Course: 02

FUNDAMENTALS OF INTERNET & ICT

C·O·L
CEMCA

Certificate in Application of ICT in School Education

Year: 2021

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CEMCA

Commonwealth Educational Media Centre for Asia
and
Krishna Kanta Handiqui State Open University

FUNDAMENTALS OF INTERNET & ICT

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Course Introduction

This course on "*Fundamentals of Internet and ICT*" has been designed in such a way that it can be used as a self-learning material for obtaining basic knowledge and understanding of internet and Information and Communication Technology. All the modules presented in the course are illustrated with suitable examples wherever required, in addition to providing links of video tutorial/s and also other OER links for further learning at appropriate places. These enable the learners to understand the concepts easily thereby leading to effective self-learning.

This course material consists of 4 modules.

Module 1 provides an introduction to the fundamental or basic concepts of internet. This module gives an idea about the important terminologies used in the world of internet along with types of activities one can do online with the help of internet.

Module 2 focuses on various applications internet technologies. It explains how to use an email, meaning and features of web-conferencing, concept of cloud services, etc.

Module 3 highlights the usefulness of Information and Communication Technologies, most commonly referred to as ICT and describes the various types of ICT tools available.

Module 4 illustrates how to install and uninstall some commonly used desktop software applications and how to troubleshoot some of the common computer problems

Introductory Video of Certificate on Application of ICT in School Education	**Video link :** https://www.youtube.com/watch?v=2MB2twPqsBk	**Scan with QR Code**

CONTENTS

Module I:
BASICS OF INTERNET

STRUCTURE

1.1. Learning Objectives

1.2. Introduction

1.3. Concept of Internet

    1.3.1.   Important terminologies in Internet

    1.3.2.   What can one do on-line

    1.3.3.   Meaning of Cloud

1.4. Getting started with Internet

    1.4.1 Connecting to Internet

    1.4.2 How Internet works

1.5. Browsing the Web

1.6. How to search the Web using search engines

1.7. Let Us Sum Up

1.1. LEARNING OBJECTIVES

After going through the module, you will be able to –

- describe the meaning of internet
- name the important terminologies used in internet
- identify the activities one can do on-line
- get started with Internet
- browse the web
- explain the application of Internet

1.2. INTRODUCTION

We all have some fundamental knowledge about the basics of a computer, how to operate windows OS and also about some applications of the MS-Office software. In this module, we are giving you a brief idea about the basics of Internet. All of us are familiar with the term 'Internet'. But many of us are not aware of the full form of the term or about the various important terminologies associated with internet. This module will familiarize you with the language of internet and also gives you a bird's eye view of the various functions one can do on-line by the use of internet.

1.3. CONCEPT OF INTERNET

Internet stands **for Inter**connected **net**work of computers. The **Internet** is a telecommunications network that uses telephone lines, cables, satellites and wireless connections to connect computers and other devices to the Web i.e. World Wide Web (WWW).

With the Internet, it's possible to access almost any information, communicate with anyone else in the world, and do so much more. When someone says a computer is online, it's just another way of saying that the computer is connected to the Internet.

Internet was developed in the United States by the "United States Advanced Research Projects Agency" (DARPA). Internet was first connected in the year 1969 and was called ARPANET. The World Wide Web was created at the European Organisation of Nuclear Research, known as CERN in Switzerland in 1990 by a British (UK) scientist named Tim Berners-Lee.

1.3.1 Important Terminologies in Internet

• **Internet Browser:** An Internet Browser is a software program that enables you to view Web pages on your computer. Browsers connect computers to the Internet, and allow people to "surf the Web."

• **Internet Explorer:** Internet Explorer is one of the browsers most commonly used. There are other browsers available as well, including **Netscape, Mozilla, Chrome etc.**

• **Web pages:** A Web Page is like a page in a book. Websites often have several pages that you can access by clicking on links. A **Web site** can be a collection of related Web pages.

• Each Web site contains a **home page** (Original starting page) and may also contain additional pages.

• The **World Wide Web** (**WWW**) is a network of online content (web pages, pictures, videos etc) that can be accessed via a Web browser.

- A **uniform resource locator (URL)** is the address of a resource on the Internet. A URL indicates the location of a resource as well as the protocol used to access it. *(from* www.techopedia.com *definition)*

- An **ISP** (Internet Service Provider) is a company that provides the connections and support to access the Internet (Examples: BSNL, Airtel, Vodafone, etc.)

1.3.2 What can one do on-line

There are so many things that you can do online. Using Internet, it is possible to find information quickly, communicate with people around the world through chat, email, video conferencing, etc., manage finances, shop from home, listen to music, watch videos, and much more.

Let's take a look at some of the most commonly used services in the Internet.

i)   Searching Information online

With the help of search engine (e.g. google, bing etc) it is possible to access relevant information within a few seconds.

ii)   Email (Electronic mail)

Email is a method of exchanging messages between people using electronic devices across the internet. To send message to another person through email, you need the email address of that person. For example, jadu@gmail.com is an email address.
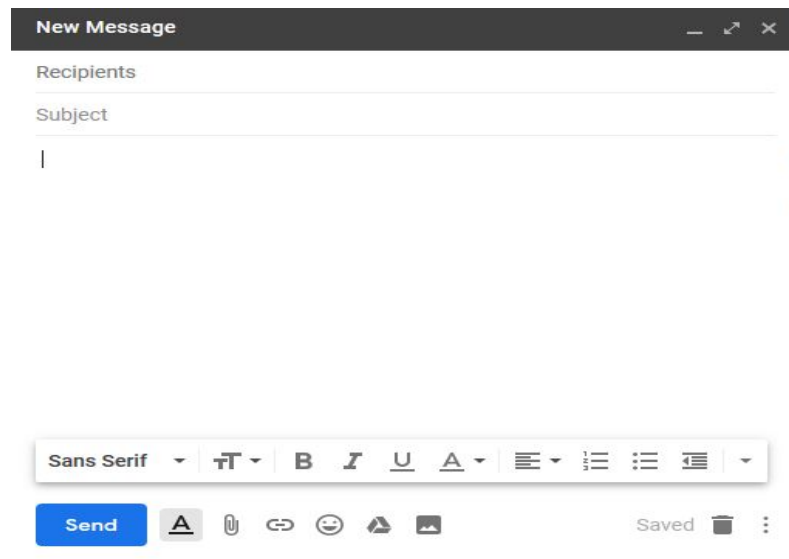
iii) Social Networking

With social networking, it is possible to connect and share all kinds of information with anyone easily at the same time. For such purposes, you just need to have account on that social networking site. One popular example of social networking site is **Facebook** with more than 1 billion users worldwide.

iv) Chat and Instant Messaging

Chat and **instant messaging (IM)** are ways to send messages more quickly and easily than email and are generally used when people are online on both sides. Examples: Skype, Facebook Messenger, WhatsApp etc.

v) Other works

You can do lot of things using internet from your Smartphone / Computer. You can pay mobile/electricity/DTH bills, do online shopping, manage your bank account, book flight/bus/train tickets etc.

We shall learn in details about the applications of Internet in our next topic.

1.3.4 Meaning of Cloud

In simple terms cloud means the Internet, more specially all of the things that can be accessed remotely over the internet. When something is **in the cloud**, it means it's stored on **Internet servers.**

The main purpose of the cloud is convenience and reliability. All the web-based services like email, social networking sites etc use the internet servers to store and process the files. Few applications of cloud are File Storage, File sharing, backing up data, etc.

One popular application for file storage under Digital India project is "Digilocker" which can be freely accessed by anyone and can be linked with Aadhaar card. Everyone will get 1GB free storage after joining it. Another popular example is Google Drive from Google.

Basics of Internet Part-I	**Video link :** https://youtu.be/fO_fqAmcEDs	**Scan with QR Code**

1.4. GETTING STARTED WITH INTERNET

1.4.1 Connecting to Internet

To setup internet connection at your home, you have to approach an Internet Service Provider (ISP). On request, ISP may connect your home devices (computer) either using cable or using wireless connection (Wifi).

The types of internet connection services you choose will largely depend on ISP servers on your locality along with the types of services they provide.

Some common types of Internet Service are:

1. **Dial Up**

   The slowest type of Internet connection using the landline phone.

2. **DSL**

   DSL service uses a **broadband connection and is faster than dial up connection. DSL connects to internet with phone line.**

3. **Cable**

   Connects to internet via Cable TV. It uses the broadband connection and is faster than Dial Up and DSL.

4. **Satellite**

   It connects to the Internet **through satellites and is faster than the above-mentioned connections**

5. **Wireless using mobile networks**

   Connects to Internet wirelessly using mobile phone network and most commonly used now-a-days. The connections are not fast as DSL and Cable.

How to Choose ISP for Internet Connection

First identify the ISP providers near to your place and make sure whether they are able to supply connection at your home or not. After that discuss with your friends/neighbours who are using the services of ISP about the internet speed, services offered by the ISP providers. This will give you good idea about the service provider as well as about the connectivity.

 Based on your requirement, take the internet bandwidth from your ISP provider. Internet bandwidth usually measured in Mbps (megabits per second). If you want to use internet just for browsing the websites, sending email, want to use social networking sites, **2 to 4 Mbps** connection is OK. However, for watching videos, video conferencing purposes and downloading purposes, you will need a fast internet connection with bandwidth from 5 to 10 Mbps.

1.4.2 How Internet Works

When you visit a website or type any valid web addresses in the web browser (eg. Mozilla, Chrome), your computer or mobile sends the request through your ISP to the specific address e.g. www.facebook.com   i.e to the Internet server where the www.facebook.com web pages are stored and the results of that request is sent back along with page requested by the user within a few seconds.

Actually, the request is sent via the wire or wireless media to the internet servers where the particular address is located.

Basics of Internet Part-II	Video link : https://youtu.be/Z0dKaW1en3o	Scan with QR Code

1.5   BROWSING THE WEB

As discussed in the above section, websites can be browsed using the web browser software like Internet Explorer, Mozilla, Chrome, Safari, etc.   The layout of a web browser is shown below -

The main components in a browser are mentioned below with brief descriptions.

Title bar – tells you the name of the web page.

Menu bar – has commands for moving around the webpage, printing, etc .

Tool bar – short cuts to commands. Each picture represents a command.

Address bar – webpage address. If you want to go directly to a web page, you will need to know the address.

If you type www.google.com in the address bar & press the enter key, it will take you to the google.com server and display the home page as shown above.

Browsing through Hyperlink:

Whenever you see a word or phrase on a website that's **blue** or **underlined in blue**, it's probably a **hyperlink.** Links are used to **navigate the Web**. When you click a link, it will usually take you to a different webpage. You may also notice that your cursor changes into a **hand icon** whenever you hover over a link.

