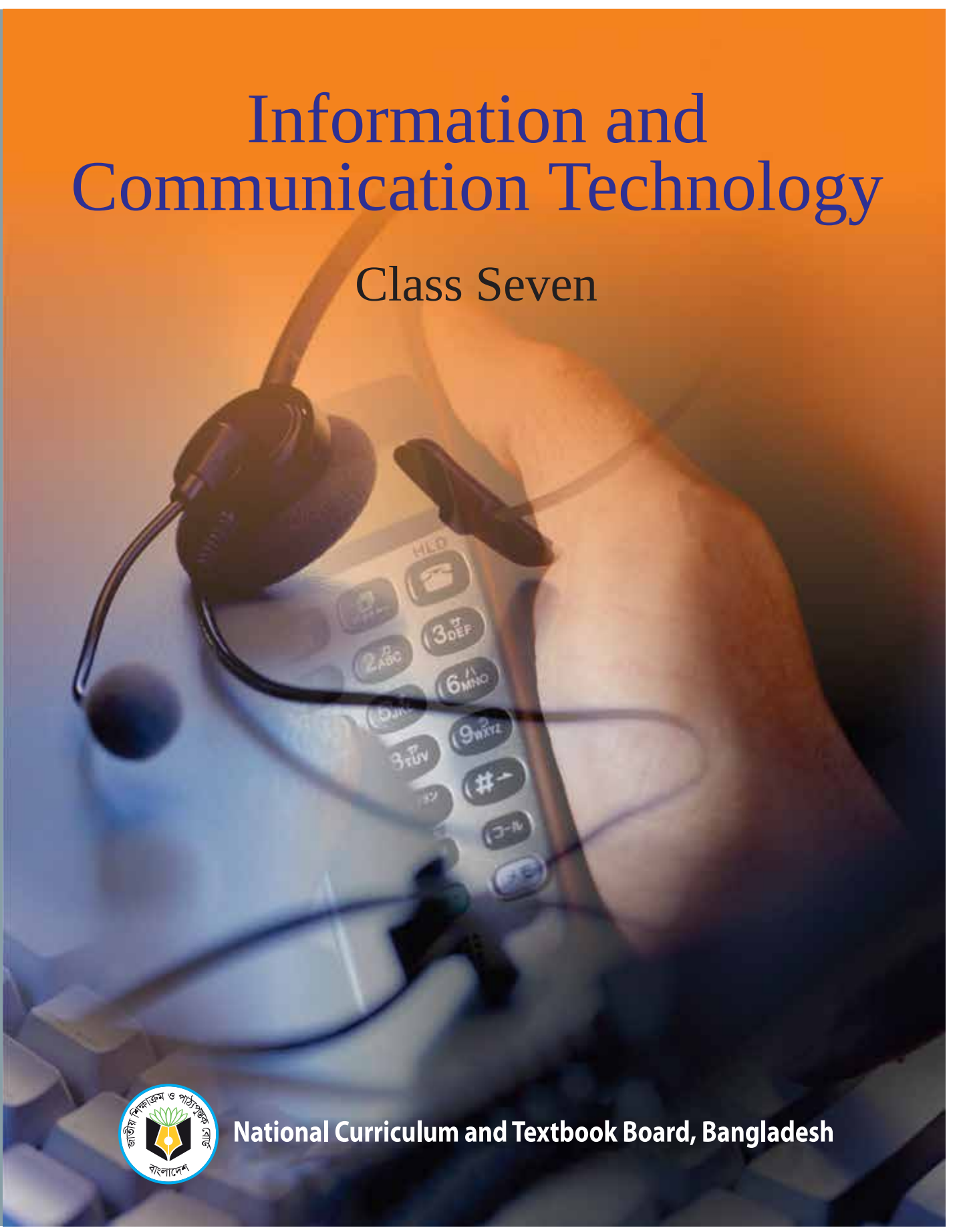
Information and Communication Technology

Class Seven



National Curriculum and Textbook Board, Bangladesh

Prescribed by the National Curriculum and Textbook Board
as a textbook for Class Seven from the academic year 2013

Information and Communication Technology

Class Seven

Revised for the year 2026

National Curriculum and Textbook Board, Bangladesh

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Preface

The importance of formal education is diversified. The prime goal of modern education is not to impart knowledge only but to build a prosperous nation by developing skilled human resources. At the same time, education is the best means of developing a society free from superstitions and adhering to science and facts. To stand as a developed nation in the science and technology-driven world of the 21st century, we need to ensure quality education. A well-planned education is essential for enabling our new generation to face the challenges of the age and to motivate them with the strength of patriotism, values, and ethics. In this context, the government is determined to ensure education as per the demand of the age.

