
 ii)  $\frac{101}{213}$
8. Represent the following rational numbers on the number line :  
 i)  $-\frac{2}{3}$   
 ii)  $\frac{3}{4}$   
 iii)  $\frac{3}{2}$
9. Multiple  $\frac{4}{7}$  by the reciprocal of  $\frac{1}{63}$ .
10. What must be added to  $-\frac{3}{8}$  to get  $\frac{5}{16}$ ?
11. Write any 5 rational numbers between  $-\frac{2}{5}$  and  $\frac{1}{2}$ .
12. If the product of any two rational numbers is 2 and one of them is  $\frac{1}{7}$ , find the other?
13. Verify that:  
 (i)  $\frac{-1}{2} + \left[ \left( \frac{-4}{3} \right) + \frac{3}{7} \right]$  and  $\left[ \left( \frac{-1}{2} \right) + \frac{3}{7} \right] + \left( \frac{-4}{3} \right)$  are there same  
 (ii)  $\frac{2}{3} \times \left[ \frac{-6}{7} + \frac{4}{5} \right] = \left[ \frac{2}{3} \times \frac{4}{5} \right] \times \left( \frac{-6}{7} \right)$

**SANT NIRANKARI PUBLIC SCHOOL**  
**AVTAR ENCLAVE**  
**PASCHIM VIHAR**  
**ASSIGNMENT**  
**CLASS – VIII**  
**Chapter – EXPONENTS**

**Given on 27<sup>th</sup> April'20**

**Submit on 28<sup>th</sup> April'20**

1. State true or false. Correct the statement in case the answer is false.

a) 1 mm equals  $\frac{1}{100000000}$  km

b)  $\frac{3}{19} = \left(\frac{19}{3}\right)^{-1}$

c)  $\frac{3}{10000000}$  can be written as  $3 \times 10^{-7}$

d) If  $p$  is a rational number and  $m$  and  $n$  are the integers, then  $p^m \div p^n = p^{m+n}$

e) If  $p$  and  $q$  are rational numbers and  $m$  is an integer, then  $p^m \times q^m = (pq)^m$

2. Find the value of the following.

a)  $\left(\frac{2}{4}\right)^{-8}$

b)  $\left(\frac{-1}{3}\right)^{-4}$

c)  $\left(\frac{4}{6}\right)^{-4}$

d)  $\left(\frac{-5}{6}\right)^{-6}$

e)  $\left(\frac{2}{7}\right)^{-5}$

f)  $\left(\frac{-10}{17}\right)^{-3}$

3. Find the reciprocal of the following.

a)  $(4)^{-2}$

b)  $(-3)^{-14}$

c)  $\left(\frac{2}{5}\right)^{-6}$

d)  $\left(\frac{-11}{13}\right)^{-16}$

e)  $\left(\frac{-4}{5}\right)^{-13}$

f)  $\left(\frac{-4}{9}\right)^{-19}$

4. Write the following in expanded form using exponents of 10.

a) 23.869

b) 9.586147

c) 35.861496

5. Write the following in exponential form with a negative exponent.

a)  $\frac{243}{32}$

b)  $\frac{216}{512}$

c)  $\frac{125}{27} \times \frac{25}{9}$

d)  $\frac{5}{3} \times \frac{5}{3} \times \frac{5}{3} \times \left(\frac{-7}{8}\right) \times \left(\frac{-7}{8}\right) \times \left(\frac{-7}{8}\right)$

e)  $\left(\frac{-6}{11}\right) \times \left(\frac{-6}{11}\right) \times \left(\frac{-6}{11}\right) \times \frac{2}{3} \times \frac{2}{3} \times \frac{2}{3} \times \frac{2}{3} \times \left(\frac{-11}{9}\right) \times \left(\frac{-11}{9}\right) \times \left(\frac{-11}{9}\right)$

**SANT NIRANKARI PUBLIC SCHOOL**

**AVTAR ENCLAVE**

**PASCHIM VIHAR**

**ASSIGNMENT**

**CLASS – VIII**

**Chapter – EXPONENTS**

**Given on 28<sup>th</sup> April'20**

**Submit on 30<sup>th</sup> April'20**

1. Expand 1025.63 using exponents

2. Expand 1256.249 using exponents.

3. State whether true or false:

a. A number that represents how many times the number is multiplied by itself is known as exponent.

b. Usual form of the expression  $9 \times 10^{-5}$  is given by  $90 \times 10^{-4}$

c. In standard form 56700000 is written as  $567 \times 100000$ .

d.  $a^m \times a^n$  is equal to  $a^{m+n}$ .