Navigation buttons:

The **Back** and **Forward** buttons in the web browser allow you to move through websites you've **recently viewed**. You can also click and hold either button to see your recent history. The **Refresh** button will **reload** the current page.


Tabbed browsing

To open a link in a new tab, **right-click** the link and select **Open link in new tab** and they'll stay in the **same browser window as shown below:**

Bookmarks and history

If you want to visit a website to again in future, then either you have to remember the name of the website address or copy the link somewhere in your computer. However, to make it simple you can use Bookmarks /Favourites option in the browser. Simply locate and select the **Star** icon to bookmark the current website.
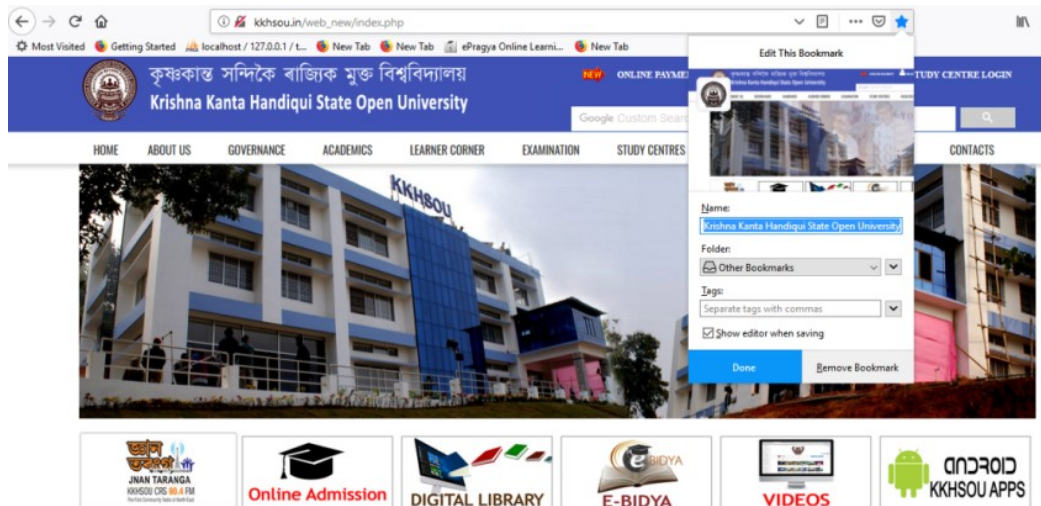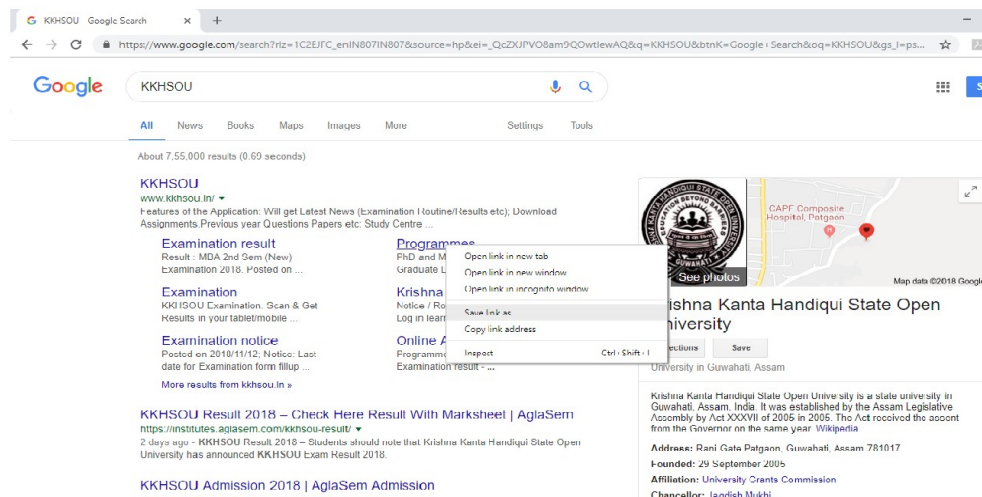
Downloading & Uploading Files

Downloading means receiving data/file from the Internet on your computer from Internet server. Uploading means sending data or a file from your computer to somewhere on the Internet. One common example is downloading attachment from your mail.

Another example of uploading is, when you post any photos in the Facebook, you have to first upload the photographs, then you press the POST button to publish the same.
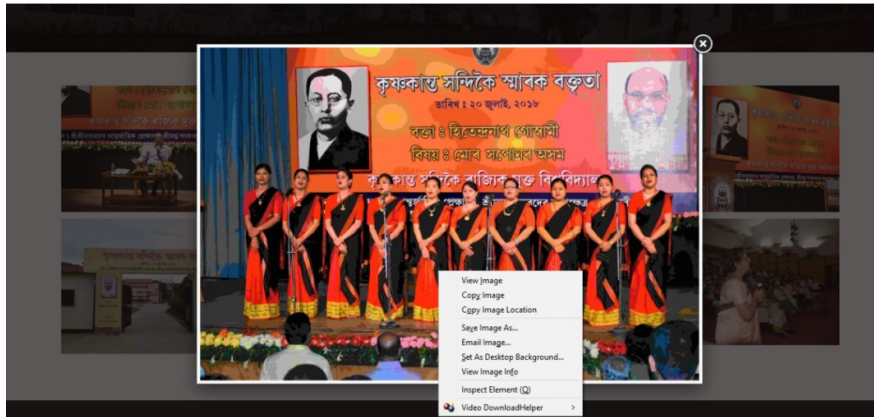
Downloading files

In order to download a file from a website, it may sometimes be possible to download files by just clicking the link provided in the website and then the file will be automatically downloaded in the computer. But sometimes it just opens within your browser instead of downloading. To download such file, **you can** right-click **the link and select "**Save link as" as shown below.


Saving images
Sometimes you may want to save an image from a website to your computer. To do this, right-click the image and select **Save image as** (or **Save picture as**).

Uploading Files as attachment

To upload a file through attachment using your email, please click on the attachment button as shown below. For uploading large file, you can use goggle drive or other cloud storage service and share with your friends.
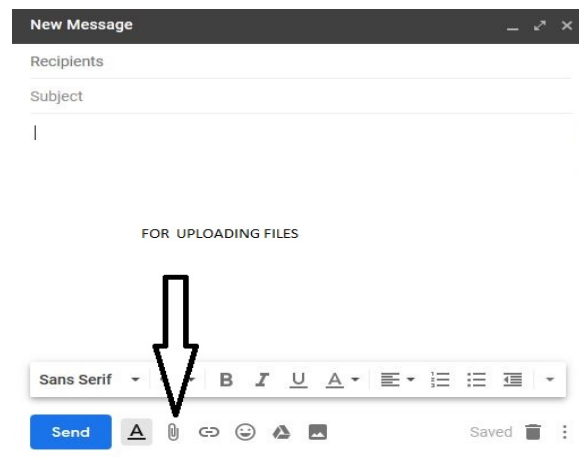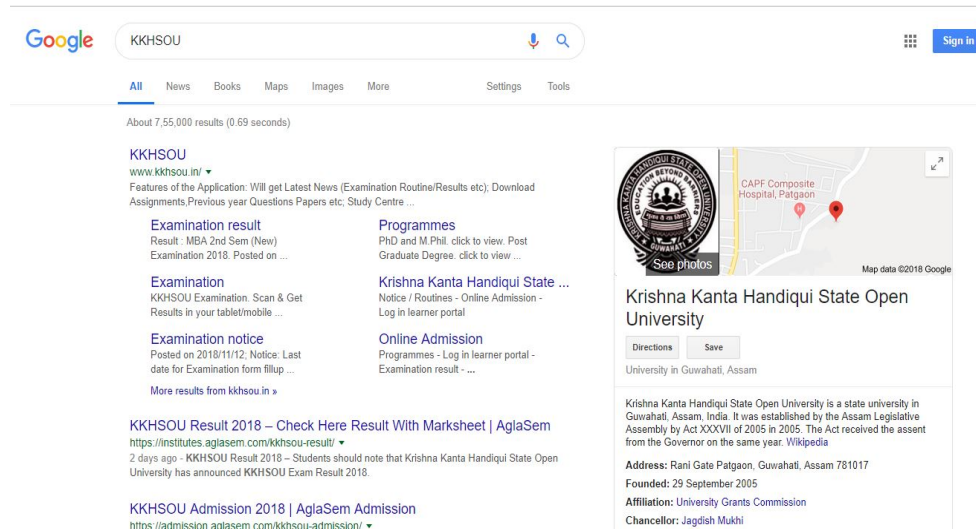

1.6 HOW TO SEARCH THE WEB USING SEARCH ENGINES

With billions of websites online today, there is **a lot** of information on the Internet. **Search engines** make this information easier to find. Let's look at the basics of using a search engine, as well as some techniques you can use to get **better search results.**

There are many different search engines you can use, but some of the most popular include **Google**, Yahoo and Bing. To perform a search, you'll need to navigate to a search engine in your web browser, type one or more **keywords**—also known as **search terms**—then press **Enter** on your keyboard.

For example, if want to search about Krishna Kanta Handiqui State Open University (KKHSOU) on Google, it will show the following information with a search keyword **KKHSOU**.

After you run a search, you'll see a list of **relevant websites** that match your search terms. These are commonly known as **search results**. If you see a site that looks interesting, you can click a link to open it. If the site doesn't have what you need, you can simply return to the results page to look for more options.

Sometimes we may need information based on the time/month/year or between any date. For example, we can search "artificial intelligence" on Google and based on the time, we can filter the records as shown below. Because the latest information on "artificial intelligence" will be more useful than the past.
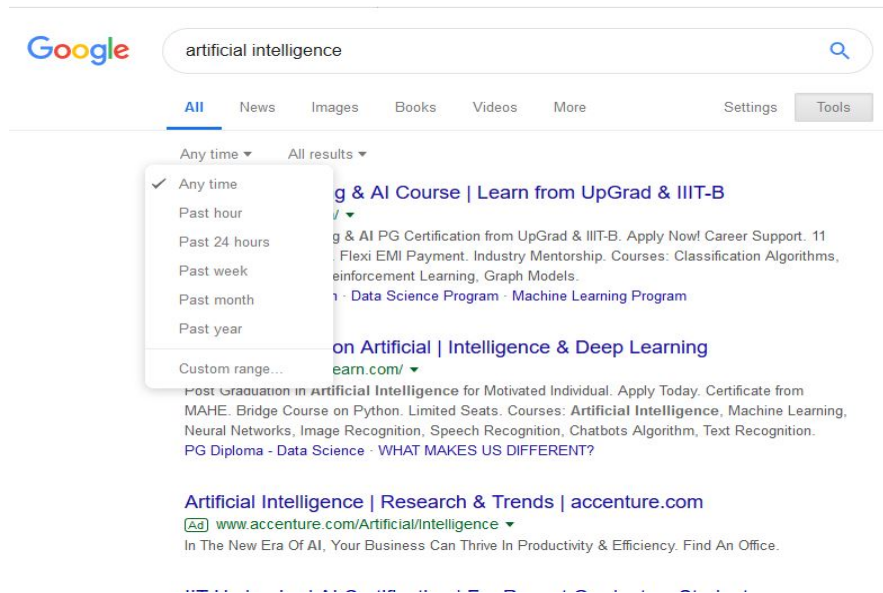
1.7 LET US SUM UP

- Internet stands for Interconnected Network of Computers

- Some of the important terminologies in internet are – internet browser, internet explorer, web page, web site, home page, world wide web or WWW, URL, ISP, etc.