Education is the backbone of a nation and a curriculum provides the essence of formal education. Again, the most important tool for implementing a curriculum is the textbook. The National Curriculum 2012 has been adopted to achieve the goals of the National Education Policy 2010. In light of this, the National Curriculum and Textbook Board (NCTB) has been persistently working on developing, printing, and distributing quality textbooks. This organization also reviews and revises the curriculum, textbook, and assessment methods according to needs and realities.

Secondary education is a vital stage in our education system. This textbook is catered to the age, aptitude, and endless inquisitiveness of the students at this level, as well as to achieve the aims and objectives of the curriculum. It is believed that the book written and meticulously edited by experienced and skilled teachers and experts will be conducive to a joyful experience for the students. It is hoped that the book will play a significant role in promoting creative and aesthetic spirits among students along with subject knowledge and skills.

The education policy has made Information and Communication Technology compulsory in all streams of the education from grade VI-XII to introduce the concepts as in acquiring literacy in this subject well as to make the students proficient in information and communication technology. The curriculum and textbooks of this subject have been developed in accordance with this. Hopefully, the textbook of Information and Communication Technology for class VII will make students interested in this subject along with acquiring literacy in Information and Communication Technology.

It may be mentioned here that due to the changing situation in 2024 and as per the needs, the textbook has been reviewed and revised for the academic year 2026. It is mentionable here that the last version of the textbook developed according to the curriculum 2012 has been taken as the basis. Meticulous attention has been paid to the textbook to make it more learner-friendly and error-free. However, any suggestions for further improvement of this book will be appreciated.

Finally, I would like to thank all of those who have contributed to the book as writers, editors, reviewers, illustrators and graphic designers.

October 2025

Professor Robiul Kabir Chowdhury
Chairman (Additional Charge)
National Curriculum & Textbook Board, Bangladesh

Contents

Chapter	Title	Page
First	Information and Communication Technology in daily life	1–17
Second	Computer Oriented Devices	18–37
Third	Safe and Ethical Use	38–53
Fourth	Word Processing	54–61
Fifth	Use of the Internet in Education	62–72

First Chapter

Information and Communication Technology in Daily Life



After completing this chapter, we will be able to——

1. explain the use of information and communication technology in personal life;
2. identify the fields of using information and communication technology in workplace;
3. analyse the importance of information and communication technology at workplace;
4. evaluate the impact of information and communication technology in social life.

Lesson 1: Information and Communication Technology in Personal life

New forms of technology frequently come into being in this world though we do not know all about them. For this reason, they do not have immediate impact on us. However, information and communication technology is such a kind of advanced technology which has immensely influenced our life in various ways. In this world, you will not find none who has not used this technology in some way or whose life has not been changed by information and communication technology .



Anybody around us can communicate with others over mobile phone whenever they like.

Information and communication technology is not only used in important state affairs or international affairs but also deeply integrated into lives of common people. Just look around: you will see your friends, relatives, school teachers, classmates and even yourself using the technology in countless ways. This textbook which you are reading right now is written by someone, printed by using this information technology and thus brought to you through ICT and you can read it. There are plenty of examples of how ICT impacts our lives are far more than you could ever imagine. If we try to make a list of various uses of information and communication technology in a human life, it will never end. How about we go for a try? Let's at least try a few important aspects.



Television is the most widely used medium of entertainment.

Personal Communication: The very first example of information and communication technology use can be the personal communication. Almost everyone uses mobile phones and they can communicate with anyone over mobile phones whenever they like. Perhaps you can guess that our life standard has been progressed through communication with others over telephone . Now we can do so much more with less effort than we could ever imagine before.

Entertainment: Nowadays, information and communication technology is not only a way of communication but also an excellent medium of entertainment. Previously people had to purchase a separate machine to enjoy music but right now, they can listen to music using a mobile phone. Once cameras were used to be a luxury item for the rich people but now with a regular smartphone, anyone can take photographs and videos. It's gradually being an intelligent device that can manage to do works of different varieties. In the same way, the computer is gradually becoming smaller in size, i.e. frorn desktop to laptop, laptop to notebook, and notebook to smart phone. It means that we are going to have such an advanced device by which we can perform innumerable works.