4. Fill Up the following:

a. The standard form of \_\_\_\_\_ is 0.00000003673.

b. The Base in the expression  $8 \times 100$  is \_\_\_\_\_.

c. If 'a' is a real number and 'm' is an integer, then exponential form is  $a^{-m}$  and division form = \_\_\_\_\_.

d.  $3^{-2} =$  \_\_\_\_\_.

6. Simplify and express the result in power notation with positive exponent.  $2^{-3} \times (-7)^{-3}$

7. Simplify:  $5^{-2} \times 5^3$

8. Evaluate:  $\{(1/3)^{-1} - (1/4)^{-1}\}^{-1}$

9. Simplify:  $[3^{-1} + 4^{-1} + 5^{-1}]^0$

10. Find the value of:  $3^3 \sqrt{2} \times 7^3 \sqrt{6} \times 5^3 \sqrt{18}$ .

**SANT NIRANKARI PUBLIC SCHOOL  
AVTAR ENCLAVE  
CLASS VIII  
SUBJECT: SST(CIVICS)  
WORKSHEET -2  
CH-1(CONSTITUTION AND NEED FOR LAW)  
SUBMISSION DATE: 27/04/2020**

1. Choose the correct option

(i) A republic is a state where the head of the state is

a) nominated    b) Elected    c) Hereditary

(ii) Which fundamental right protect all other rights

a) Right of equality                      b) Right of constitutional remedies  
c) Right of freedom

(iii) Changes in the constitution are made through a process called

a) Amendment                              b) Review

(iv) Our constitution was put into force in the year

a) 1947                      b) 1948                      c) 1950

2. Fill in the blanks

(i) All citizens are \_\_\_\_\_ equal before law.

(ii) The \_\_\_\_\_ gives us information about the composition of government

(iii) Dissent is a part and parcel of a \_\_\_\_\_.

(iv) The \_\_\_\_\_ is responsible for implementing the law.

3. Answer in one word/one sentence:

(i) What is constitution?

(ii) An introduction to a legal document \_\_\_\_\_.

(iii) Write two fundamental duties.

(iv) Write all fundamental rights.

4. Activity

Draw a chart of all the fundamental rights in a sheet or A4 size sheet.  
Use coloured pens.

SANT NIRANKARI PUBLIC SCHOOL  
AVTAR ENCLAVE, PASCHIM VIHAR  
CLASS VIII  
WORKSHEET- II  
CH-13SOUND

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GIVEN DATE: 30/4/2020

SUBMISSION DATE: 1/5/2020

1. Speed of sound increases as it passes through:-
  - a. solid < liquid > gas
  - b. gas < liquid < solid
  - c. liquid < gas < solid
  - d. gas > liquid > solid
2. The shape of outer ear resembles a:-
  - a. Funnel
  - b. Kernel
  - c. Tunnel
  - d. both a & b
3. A tightly stretched membrane that separates outer ear from middle ear is:-
  - a. Eartube
  - b. Earpinna
  - c. Eardrum
  - d. Earfiller
4. The part of ear which converts sound energy into electric impulses for brain is :-
  - a. Outerear
  - b. Pinna
  - c. Middleear
  - d. Innerear
5. Match the column:-

a. Electric	i) middle ear
b. Sound	ii) inner ear
c. Eardrum	iii) stimulus
d. Pinna	iv) guitar

e. Cochlea	v) outer ear
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6. Fill in the blanks:-

- a. Sound is caused by a source that \_\_\_\_\_ .
  - b. cords are present inside the voice box.
  - c. The sense organ that perceives sound is \_\_\_\_\_.
  - d. The function of outer ear is to \_\_\_\_\_ sound waves.
  - e. Inner ear transmits vibrations to brain by \_\_\_\_\_ nerve.
7. How does a human being produce sound? Explain.
  8. If it feels some irritation in the ears and put a needle into the ear to remove it. Can it be dangerous?
  9. Name the instrument and its category also among musical instruments.