- There are lots of things one can do on-line. For example, searching information, sending messages, social networking, chatting and instant messaging, shopping, paying bills, banking, booking tickets, etc.

- When something is in cloud, it means it's stored on internet server.

- To setup internet connection at home one may approach the nearest internet service provider (ISP).

- Web site can be browsed using the web browser software like Internet Explorer, Mozilla, Chrome, etc.

- Some of the most popular search engines used are Google, Yahoo and Bing.

References:

1. Deven N.Shah. "A Complete Guide to Internet and Web programming", Wiley India Private Ltd.

2. Rogers Cadenhead, "How to use the Internet", Sams Publishing

Module II:
APPLICATION OF INTERNET

STRUCTURE

2.1 Learning Objectives

2.2 Introduction

2.3 Applications of Internet

   2.3.1   Email

2.4 Web Conferencing

2.5 Use of Some Free Cloud Services

   2.5.1 How to Access Google Cloud Services (Docs/Sheets/Slides/Forms/Drive)

2.6 Let Us Sum Up

2.1   LEARNING OBJECTIVES

After going through this module, you will be able to –

- identify the different applications of Internet
- create and use an email account
- state the meaning of web conferencing
- explain the various features of web conferencing
- state the meaning of cloud services
- identify the cloud services
- use some of the free cloud services

2.2   INTRODUCTION

We all have some basic idea of Internet. We are familiar with some of the common terms used in the language of Internet and also have some ideas about various works one can do on-line using Internet.

Here we are discussing some of the most common applications of Internet and how to use them.

2.3 APPLICATIONS OF INTERNET

Some of the most popular applications available via the Internet are mentioned below.

a. **Email (Electronic Mail): This is** mostly used application of modern days**.** Most of the people use Email for their official and personal purposes. Now a days every

smart phone user need to have an email account in order to operate the phone extensively. We are discussing in detail about Email in the following **sub-section 2.3.1.**

b. **Research:** For Research purpose Internet is widely used. While doing research the concerned person can do extensive search on popular journal/web on the Internet to gain information and knowledge of the latest work carried out in their domain.

c. **Discussion groups:** This is one of the most popular tools which is heavily used for sharing information, gathering knowledge and generating new innovative ideas among people across the world. One popular example is **www.stackoverflow.com** community. This is mostly used by computer science people. Through this community a person is able to solve his/her query by discussing among the experienced experts available across the world.

d. **Online games.** This is one of the most popularly used applications of the young generation now a days. PUBG is one such latest examples of online games. For playing such kind of games, internet connection is one of the mandatory requirements. Now a days such games are growing popular because the players get an opportunity to play as a live team member or opponent.

e. **Education.** We all have heard about the MOOCs (Massive Open On-line Courses) available through Internet free of cost from good teacher /education organization like MIT, IIT's etc. Implementation of various Learning Management system like SWAYAM, COURSEERA, EDX, NPTEL etc. make the learning easy and interesting. Anybody can learn anything by sitting at home with Internet connection and through LMS (Learning Management System). Even this course on 'Application of ICT is School Education' is one such course.

f. **Social Networking.** Facebook, Instagram, Twitter, Whatsapp, etc. are some of the most popular examples of social networking applications. These applications help in sharing information and communicating with near and dear ones across the world. This has become a policy of every organization to have a presence in social networking to get publicity. It also helps by making communication easier among the concerned members.

g. **Electronic newspapers and magazines.** This category includes latest-breaking news, weather, and sports. Now a days every news agency has a web portal and mobile application of its own for sharing their latest news around the world.

h. **Job Search/Online Recruiting.** This serves as a great tool for the job seekers in getting best jobs in the popular company/organization and also for recruiters in

getting best candidate for their organization. Examples www.naukri.com, www.in.linkdin.com etc.

i. **Shopping.** This is one of the most popular applications used widely by people. It makes shopping much easier. One can buy good quality products at the same market price at their door steps without stepping outside one's home. Some popular shopping sites are www.flipkart.com , www.amazon.com etc.

2.3.1 Email

Now a days this is one of the mostly used applications. Generally, every one having a Smart Phone have one email account associated with it. Most of the people, whether it be personal or official communication, they use Email. It not only makes our life easier but also make the communication cost cheaper and faster.

Email can be defined as a service which is used to send any kind of message (audio, video, text etc.) in electronic mode through Internet connection. In order to use this service, you need to have Internet connection and one Email address.

Email Address

Each user of email is assigned a unique name for his email account. This name is known as E-mail address. Example of email address is kkhsou@gmail.com where **kkhsou** is user name and **gmail.com** is the email service provider. Email is generally of the form **username@domainname**.

E-mail Message Components

E-mail message comprises of different components: E-mail Header, Greeting, Text, and Signature.

E-mail Header

The first five lines of an E-mail message is called E-mail header. The header part comprises of following fields:

- From
- Date
- To
- Subject

- CC
- BCC

From: *The **From field** indicates the sender's address i.e. who sent the e-mail.*

Date: *The **Date field** indicates the date when the e-mail was sent.*

To: *The To field indicates the recipient's address i.e. to whom the e-mail is sent.*

Subject: *The **Subject field** indicates the purpose of e-mail. It should be precise and to the point.*

*CC: CC stands for **Carbon copy**. It includes those recipient addresses whom we want to keep informed but not exactly the intended recipient.*

*BCC: BCC stands for **Black Carbon Copy**. It is used when we do not want one or more of the recipients to know that someone else was copied on the message.*

*Greeting: **Greeting** is the opening of the actual message. Examples: Hi Sir or Hi Guys etc.*

Text: It represents the actual content of the message.

Signature: This is the final part of an e-mail message. It includes Name of Sender, Address, and Contact Number.

Getting Started- Getting an Email Account

To use Email, you will first need an email account. Most people will use an email account and email address from a **free email provider** like Yahoo, Gmail or outlook.com.

The **mailbox** is the location where email is stored and is usually spit into folders. The mailbox will always be located on an **email server** belonging to your email provider e.g. Yahoo. The **email address** serves the same purpose as your house address or your phone number.

Mailboxes and Folders

A Mailbox is divided into several folders to organise the email. Email messages are placed into folders and can be moved between folders. Example of some default folder which is created by default by the service provider are -

Inbox -The main location for **incoming email**

Sent items – Contains a copy of emails that you have sent.

Trash – All deleted mail will move here and is automatically deleted as per the settings or policy by the email services provider. This is like Recycle Bin used in a computer.

Drafts- Stores a copy of emails that you have created but haven't been sent.

Accessing Your Email

To access your email you will need to use an Email client. There are three popular types of email client they are:

- Desktop client (e.g. Outlook Express, Thunderbird)
- **Smart phone**-based clients (Mobile Apps like Gmail App)
- Web Based clients (e.g. **web browsers** like Google Chrome, Internet Explorer etc)

Sending the Email

When you click send the email is normally sent immediately and a copy of the email is placed in the sent items folder.

Receiving and Reading Emails

In order to read the received email, click on the Inbox folder. In Inbox folder email clients display a list of emails showing the sender and subject with **unread** emails shown in **bold**.

Replying to and Forwarding Email

To reply or forward an email you will first need to open it.

Most email clients display three icons:

1. **Reply to** – Send Reply to sender only
2. **Reply to all**– Send Reply to sender and all other recipients of the original email
3. **Forward** – send a copy of the email to new recipient(s)

You can then **add new recipients** as required using CC **(**Carbon Copy**)** and **BCC** (Blind Carbon Copy) fields. When you put email address in CC to send a copy the email, all user who are receiving the mail will see this email address placed in the CC field but in case of BCC those users will not able to see the email address.

Applications of Internet Part-I	**Video link :** https://youtu.be/KnHGAIQG0ho	**Scan with QR Code**

2.4 WEB CONFERENCING

Web conferencing allows two or more people from different locations to hold a live conference over the Internet. Early Web conferencing tools relied on the Internet to send text messages, then audio and, eventually, high-resolution video. Example: **meetings**, **training events**, **lectures**, or **presentations** from a web-connected **computer** to other web-connected computers through Internet.

Other typical features of a web conference include:

- **Slideshow presentations** - where images are presented to the audience and markup tools and a remote mouse pointer are used to engage the audience while the presenter discusses slide content.
- **Live or streaming video** - where full motion webcam, digital video camera or multi-media files are pushed to the audience.
- **VoIP** - Real time audio communication through the computer via use of headphones and speakers.
- **Text chat** - For live question and answer sessions, limited to the people connected to the meeting.
- **Polls and surveys** (allows the presenter to conduct questions with multiple choice answers directed to the audience)
- **Screen sharing/desktop sharing/application sharing** (where participants can view anything the presenter currently has shown on their screen. Some screen sharing applications allow for remote desktop control, allowing participants to manipulate the presenters screen, although this is not widely used.)

Applications of Internet Part-II	**Video link :** https://youtu.be/6yR3oyhChzI	**Scan with QR Code**

2.5 USE OF SOME FREE CLOUD SERVICES

As we know **Cloud** means Internet; hence cloud services can be defined as Internet enabled services offered by some service provider like Google, Amazon etc. We can also define cloud services as any service made available to the end user via Internet on demand. Example of cloud services are- Email, Google Drive etc.

Some advantages of using Cloud Services are – low cost, easy accessibility, portability, scalability etc. In this section we are going to discuss about the usage of popular cloud service from Google which is freely available to all the users whose have valid Gmail account.

Cloud services from Google are – Google Docs, Google Sheets, Google Slides which is mostly similar to well-known Microsoft Word, Excel Sheet & Power point. The basic difference between the products are-

i) In order to use Microsoft Word, Excel Sheet & power point we have to install it in every machine but to use Google Docs, Google Sheets etc we just need internet connection and a browser (example: Firefox, Internet Explorer etc) .