GPS can locate any place on earth

GPS (Global Positioning System): The first condition for driving anywhere is that we must know the roads. How can someone reach the destination without knowing the way? But it is interesting that nowadays one does not need to know the roads to go anywhere. Many satellites orbit the earth and send signals. By analysing the signals anyone can easily locate where they are. If one can combine this with a map of a place, one can go anywhere. All the new cars come with GPS system. If you specify the destination, the GPS tells the driver the right way to reach. The first satellite of Bangladesh was launched into the space on the 12th May 2018. This satellite, named Bangladesh Satellite-1, was lunched from the Kennedy Space Center in the United States. Among the countries with their own satellites, Bangladesh is the 57th in the world.

Group Activity

Suppose you have decided to spend your day without using any technology. Make a list of things that you would not be able to do throughout the day.

New Learning: Desktop, Laptop, Notebook, Smartphone, GPS, Bangladesh Satellite–1

Lesson 2: Information and Communication Technology in Personal Life

We use information and communication technology all the time in our personal life. We are so accustomed to using the technology that we do not even notice its inevitability carefully. We can make a list of the activities of an imaginary person to understand how far the use of this technology has its impact on us. Suppose, the person's name is Sagar. He woke up to the sound of his alarm. He had set his phone for 6 am. The first thing that came to his mind after waking up was that it was day off. He would not have to go to work on this holiday, which made him feeling good. When he was switching off the alarm, the desk calendar reminded him that it was the birthday of his friend, and there was a celebration at his friend`s house in the afternoon.



Enjoying music by computer

After washing up, he ate his breakfast while listening the morning news on television. His heart rejoiced at the news of a bumper rice harvest this year. However, he felt a bit anxious as a low pressure in the Bay of Bengal might turn into a cyclone.



Reading book by using e-book reader

Sagar sat down with his laptop after the breakfast. First, he checked his e-mails. His brother living abroad had sent a family-photo. This picture was beautiful. Sagar thought it would not be a bad idea to hang it in his room.

He started playing some of his favorite songs after sending replies to his e-mails. While listening to music, he started reading e-book. He did not even realise how time flew by as he enjoyed reading.

When he finished reading the book, it was

little late. He suddenly remembered that there was nothing to eat at home as he forgot to do the shopping. Then it came into his mind that he could order food through the Internet. They would send it through home delivery. Sagar instantly ordered his favorite biryani through the Internet.

After some time, a cheerful young man came to his house with the biryani. ''Did you have any problem getting to my house?'' Sagar asked him. ''Not at all, I wrote your address on GPS which showed me the way to your house,'' he replied.



You can communicate with the whole world by using the computer network sitting in your room

Sagar again browsed the net and collected the latest news of the world while he was taking his food. An amazing piece of news of science regarding the neutrino was published. He did not know what a neutrino was. So he visited a website and read an informative article about neutrino on wikipedia. Not only that, a new movie had become very popular. and he thought it would not be bad to watch it. He started downloading the film immediately in order to to watch it at night.

Sagar would go to attend the birthday party of his friend in the afternoon. He would need something to his friend as a gift. His friend likes to read books. So he ordered for a book through the Internet, and it would be delivered in time. He also ordered a book for himself. He checked the balance of his account and transferred some money from his savings to checking account.

Group Activity

Make a list of the works possible to be done by the computer, but are not mentioned here.

When he was about to leave the room, his mobile phone rang. It was a call from his mother. "How are you, mother?" Sagar asked her. "I am well, but the power of your father's spectacles has to be changed immediately. He can't see clearly," his mother replied.

"Don't worry. I'll come home next week, and take father to an eye specialist."

Sagar booked a train-ticket over mobile phone after he had talked to his mother. He would check the e-healthcare centre tonight to find a good eye specialist.

They enjoyed the birthday party at his friend's house. The children were noisily playing games on the computer. Sagar returned home after the feast and went to bed early as he needed to go to office the next day. Lying on bed he listened the latest news on television. Satellite pictures showed that the cyclone had changed the direction and moved away. There is no danger to the country. Sagar felt relieved upon hearing this and went to sleep with a peaceful mind.

Have you noticed how much work Sagar did by using the information and communication technology? Can anybody imagine it just before a few years?

New Learning: e-book reader, wikipedia, download, e-healthcare centre

Lesson 3: Information and Communication Technology at workplace

You know that the students usually, after completing their school education go to college and then from college to university. We have many public universities in our country. After completing the HSC examination, students have to sit for admission tests to get admitted into universities. Once, the admission procedure was very complicated. They had to go to the universities traveling by either bus, or train, or ship, and stood in a queue to collect the forms. Again they had to go to the universities physically to submit the forms after filling up. They had to pay fees to take the admit cards. After the admission test, the results were published in the newspaper. Seeing the results in the newspaper, students got admitted into the universities.