10. Write the correct words by putting letters in correct sequence-
  - i. nlyaxr

SANT NIRANKARI PUBLIC SCHOOL, AVTAR ENCLAVE  
 ASSIGNMENT: 1 (BIO)  
 Class–VIII Science (Crop Production and Management)

1. Sunflower seeds provide us mainly with :-
  - a. Fats b. Carbohydrates c. Proteins d. Vitamins
2. Most commonly grown cereal crop is/are :-
  - a. Rice b. Maize c. Wheat d. All the above
3. Crops sown during winters are :-
  - a. Rabi crops b. Kharif crops c. Mixed crops d. Cereal crops
4. The method of scattering seeds in the field by hand is :-
  - a. Hand picking b. Transplantation c. Broadcasting d. Levelling
5. Match the column:-

a. Horticultural crop	i) Potato
b. Kharif crop	ii) Crotons
c. Rabi crop	iii) Agricultural waste

d. Compost manure	iv) Groundnut
e. Green manure	v) Dry leaves

6. Fill in the blanks :-

- \_\_\_\_\_ is large scale cultivation of vegetable, fruits & flower plants.
- \_\_\_\_\_ is the process of loosening and turning up of the soil.
- \_\_\_\_\_ is the process of supplying water to crops at different intervals.
- \_\_\_\_\_ is result of too much water given to the soil.
- \_\_\_\_\_ is the science dealing with growth of plants and animals for human use.

7. Why is it good to wash foodgrains before use?

8. Why are manures better than fertilizers?

9. Pick the wrong word out of the following: Pesticide/Horticide/Herbicide/Weedicide/ Insecticide

Write the correct words by putting letters in correct sequence-i) wwiinnngo ii) shhtegrin

**SANT NIRANKARI PUBLIC SCHOOL  
AVTAR ENCLAVE PASCHIM VIHAR  
CLASS – VIII  
CHAPTER – 1  
(OPERATING SYSTEM: ROLES AND FUNCTIONS)**

DATE : 30/04/2020

SUBMISSION DATE: 04/05/2020



## Operating System: Roles & Functions



### Targeted Skill Set:

**Ability to distinguish operating system from other software. Work with Windows GUI.**

### Objectives:



Dear student, by the end of this chapter, you will be able to:

- Define the term *operating system*.
- List 3 main functions of operating system.
- List at least 7 main tasks of an OS.
- Describe at least 8 types of OS.
- Work with Windows GUI.

Broadly, there are two types of software on any computer or handheld device:

- ❖ **Application Software**, which we use to perform our daily tasks on the computer.
- ❖ **System software**, which are used to manage the computer system such as software for various devices (like printer software, sound card software etc.), language compilers, utilities (like disk backup, disk manager etc.) and Operating System.

*Operating system manages the functioning of entire computer system including hardware and software. It also works as an interface between the computer system and the user.*

An operating system sits between application software and hardware. All the communication between the user and the computer and between application software and hardware occurs through the operating system.

### Functions of Operating System

There are 3 main functions of an operating system:

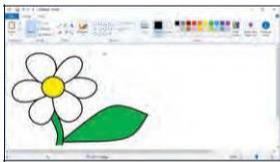
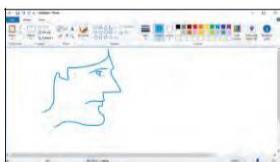
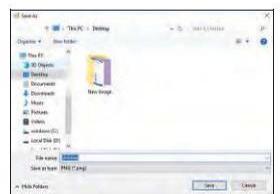
1. Managing applications and giving them access to hardware services. For example, if you give a print command to print your document, operating system manages the printable data to be sent to the desired printer.

2. Managing data and system resources. For example, you create folders and save files, install new software and hardware and access files and devices over a network.
3. Providing user interface to work with the computer system. For example, opening programs, deleting files, searching on the computer are done by the help of operating system.

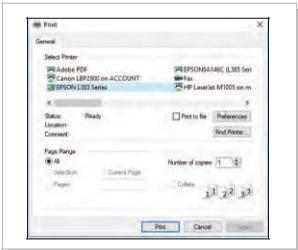
### Important tasks of an operating system

1. Managing applications running in the computer.
2. Handling input and output.
3. Handling data and signal transfer among the devices and software.
4. Managing memory – allocating/ deallocating memory to programs to run.
5. File system management – keeping track of all the files and folders.
6. Network management – communicating with other computers and devices over a network.
7. Computer system security.
8. User interface.

### A Scenario of Operating System's Tasks

USER (YOU)	OPERATING SYSTEM	TASK	
You launch a program, for instance, MS Paint.		Operating system loads MS Paint in RAM and allocates some memory to it to run	Managing applications and memory
You start drawing in MS Paint using Pencil tool and blue colour.		This input is given to MS Paint and produce the drawing on the monitor as you draw with mouse.	Handling input/ output
You save your drawing.		Operating system creates your .png graphics file on the computer disk.	Data and file management

You give a print command to print your drawing.