In case of Microsoft Word, Excel files used will be stored in the Computer. However in case of Google services; files are stored against the Gmail account.

Google Docs is a free web-based word processor application in which documents can be created, edited and stored online and can be accessed from any computer/smart devices with internet connections. In order to use it, we need Internet connection, Web browser and valid Gmail account.

Google Sheets is a free, web-based program for creating and editing spreadsheets. Users can open/import, edit, and save/export spreadsheets (including Microsoft Excel) and documents with Google Sheets.

Google Slides is free**,** web-based program for creating and editing online presentation like Google sheets, docs. Slides allow users to create and edit presentations online while collaborating with other users in real-time.

Google Forms is a survey administration app which is used to create forms for data collection purposes. It allows collecting information from users via a personalized survey or quiz. The information is then collected and automatically connected to a spreadsheet.

Google Drive is a personal cloud storage service from **Google** that lets users store, share and synchronize digital content across computers/laptops/mobile devices via Internet.

2.5.1 How to Access Google Cloud Services (Docs/Sheets/Slides/Forms/Drive)
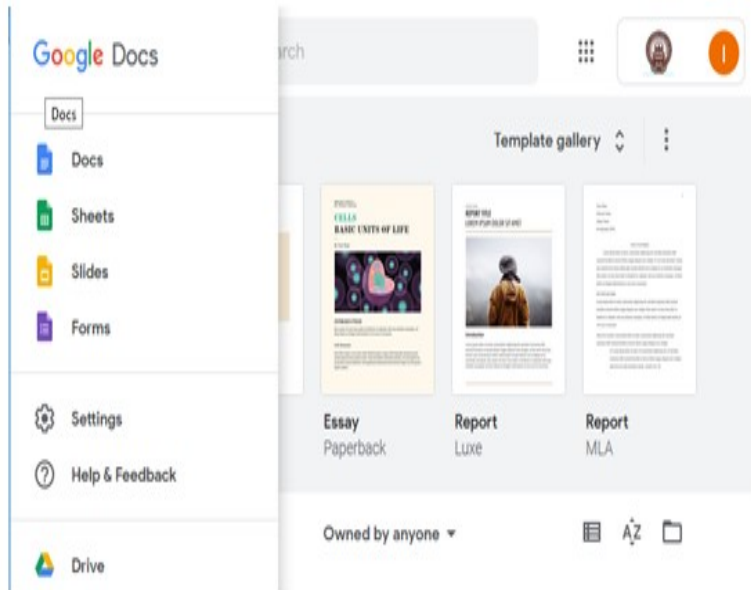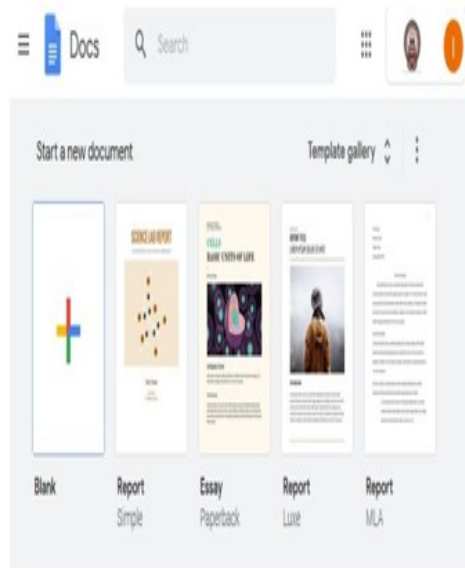
In order to use it, follow the following steps

 a. Visit https://docs.google.com/
 b. Login with your Gmail account.
 c. Click on menu icon on the top left near **Docs** icon
 d. Click the Google Services (Docs/Sheets/Slides/Drive) you want to use and concerned application will be opened.
 e. Screenshot of the above steps is shown below –

Applications of Internet Part-III	**Video link :** https://youtu.be/ytiZdivVbmY	**Scan with QR Code**

Login with Gmail Account

Google

Sign in

with your Google Account

Email or phone

Forgot email?

Not your computer? Use a Private Window to sign in. Learn more

Create account   Next

Click on Top Left Docs Menu icon

☰ Docs   Search

Start a new document   Template gallery ⇕ ⋮

Blank   Report   Essay   Report   Report
             Simple   Paperback   Luxe   MLA

Google Docs

Docs

📄 Docs

📊 Sheets

📒 Slides

📋 Forms

⚙ Settings

❓ Help & Feedback

△ Drive

Template gallery ⇕ ⋮

Essay   Report   Report
Paperback   Luxe   MLA

Owned by anyone ▾   ⊞ A̱Z ▢

2.6 LET US SUM UP

- Some of the popular applications available via Internet includes – email, research, discussion group, on-line games, education, social networking, electronic newspaper, job-search, on-line recruiting, shopping, etc.

- Email is the most widely used application. Is defined as a service which is used to send any kind of messages viz. text, audio, video, etc.

- Email is generally in the form of username @ domain name.

- Email messages comprises of different components, such as, Email Header, Greeting, Text and Signature.

- Yahoo, gmail, outlook, etc. are free email provider

- Web conferencing allows two or more people from different locations to hold a live conference via Internet. Example: meeting, training events, lectures, or presentation from a web-connected computer to other web-connected computers through internet.

- Cloud services can be defined as Internet enabled services offered by some service provider like Google, Amazon etc. It can also be defined as any service made available to the end user via Internet on demand.

- Example of cloud services are- Email, Google Drive etc.

- Cloud services from Google are – Google Docs, Google Sheets. Google Slides, etc. These are very similar to well-known Microsoft Word, Excel Sheet and Power-point etc.

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Module III :
CONCEPT AND TYPES OF ICT TOOLS AND THEIR USES

STRUCTURE

3.1 LEARNING OBJECTIVES

After going through this topic, learner will be able to -

- explain the meaning of Information and Communication Technology (ICT)
- give an overview of applications of ICT in general and educational context in specific
- identify possible information tasks that can be done with technology
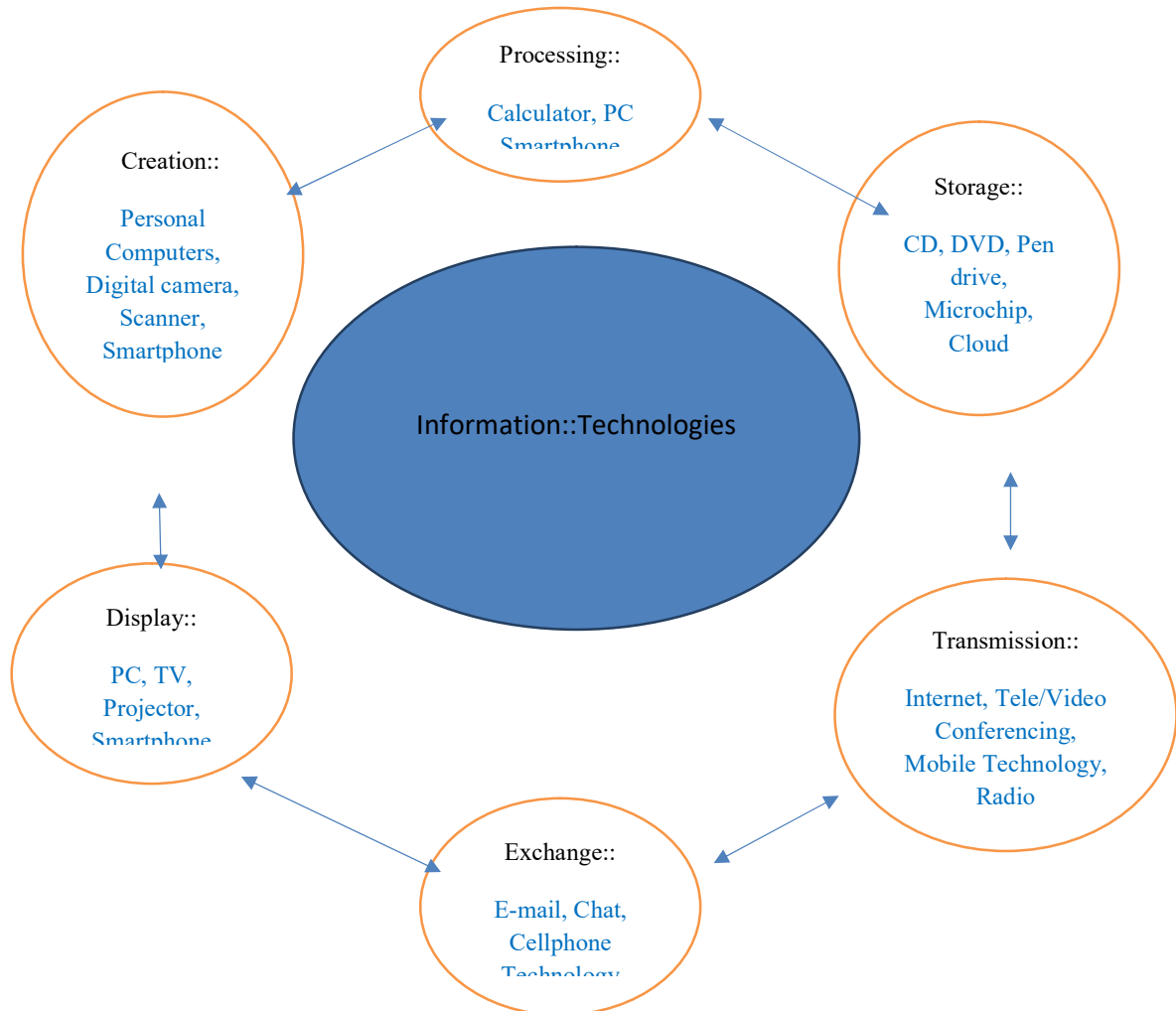- analyse the strengths and concerns associated with ICT usage

3.2 INTRODUCTION

The module gives an idea on the basic concept of Information and Communication Technology or ICT. In the modern time, ICT has impacted each and every facets of the life of people including the education sector. Integration of ICT in teaching-learning can enable teachers to make their classrooms more engaging, motivating and effective for the students.