Operating system sends your drawing content to the printer.

Handling data transfer among the software and devices

You close MS Paint and open Calculator



Memory deallocated to MS Paint (removed from RAM) and Calculator is loaded

Managing applications and memory

## Types of Operating System

Operating systems can be categorised on the basis of different factors.

### OS Types on the Basis of Functionality

On the basis of functionality, operating systems are broadly of following 2 types:

- ❖ Single-tasking OS
- ❖ Multi-tasking OS

**Single-tasking OS:** A single tasking operating system executes one task at a time. It does not allow launching a new task until the task at hand is not finished. Examples of such operating system is Disk Operating System (DOS) from IBM and Microsoft, Windows 95 (in 80s and early 90s) and PalmOS for mobile devices. An instance of such functionality is, if you have given print command in DOS, then until the printing is over, you will have to wait to issue the next command to do another task.

**Multi-tasking OS:** A multi-tasking operating system handles more than one task at a time. User can perform multiple tasks simultaneously. All modern operating systems are multi-tasking OS. Examples are Microsoft Windows family (Win XP, Win 7, Win 8, Win 10, Win NT etc.); Unix; Linux; Apple MacOS and iOS; and Google Android. An instance of such functionality is you are listening to a streaming song and at the same time given a print command for a multipage document yet chatting online with a friend while still a file is being uploaded. All these four tasks are occurring at the same time.

### OS Types on the Basis of Number of Users

**Single User OS:** Operating system that allows only one user to work at a time is called single user operating system.

**Examples:** MS-DOS, IBM-DOS, Windows 95, Windows 98, Windows ME, Classic MacOS ( 1 to 9) , PalmOS for handheld devices.

**Multi-user OS:** Operating system that allows multiple users to work at the same time is called multi-user operating system.

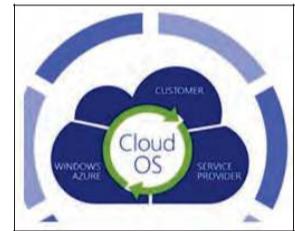
**Examples:** Unix, Linux, Windows NT, X-Window system and MVS Operating System for Mainframe computers. Such operating systems are installed on a main powerful computer system and other computers connect with it over a network. Users log on to the main computer and its operating system manages all the users. User terminals are called clients or workstations.

## Other Types of OS

**Network OS:** This operating system manages sharing of resources and communication over a network of computers.

**Examples:** Unix, Ubuntu Server, Red Hat Linux Enterprise edition, Windows Server.

**Web OS:** An operating system that is accessible through a web browser. They are usually provided by companies to their users via internet. This kind of operating system is also called cloud operating system and the setup is called cloud computing. Users connect with the computer running Web OS through the browsers on their respective computers and make use of services provided by the company. Web OS does not load in user's computer memory. It does not manage the functionality of user's computer. User's computer run its own operating system.



**Examples:** Microsoft CloudOS, ChromeOS, Remix OS, eyeOS, Desktop On Demand (DOD), Jooce and XIN.

**Mobile OS:** Operating systems that runs on handheld devices like cellphones and tablet Pcs.



**Examples:** iPhone OS, Android OS, Windows Phone OS.

**Real-Time OS:** Such operating systems are used to control the activities which need to be done precisely at a given specific time. For example, launching a satellite in the designated orbit at a precise time interval or an aircraft control system. RTOS are normally found embedded in the devices themselves. They are not like general operating systems which need to be installed on the computer. Some RTOS are VxWorks, FreeRTOS, Integrity, Ecos, Cocoon etc.



## User Interface

User interface allows the user to tell the computer what it needs to do so that the desired task could be accomplished. For example, to change the name of a file, user should be able to key in the command (F2 key) or select an option (Rename) on the screen and then type the new file name.

## Types of User Interface

User Interfaces (UI) are of 2 types:

- i. Character User Interface (CUI) or Command Line Interface (CLI)
- ii. Graphical User Interface (GUI)

### Note

Another UI is **Voice User Interface** which understands our natural speech. For example: Cortana - Virtual assistant for by Microsoft for various devices.



**Character User Interface (CUI):** This interface provides a way to type the commands and submitting them to the computer to execute. For example, to rename a file, the command syntax would be: `ren <old file name> <new file name>`, like, `REN file1 file2`. Here, `file1` is renamed to `file2`.

To work with CUI, user must learn the commands and know their correct usage. It needs keying in the commands on a command line and submitting them by pressing Enter key. If a command is mistyped, an error message is displayed giving enough hint to the user to correct the mistake. *CUI is also known as Command Line Interface (CLI).*

```
Command Prompt
C:\Users\ESOFT>ren myfile file1
The system cannot find the file specified.

C:\Users\ESOFT>ren
The syntax of the command is incorrect.

C:\Users\ESOFT>ren /?
Renames a file or files.

RENAME [drive:][path]filename1 filename2.
REN [drive:][path]filename1 filename2.
```

**Graphical User Interface (GUI):** Graphical user Interface allows the users to interact with the computer system through a set of graphical components like menus, toolbars, icons, buttons, windows and dialog boxes etc.

## Introduction to Graphical User Interface

A set of graphical components like menus, toolbars, icons, buttons, windows and dialog boxes etc. is called GUI and it helps user to interact with the computer system.

The fundamental component of every GUI is Desktop. It is the background over which all the other GUI components appear.

Various operating systems have slightly different looking desktops but their basic components and arrangement is similar. The look and feel of the desktop can be customized by the user.



Windows 10



Windows 7



Linux



ChromeOS

Mac OS



## Advantages of GUI

- ❖ A GUI is graphical, so it is easier for the user to learn and use.
- ❖ User does not need to remember the commands and their usage.
- ❖ GUI is intuitive that is it gives visual and audio hints for user's guidance such as sounds denoting something went wrong or blinking window or icon that needs attention.
- ❖ GUI is customizable, so users can change its look and colour theme as they like.

## Features of GUI

- ❖ **Mouse functions:** GUI allows mouse functions like drag-drop objects, right click to display shortcut menu, double click to launch a program, selecting text and scrolling the contents of a document or web site.
- ❖ **Accessibility features:** A GUI provides visual and audio aids for people who are visually challenged or with auditory impairments. Common aids are moving the mouse pointer using arrow keys on the keyboard, magnifying a part of the screen, sounds for various notifications and warnings, visual attention like blinking window or icon, reading out the text in the message boxes and windows etc.

- ❖ **Voice Recognition:** Modern operating systems have features of voice commands and speech recognition.
- ❖ **Customisation:** Users can change the colour theme, font size and colour, arrangement of icons and windows, look of the desktop etc. according to their preference.

## Windows 10 GUI

Windows graphical user interface is composed of basically following components:

- ❖ Taskbar and Start Menu
- ❖ Desktop
- ❖ Icons
- ❖ Program windows
- ❖ Dialog boxes



### Taskbar and Start Menu

Taskbar is a thin, long strip stretched along entire screen width. It is generally situated at the bottom of the screen. It shows the following:

- ❖ Start button
- ❖ Quick Launch Icons (icons of programs which are to be launched with single click)
- ❖ Icons of currently opened programs
- ❖ Notification area or System Tray
- ❖ Show Desktop button

Windows 10 Taskbar

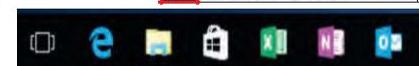
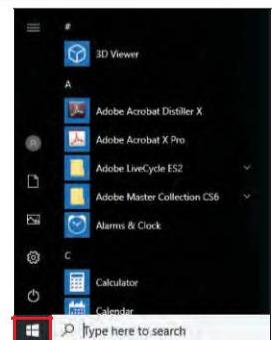


Windows 7 Taskbar

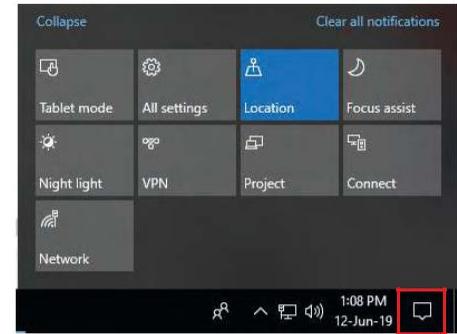
**Start Button:** Clicking on this button opens up Start Menu. Start menu shows the list of recent programs, various standard choices like Control Panel; Devices and Printers etc., Search bar and System shutdown/restart options.

**Quick Launch bar:** This is the set of icons of those programs which are launched with just a single click on their icon. Icons of the programs needed frequently are set in Quick Launch bar.