3.3 INTRODUCTION TO INFORMATION AND COMMUNICATIONS TECHNOLOGY (ICT)

To interact with the digital world, we need many devices, networking components, different types of applications and systems, these are nothing but ICT (Information Communications Technology or Technologies). A good way to think about ICT is to consider all the uses of digital technology that already exist to help individuals, businesses and organizations that use information. ICT covers any product that will store, retrieve, manipulate, transmit or receive information electronically in a digital form. For example, personal computers, digital television, email, robots. We are in the digital world now. It is difficult to think about even one normal day without technology. We can bring some of these

technologies into our classroom also. This course is meant for introducing you with these technologies so that you eventually can integrate these in your sessions related to learning and teaching. As a teacher, you can use numerous types of ICT technology and resources to make your classroom more interesting and effective. Look at the following image to get an understanding of the range of technology that fall under the category of ICT.

Processing::
Calculator, PC Smartphone

Creation::
Personal Computers, Digital camera, Scanner, Smartphone

Storage::
CD, DVD, Pen drive, Microchip, Cloud

Information::Technologies

Display::
PC, TV, Projector, Smartphone

Transmission::
Internet, Tele/Video Conferencing, Mobile Technology, Radio

Exchange::
E-mail, Chat, Cellphone Technology

3.3.1 ICT in Everyday Life

In everyday life, ICT is used in Business, Entertainment, Financial Services, Public services etc. Let us take a look at the extent to which ICT has permeated into our life. Kindly follow the link given below:

You tube Video: <u>Click here</u>

3.4 TYPES OF ICT TOOLS

There are many ICT tools, some of which are very useful for education. There are tools like Internet Systems, webpages, etc. from where one can gather information. Some software tools like MS word, PowerPoint, Photoshop etc. where we can do constructive staff. Using E-mail, SMS, Chat-room, etc. we can communicate with each other and using some collaborative software like discussion forum, videos etc. we can broadcast some educational information. Based on their use and function some ICT tools can be classified as below:

1. **Resource related tools:** In digital world, resource is very important. If resource availability is there, we can make use of different types ICT technologies efficiently and we can build some applications and pages as well if required.

   Two most important resources are: **Internet and Intranet**

2. **Teaching related tools:** ICTs have the potential to be used in various practices of education, including teaching and learning, assessment, administration and teacher professional development. These tools provide a platform for organizing learning experiences to managing learning and assessment has been changed greatly by ICT developments. Students, teachers and educational administrators and every stakeholder in education have been benefitted by the integration of ICT in education.

   Some of the teaching tools are: **Interactive white board, OHP, Computer, Projector, Presentation tools, Class room equipment etc.**

3. **Learning related tools:** Similar to teaching related tools, some learning tools are there, which makes learner to access his/her lessons at anytime from anywhere in this world using internet.
   Some of the learning tools are: **Mobile learning (Educational games, Videos), Web based learning, Gadgets like e-book reader etc.**

   For more, here's a YouTube video: <u>Click here</u>

Concept and Types of ICT Tools	Video link : https://youtu.be/XbU9tFPv6a0	Scan with QR Code

3.5 USE OF ICT IN TEACHING-LEARNING

ICT is comprehensive list of all components related to computer and its digital technologies. These ICT components are being used by people worldwide in their day to day life. In Education sector also, ICT technologies are being adopted by Teachers and Learners. Full potential of ICR as educational tools will remain unrealized if they are used merely for presentation or demonstration. Some of its Technology highly changed the traditional way of teaching and learning.

Some ICT Technology that can be used by teacher or learners to enhance teaching-learning process has been given below:

i) From Internet, which is a huge electronic database, a teacher or learner can gather enormous information in various formats such as text, video, audio, games or graphics.

ii) Software tools such as CD-ROM offers hypermedia application which covers more than one of the various formats such as text, audio, graphic images (still images), animation and video clips. This gives better opportunities for teachers to enhance learning environment. A hypermedia application or multimedia presentation topic will help and motivate students to conceptualize the ideas of the real world by integrating the theories in the practical application of real-world situations.

iii) Tools like MS-Word, Excel and PowerPoint is widely used in the most organizations around the world including education sector in the form of billing, presentation, memos, reports, schedule etc. These tools will help students to make correct sentences using Microsoft's spell checker in MS-Word, make presentations in various topics and eventually making students to present something before group of people using PowerPoint and MS-Excel allow students to use formula on groups of statistical data and can be able to prepare different kind of charts etc.

iv)   Now for easy communication between teachers and students beyond the classroom, tools like E-mail, chat, video conference etc. are used, where both parties can exchange their messages and can discuss various doubts.

v)   For group or team work of learners, teachers may use tools like discussion forum, where meetings can be done, online documents or projects, where a group of people can work together for a particular task and Interactive electronic whiteboard, where a computer image is displayed on the board before group of learners, image can be manipulated via human interactions. These tools are now a days widely used in institutions around the world.

3.6 LET US SUM UP

- ICT covers any product that will store, retrieve, manipulate, transmit or receive information electronically in a digital form. For example, personal computers, digital television, email, robots, etc.

- We can bring some of these technologies into our classroom also. A teacher can use numerous types of ICT technology and resources to make teaching more interesting and effective.

- In day-to-day life also ICT is used in Business, Entertainment, Financial Services, Public services etc.

- Based on their use and function some ICT tools can be classified as - resource related tools, teaching related tools and learning related tools.

- In Education sector ICT technologies are being adopted by Teachers and Learners. Some of its Technology highly changed the traditional way of teaching and learning.

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Soni Srivastava, ICT implementation for Education and Learning, IOSR Journal of Research & Method in Education (IOSR-JRME) e-ISSN: 2320–7388.

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Module IV :
INSTALL, UNINSTALL AND TROUBLESHOOTING SIMPLE SOFTWARE APPLICATIONS

STRUCTURE

4.1 Learning Objectives

4.2 Introduction

4.3 Installing Some Important Software

        4.3.1 Installing Microsoft Office

        4.3.2 Installing Internet Browser

        4.3.3 Installing E-mail Software

        4.3.4 Installing Antivirus Software

        4.3.5 Installing Media Players

4.4 Uninstalling of Software

4.5 Troubleshooting Simple Software Application

4.6 Let Us Sum Up

4.1 LEARNING OBJECTIVES

After going through this module, you will be able to –

- install some simple software applications in desktop computers
- uninstall the unwanted software applications from desktop computers
- carry out troubleshooting of some of the common computer problems

4.2 INTRODUCTION

In this module, we shall see how to install some simple software which we often use in our day-today life.

4.3 INSTALLING SOME IMPORTANT SOFTWARE

4.3.1 Installing Microsoft Office

Microsoft Office gives us multiple essential software programs such as a word processing program, a spreadsheet, a database application and more. Microsoft Office is a widely used office purpose software in the world.

- Insert the DVD in the DVD-ROM. Wait for a new window to appear. You can even click on the executable file for Office by browsing in My Computer. Once it is opened window, you will find a setup.exe file, Click on this file and run the program. If you want to download office or buy office online, then visit Microsoft office website, download the file and then install Microsoft office.
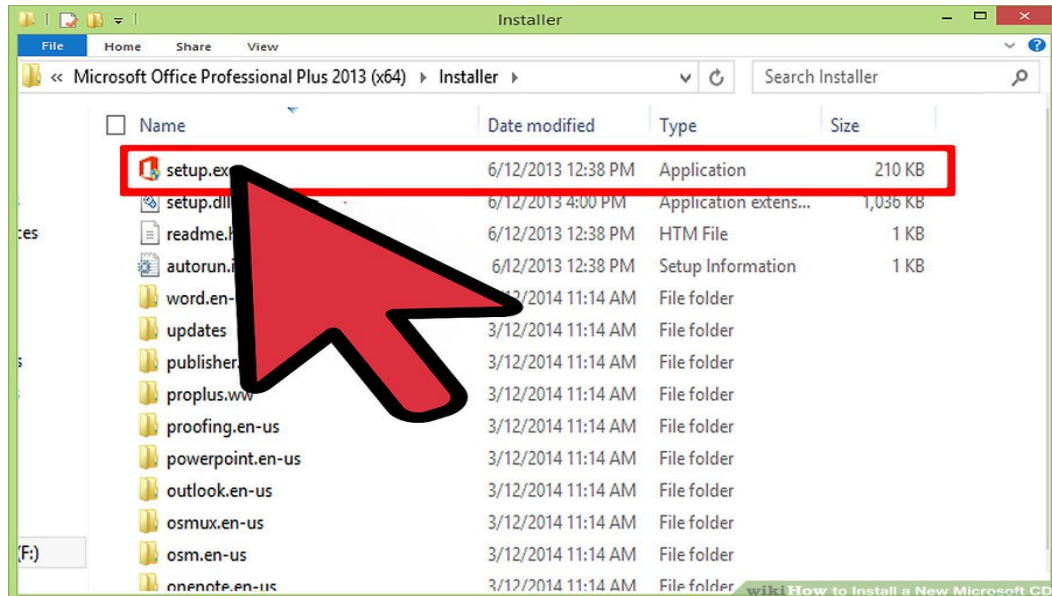
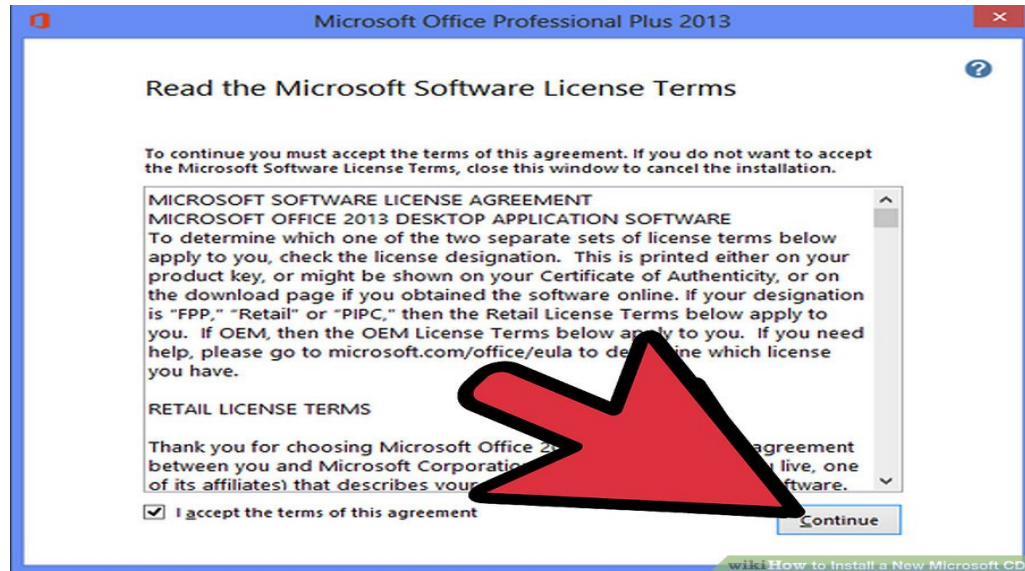- When the next windows appears, click on Install Now.
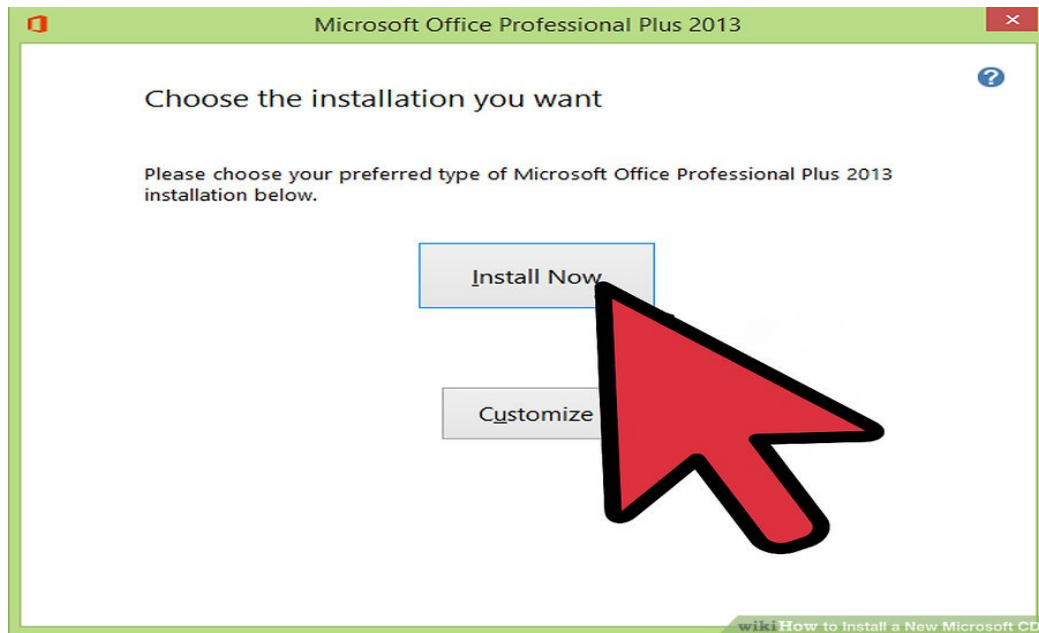
- **Select the features you want to install from the Installation Options tab.** Then select the drive you want to install it.