**Active Programs Icons:** These are the icons of currently opened programs. If a program has multiple files opened then an icon group is shown. When you hover mouse pointer on an icon, it shows the thumbnail of the program.



**Notification Area:** This area is also called System Tray. It shows the details of tasks and programs running in the background such as antivirus, any updates etc. Clock is also shown in System Tray clicking on which pops up Calendar also. Other common icons in System Tray are Network connection, Speaker, Language etc.



**Show Desktop Button:** It is a small vertical rectangle on the right side of the clock. Clicking on this minimises all the program windows that are opened and displays entire desktop.

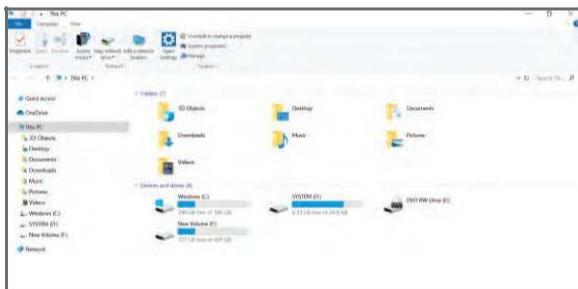
## Desktop

As you log on to the computer, you see the large area on the screen that is called **Desktop**. It has two main components – *Background* and *Icons*.

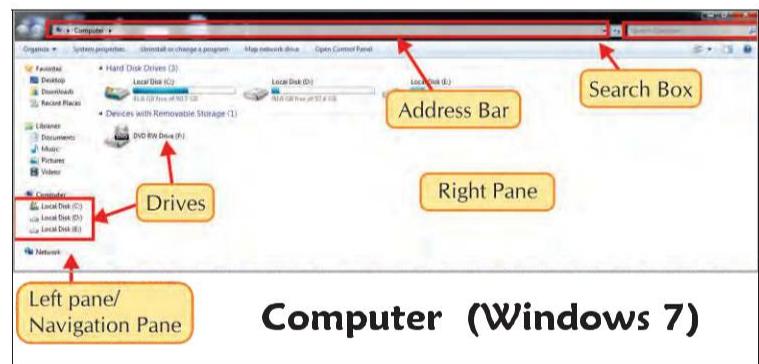
Background can contain a solid colour or an image. Many desktop themes also provide a 3 dimensional live background also. Icons are the small pictures that represent a program or a shortcut to a program, file or folder.

Some standard icons on the Desktop are:

**This PC:** It displays the contents of user's computer system organised in disk drives, folders and files.

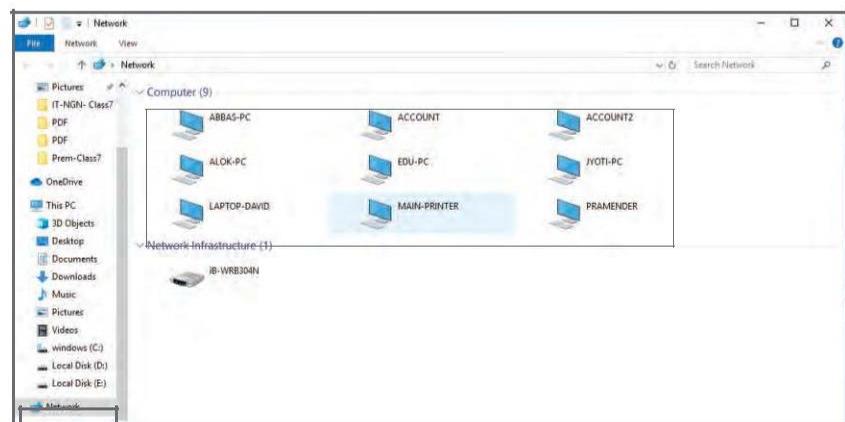


**This PC (Windows 10)**



**Computer (Windows 7)**

**Network:** It shows other computers that are active on the network to which user's computer is connected.



**Recycle Bin:** It stores and displays the files deleted by the user. Files deleted from the Recycle Bin are deleted permanently. If you press **Shift** key while deleting a file, it gets deleted permanently without moving to the Recycle Bin. Files can be restored from the Recycle Bin also. Files deleted from the Recycle Bin cannot be restored as they are deleted permanently.



## Program Windows

Any program that is launched in Windows, opens up in its own rectangular window. If a program opens multiple files then each file has its own similar looking window. On these windows, Microsoft had named the operating system as *Windows*. So, *Windows* (with 'W' in upper case) is the name of the Operating System while *windows* (with 'w' in lower case) are the windows that may be opened while working on the computer.

Each window has following standard components:

**1. Title bar:** This shows the name of the file and program. It also has **Control buttons** and **Control menu**.

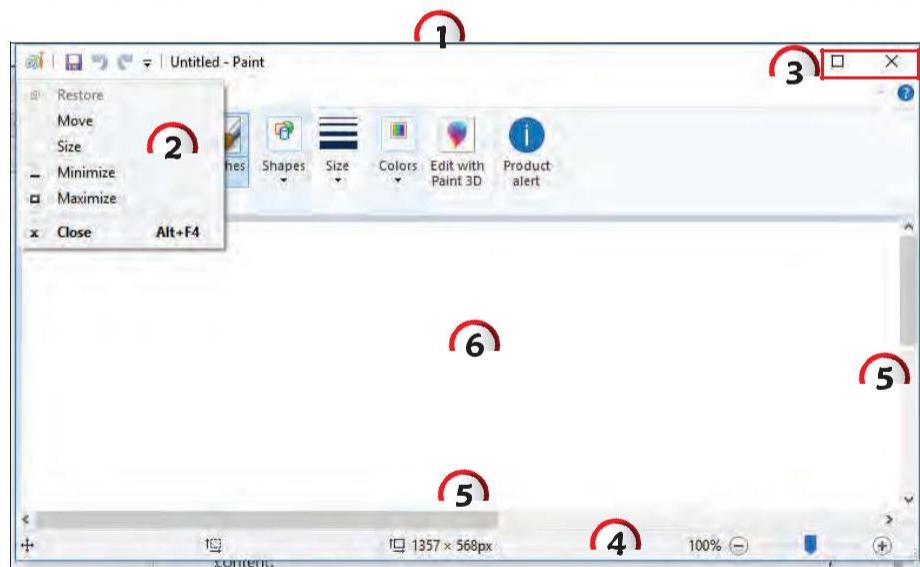
**2. Control Menu:** It is represented by the program icon on the extreme left side of the Title bar. It shows some common options like Close, Move, Restore etc.

**3. Control Buttons:** This is a set of three buttons on the extreme right of the Title bar. They are named in this order – **Minimise** button to minimise the window, **Maximise/Restore** button to Maximise a minimised window or restore the window to a changeable size and finally, **Close** button to close the window.

**4. Status Bar:** Certain windows show this strip on the bottom which displays some quick information like number of pages in the file, language used etc.

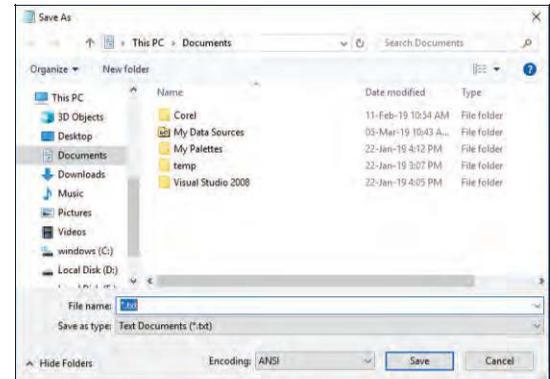
**5. Scroll Bars:** If the document or content of the window are too large then window displays Horizontal and Vertical scroll bars to scroll through the document to access the content.

**6. Working Area:** This is the largest area in a window that shows the contents of the program. Users also work in this area.



## Dialog Boxes

Dialog boxes are displayed to the user when Windows needs some input from the user to accomplish a task. For instance, if you save a file for the first time, operating system will display **Save As** dialog box to specify file location and name etc. to save or if you issue a command to print a document then **Print** dialog box will pop up to let you specify details like number of copies to print, which pages to print etc.



## GLOSSARY

- Application** : A computer software addressing needs of a particular field.
- File System** : Helps operating system to manage files on computer.
- User Interface** : A set of commands and/or graphical components to work on a computer system.
- Real Time** : Amount of same time taken every time a particular activity is done.