- **Enter the Product Key.** Once you have the product key, enter it. Read the CD manual if you cannot find it.

- **Then a window will appear with agreement terms.** Please read and accept the agreement terms.

- **On the window that appears next choose Upgrade to Install or Custom (if you want modified settings).** If you already have Office installed you may want to upgrade or customize, otherwise click install.

- **Your program will automatically install once you click on Upgrade.** This may take a few minutes.

- **If you chose Custom, modify your settings by clicking on Configure Preferences.**
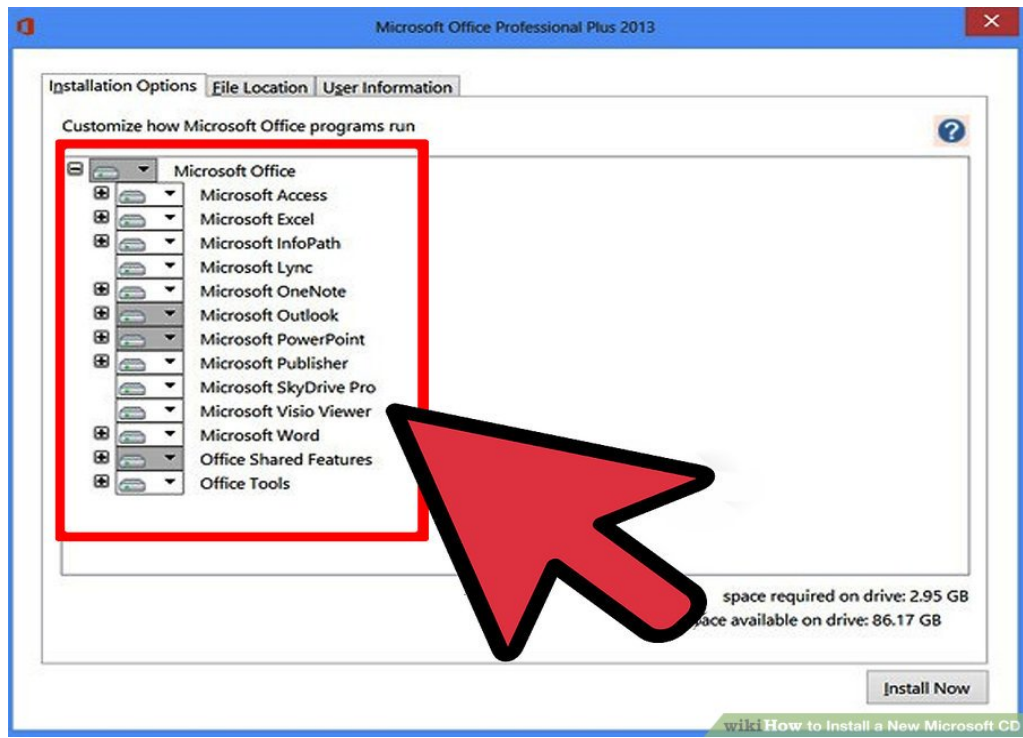
- **The installation will start and a bar will appear.**
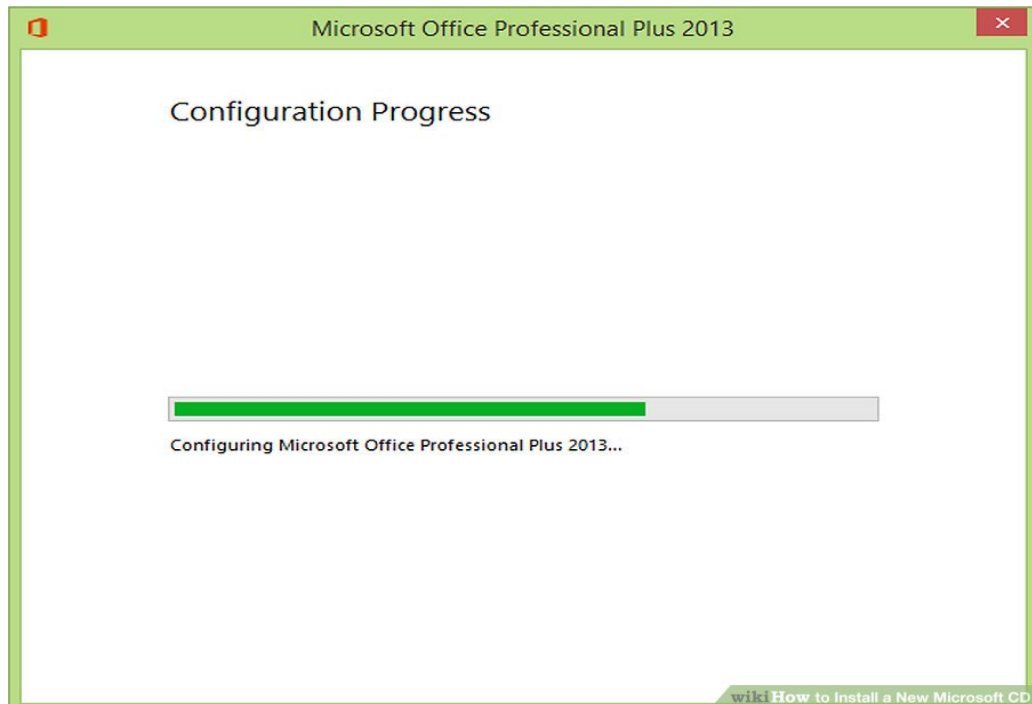
- **Click on close and run Microsoft Office from the Programs in the Start Menu.**

4.3.2 Installing Internet Browser

For browsing or visiting different websites, we need Internet Browsers. There are many browsers available now-a-days. Some of them are Google Chrome, Mojilla Firefox, and Safari etc. Download and installing them are quite similar in nature. Here we will discuss how to install "Google Chrome".

- At first, make sure your device is connected with Internet.
- Open Internet Explorer or any basic Explorer of your Operating System. Search Google Chrome in Google. Then from the Search results click chrome site. You will get a page like this. Click on Download Chrome.
- After Clicking, it will open another popup window. In that window, Just click Accept and Install after reading Terms & Conditions.

A Useful Video: Click Here

Install and Uninstall Simple Software Applications Part-I	Video link : https://youtu.be/81Rk1FWLYhQ	Scan with QR Code
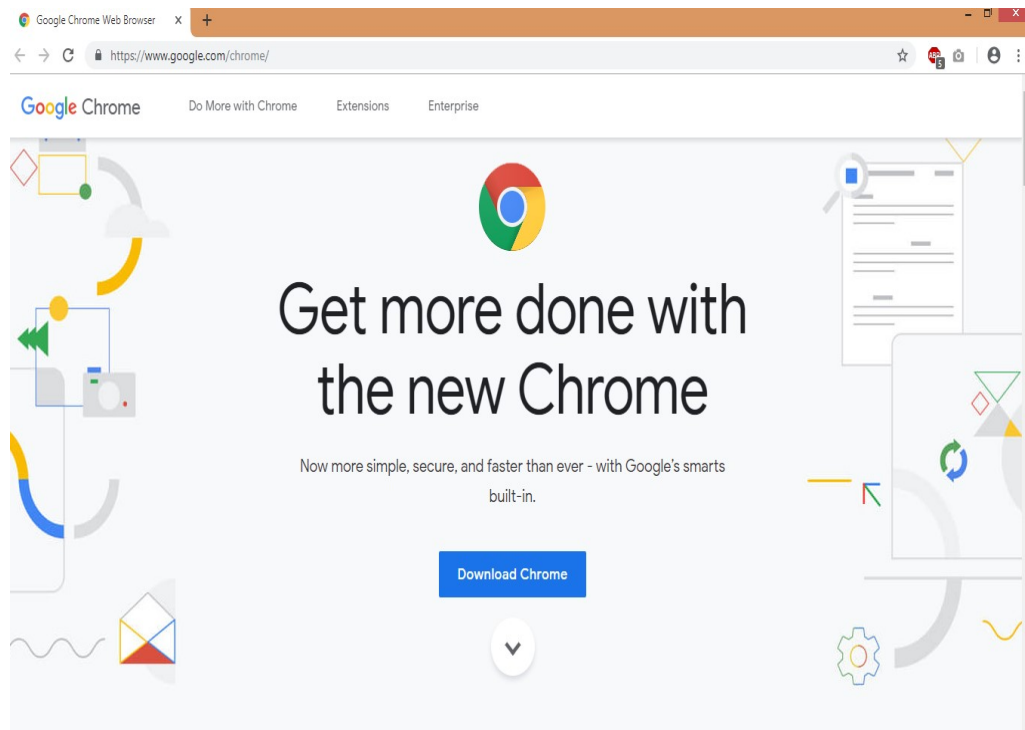
4.3.3 Installing E-mail Software

You can mail to any person in the world by using Gmail, Yahoo mail, Rediff mail, Hotmail and many more with internet browser. If you use browser for mailing purpose then E-mail software is not needed. If you want to mail different groups of person, you can use any E-mail software for that. Now-a-days, this task is also made possible by various email providers. Some widely used E-mail software are Eudora, Microsoft Outlook Express etc.

Microsoft did not develop Outlook Express for Windows versions later than Windows XP. Windows Mail and Windows Live Mail—a free download—replaces it on these operating systems. (source: lifewire.com)

4.3.4 Installing Antivirus Software

Viruses and malware can cripple your computer and destroy your files. Antivirus programs are designed to find and intercept viruses before they do any harm. An antivirus program is essential on a Windows PC, and can be very useful for Mac and Linux users as well. There are numerous numbers of antivirus software available in the market. You can buy it from any computer shop or online. It is a very easy software to install or run. At first,

you may get some free antivirus software in the market or online. And then try to install and run those free antivirus software.

- If you buy from any Shop, you may get a CD/DVD and a product key. So, you need to play this CD/DVD in your device, and then follow the instructions to install the software. When window needs product key, enter product key, then read what is written in next window and then click next. By reading and following the instructions one can easily install and run an antivirus software.
- If you download or buy it from online, then also you may get a product key. First, you will need to open the downloaded file and click setup.exe file or read the manual how to install it. Once you clicked the setup.exe file, a popup window appear, enter the product key, and then follow the instructions, your software then easily be installed in your device.

Useful Document: Click Here

Useful Videos:

Installing Antivirus in Windows 7 Platform: Click Here

Installing Quick Heal Antivirus: Click Here

Downloading and Installing Avast Free Antivirus: Click Here

4.3.5 Installing Media Players

Media Players are one of the important software needed to be installed in our devices. Because in 21st century, every person loves entertainment such as listening to songs and watching videos. These songs or videos are nothing but files stored in our PC or devices. Our media players play them and then we enjoy these. There are hundreds of media players available online now a days. Some widely used are VLC media player, KM player, Pot Player and Real player etc. We can install any of these media players and make use of it. Suppose we want to install VLC media player from online, then steps are:

- First, we type in Install VLC Player into Google.
- What comes up is VideoLAN.org. VideoLAN is the website you want to use; it is the official page for VLC Player. Download.cnet.com is also a very good website to use. Click on VideoLAN.org

- Here we have a "Download VLC". VLC is a free and open source cross-platform multimedia player and framework that plays most multimedia files as well as DVDs, Audio CDs, VCDs, and various streaming protocols.

- If we scroll down we have some more information. It's completely free, no spyware, no ads and no user tracking. That's one of the great things about it.

- Click Download VLC. Wait few seconds for download to start.

- Here it comes up at the bottom, "Do you want to run or save?" We're going to Run.

- While it is downloading it will take a couple of minutes.

- When Download is completed, you will get a popup window, read this and select yes.

- Now the Setup is loading, unpacking data. This is a very simple process, soon it will ask you to choose a language and then click install and that will be the entire process.

- Then Click Next. If there's an older version on VLC on your computer, it will be upgraded using previous settings. If this is a new install for you, choose the recommended setting. Click next.

- After Few Seconds, VLC media player has been installed on this computer. Click Finish.

- Here we installed VLC player, run this player, where we can add media to it or you can simply click on media in the file browser and open it here by clicking "Open With". To open media in VLC just right click the mouse, hover onto Open Media and choose the type of media you would like.

4.4 UNINSTALLING OF SOFTWARE

The steps for uninstalling a software are shown below:

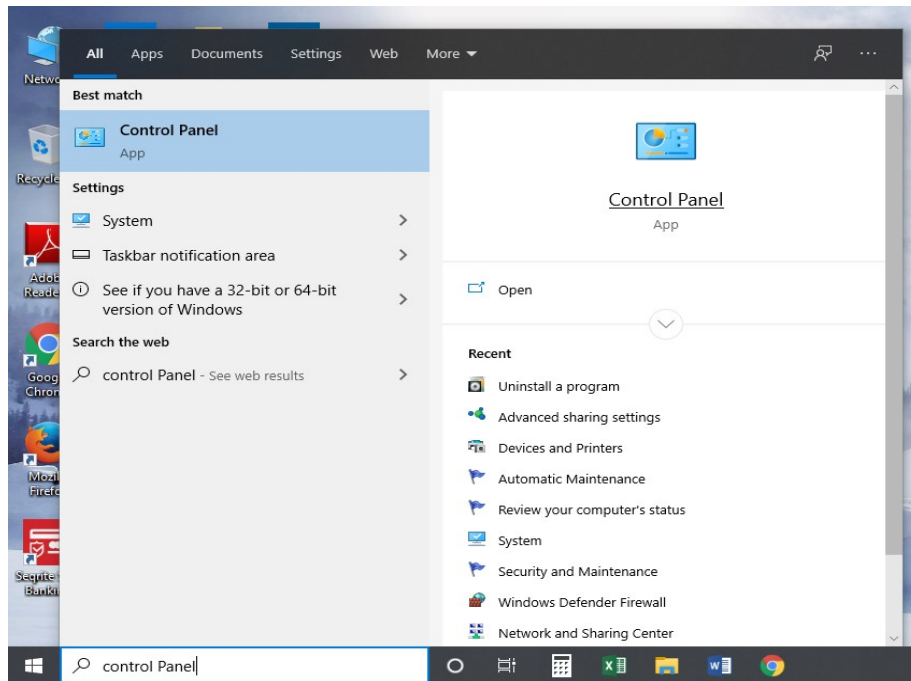Step 1: Open "Control Panel" application from Microsoft Start Menu

Figure: Opening "Control Panel"

Step 2: Select "Programs" option from "Control Panel" Menu
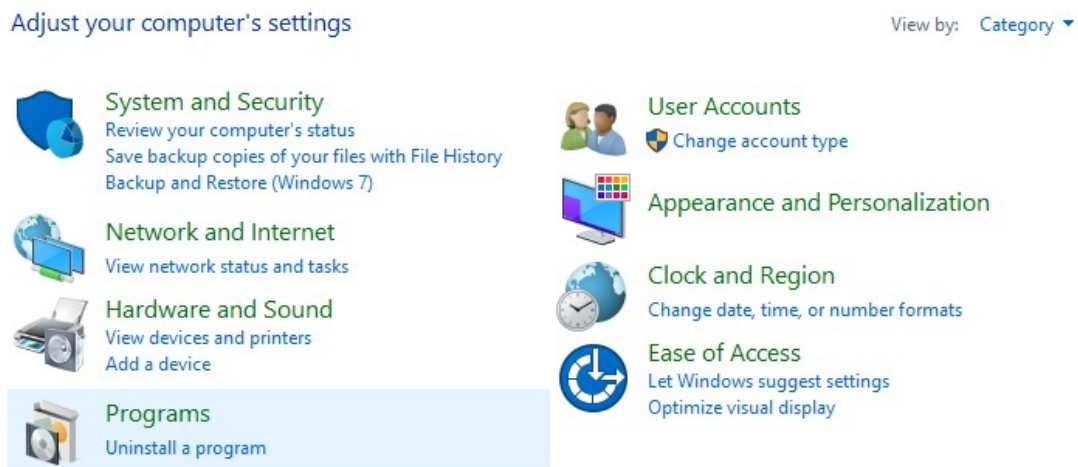

Figure: Select "Programs"

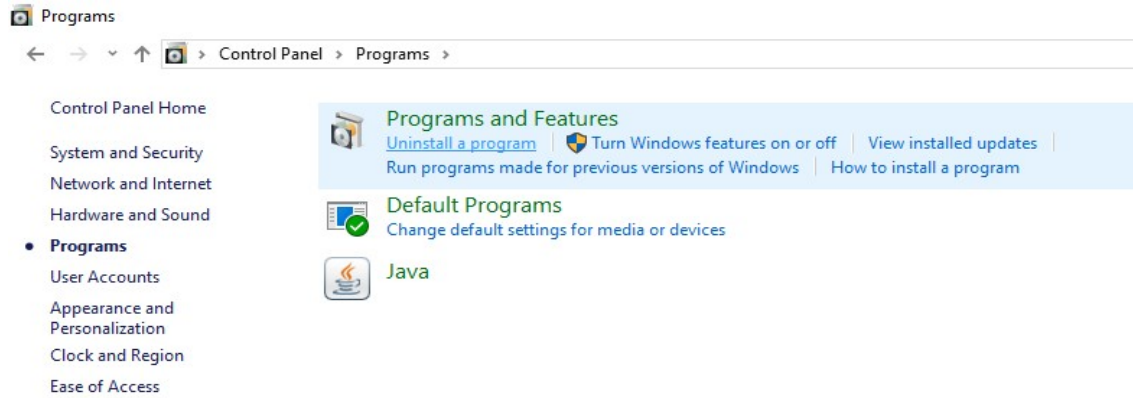Step 3: Select "Uninstall a Programm"

Fig: Select "Uninstall a program"

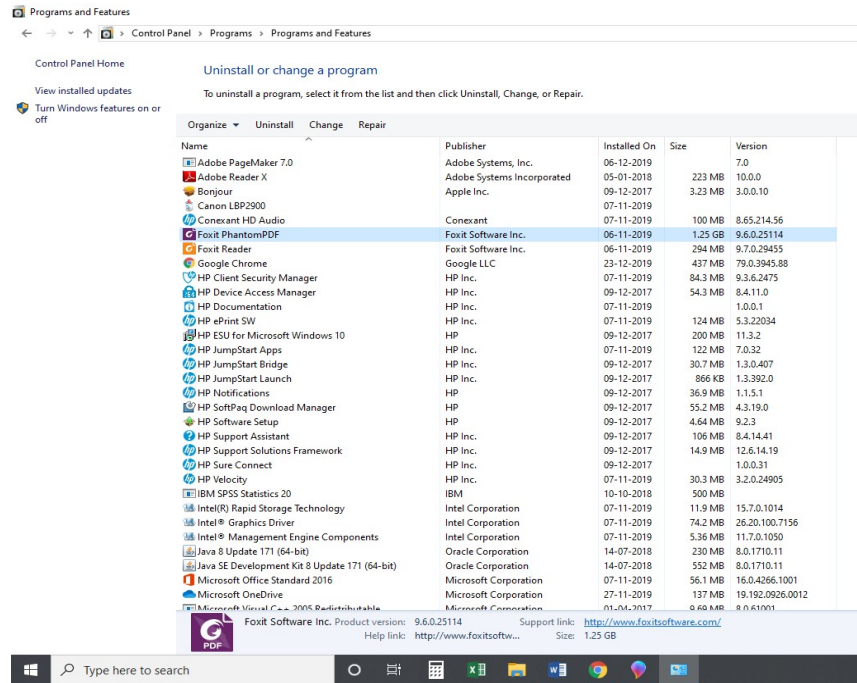Step 4: Select a program from the list of programs