## I have learnt...

- ◆ Operating system manages the functioning of entire computer system.
- ◆ A single tasking operating system executes one task at a time.
- ◆ A multi-tasking operating system handles more than one task at a time.
- ◆ Single user OS allows only one user to work on a computer at a time.
- ◆ Multi-user OS allows multiple users to work at the same time on a computer.
- ◆ Net OS manages resource-sharing & communication over a computer network.
- ◆ Web OS is an operating system that is accessible through a web browser.
- ◆ Mobile operating systems runs on handheld devices.
- ◆ Real Time OS is controls the activities done precisely at a given specific time.
- ◆ Character User Interface allows typing commands for the computer to execute.
- ◆ A set of graphical components is called Graphical User Interface.



# Exercise

## A. Choose the correct answer.

- An operating system sits between application software and \_\_\_\_\_.  
a) Printer       b) Desktop   
c) Hardware       d) Memory
- A \_\_\_\_\_ operating system handles more than one task at a time.  
a) Multi-tasking       b) Multi-program   
c) Multi-purpose       d) None of these
- CLI is also known as \_\_\_\_\_.  
a) GUI       b) GLI   
c) CI       d) CUI
- A window is a rectangle in which a \_\_\_\_\_ opens.  
a) Desktop       b) Program   
c) Power supply       d) System unit
- A \_\_\_\_\_ in Windows collects input from the user to accomplish a task.  
a) Dialog box       b) Message box   
c) Menu       d) Window

## B. Fill in the blanks.

**Title bar, Quick Launch Icons, System tray, Desktop, Taskbar**

- \_\_\_\_\_ is a thin, long strip stretched along entire screen width in Windows.
- Clock is shown in \_\_\_\_\_.
- Control buttons and Control menu are located in \_\_\_\_\_.
- \_\_\_\_\_ launch the programs with single click.
- The fundamental component of every GUI is \_\_\_\_\_.

**C. Tick (✓) the correct statement and cross (✗) out the wrong one.**

- 1. Applications on a PC are managed by the operating system.
- 2. All modern operating systems are multi-tasking OS.
- 3. Network operating system provides internet access.
- 4. Android is a mobile operating system from Apple.
- 5. Real time OS is used in areas such as aircraft control system.

**D. Answer the following questions.**

- 1. Briefly compare CUI and GUI.

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- 2. List the advantages of GUI.

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- 3. Write in one line the use of *Quick Launch bar*, *Start button*, *Notification area*.

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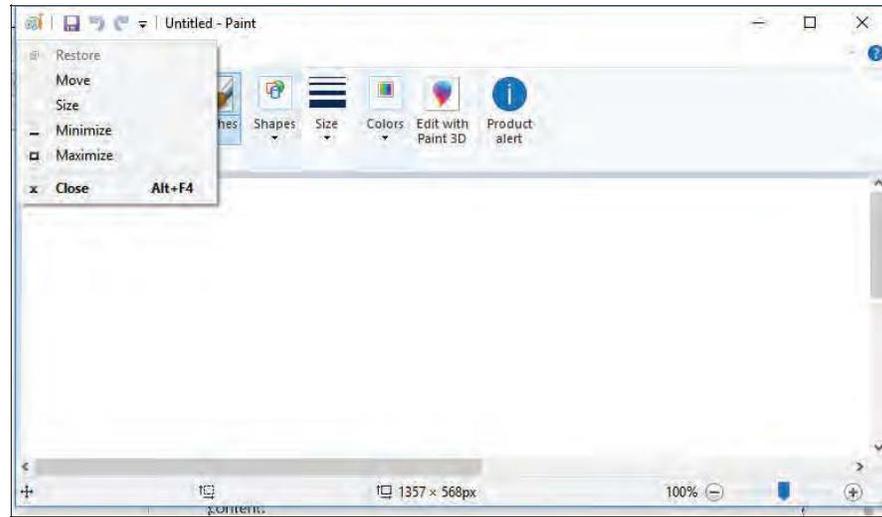
4. List any 3 important tasks of an operating system.

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5. Label the following window.



**E. Match the Type of Operating System with its definition.**

1. Multi-tasking OS
2. Multi-user OS
3. Web OS
4. Real Time OS

- a. Does not load in user's computer memory.
- b. Controls tasks to be done in a specific time.
- c. Many users work on it simultaneously
- d. Handles more than one task at a time.

**F. Value based learning for critical thinking and open discussion**

Find out some innovations in computer field useful for environment and discuss.

Teacher's Signature : \_\_\_\_\_

Teacher's Remark : ☆☆☆☆☆



### Beyond the Book

[https://www.webopedia.com/TERM/O/operating\\_system.html](https://www.webopedia.com/TERM/O/operating_system.html)

<http://www.theoperatingsystem.org/>