Figure: Select a program from the list of programs

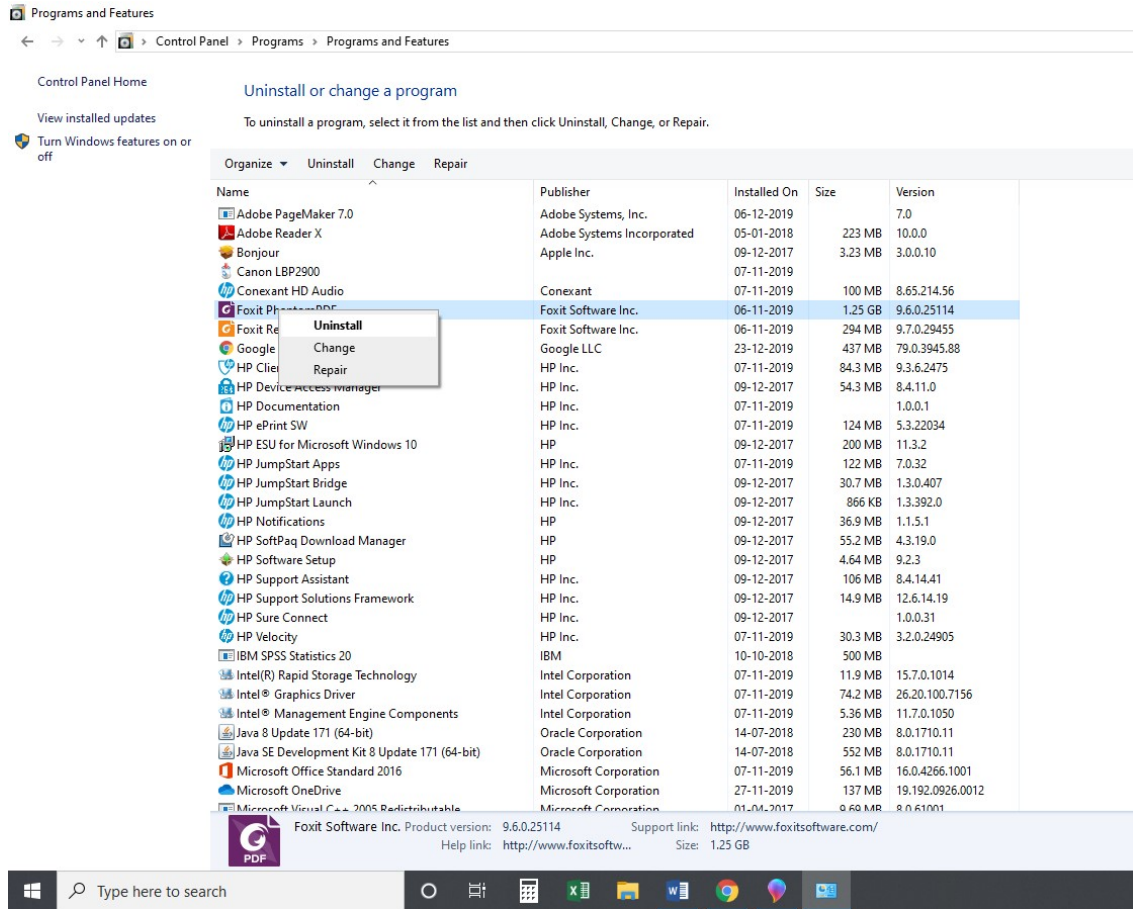Step 5: Right Click and select "Uninstall" to uninstall the chosen program. Then select the uninstall option

Figure: Right Click and select "Uninstall" to uninstall the chosen program

Step 6: A pop-up box will appear asking "Are you sure you want to uninstall this software?"

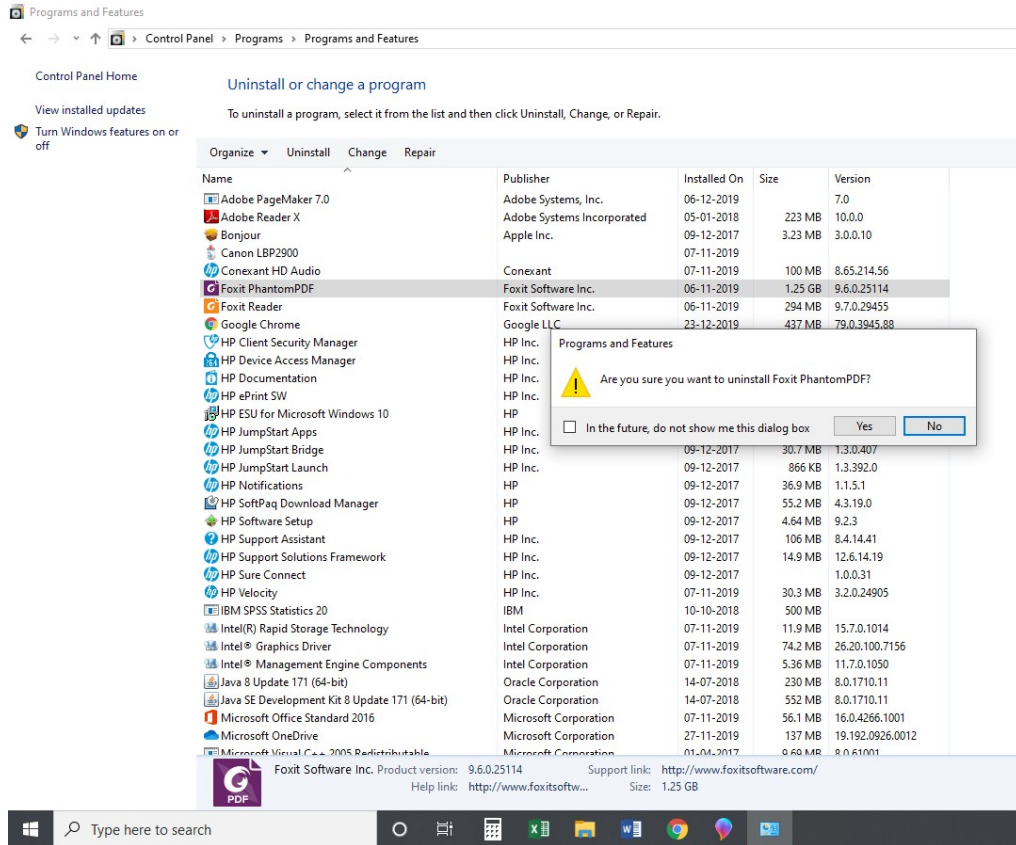- Click yes to finally uninstall the program.
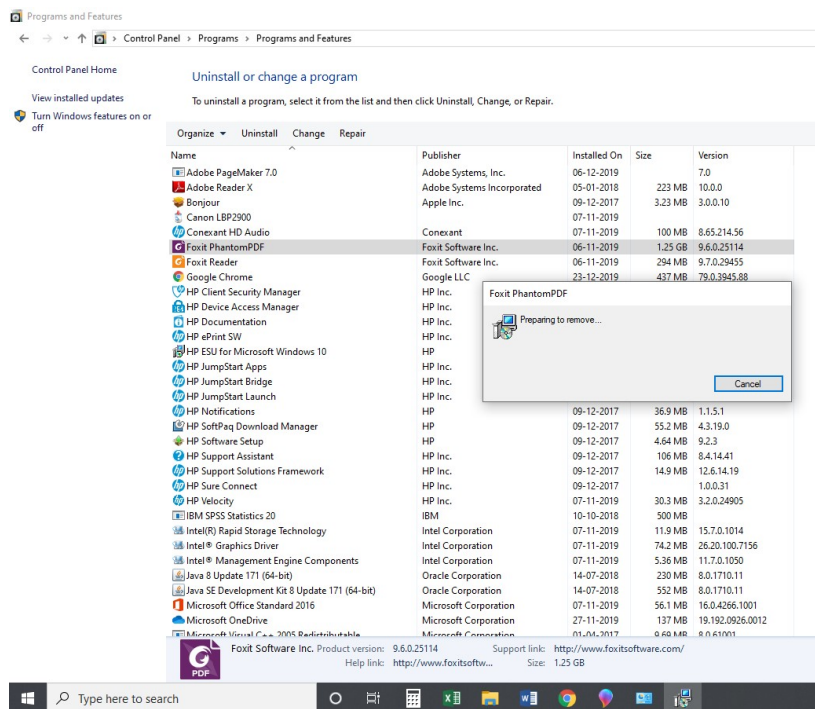
Figure: Select "Yes" for the pop-up box

Figure: Uninstalling the selected programme

Install and Uninstall Simple Software Applications Part-II	**Video link :** https://youtu.be/5ovVT0JB_c0	**Scan with QR Code**

4.5 TROUBLESHOOTING SIMPLE SOFTWARE APPLICATION

Kindly click the following links to learn how to troubleshoot some of the common software problems and to keep your machine safe

https://www.computerhope.com/basic.htm

https://support.microsoft.com/en-in/help/17127/windows-back-up-restore

https://resources.infosecinstitute.com/category/enterprise/securityawareness/security-awareness-fundamentals/top-20-security-awareness-tips-tricks/#gref

https://www.cybintsolutions.com/10-important-cyber-security-tips-users/

Install and Uninstall Simple Software Applications Part-III	**Video link :** https://youtu.be/64QkF8WSD2c	**Scan with QR Code**

4.6 LET US SUM UP

- We have learned how to install some useful software viz., Microsoft Office, Internet Browser, E-mail Software, Antivirus Software and Media Players.
- We have learned to uninstall a software.
- A few links are provided which take one to troubleshooting of some common software problems

References:

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Soni Srivastava, ICT implementation for Education and Learning, IOSR Journal of Research & Method in Education (IOSR-JRME) e-ISSN: 2320–7388.

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- https://creativecommons.org/
- https://www.wikihow.com/
- https://www.lifewire.com/
- https://www.videolan.org/
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- https://en.wikibooks.org