The entry process into school, college and university can be initiated by sending SMS through.

In 2009, Shahjalal University of Science and Technology decided to conduct the whole admission process through information technology and not even a single piece of paper would be used for this work. Candidates did not need to come out of the room for registration. Since 2009, schools, colleges and universities have been using information technology for admission. Everyone can complete the whole application procedure by using a smartphone. A mammoth task has become as easy as pie.

Group Activity

What are the requirements to make your school office a paperless working place?

Though the concept of doing official works without papers is just starting in our country, but the concept is not new. In 1975, an article regarding this concept was first published in a magazine called "Business Week", but then it sounded more like science fiction. To make it a reality everyone in the office needed a computer which was unimaginable at that time.

What once was beyond the imagination is now a reality. Now, many offices have been turned into a paperless office where nobody writes anything on paper, You just write anything on a computer and send it to others. All the computers are connected through a network, so all the work is done in the blink of an eye. Nothing is written on paper which saves paper costs. Paper is made from trees. As paper is saved, trees are saved too, and the environment remains healthy. Since no ink and toner are used. So there is no chemical pollution.



The electronic voting machine designed by the technologists of the country is successfully used in polling.

Computer monitors are getting bigger than they had been before with the passage of time. So reading on the screen has been easier. The new generation usually prefers typine on computers to writing on paper. They feel more comfortable reading on a monitor than on paper.

Once photos taken with a camera had to be printed. Nowadays people can view photographs directly either on computer or on the mobile screen instead of printing photos taken with a camera.

Many banks of our country have also transformed into paperless offices through the adoption of information technology. As a result, all banking activities, from banking operations and bank customer communication to all customer transactions are being now completed online.

In this system customers can manage accounts, transfer funds, and pay bills without relying on physical paper documents. Mobile banking apps have become essential tools in this system, allowing customers to make transactions, check balances, pay utility bills, and access other services directly from their smartphones.



ICT in Banking Sector

Group Activity

Arrange a debate between two groups of students on the merits and demerits of using EVM in polling.

New Learning: Toner, Electronic Voting Machine

Lesson 4: Information and Communication Technology at workplace

If operating an office without paper by information technology is a step what could be the next step after that?

Perhaps you have already guessed that we will successfully be able to do the official works without going to office. If we do all the works with the computer and if they are connected through a network, does it matter if we work sitting in office or lying in bed at home? It does not make any difference, and that is the new concept of an office. In 1983, it was extensively discussed, and in 1994, an office of this concept started working. Those who are the employees do not

physically go to the office, but successfully do the office work. Office of this nature is called a virtual office.



A large call centre

All the offices cannot be transformed into virtual offices, but those that can offer many benefits in many ways. Firstly, you do not need to build any large building for the office. They need not reach the office building every day fighting against the traffic jam. They can do the office works along with their household chores. In the conventional office, employees have to work untill a specific time but in a virtual office it is possible to continue work after the specific time. So the workload in a virtual office might even be greater than that of a conventional office.



Today's youth prefer remote work than traditional 9am - 5pm office jobs

The amazing facilities of a virtual office are yet to describe. Those who work at conventional offices have to live close to the office.

As the employees of a virtual office do not need to be present physically, they can stay anywhere. So the employees of an office may live in different cities. In fact many offices run in this way. The earth moves round

on its axis. That is why, when it is day in one side, it is night on the other . When the people of half the earth sleep, the people of another half work, and vice versa. Thus, work goes on for 24 hours.

Now we frequently hear about “call centres” and there are many call centres in our country. There are various types of call centres and their nature of work is different too. For example, suppose, somebody has purchased a computer that is not functioning well. That person may phone to the company authority to get the solution. It seems to them that the person answering their queries is from nearby but in reality that call has gone to a remote call centre in other part of the world. The people there know the answers very well because many others at that person wants have asked the same questions before. So, the call centres can easily answer and satisfy the customer. Nowadays many young people in our country do not prefer working for fixed time from 9am to 5pm office. Rather they prefer working freely staying at home. Then the periphery of their work remains confined neither to their own city nor to their country, but the whole world becomes their work place. They not only enjoy their job, but also earn a lot. Only a personal computer and an internet connection are required for having all the facilities, but one more thing is essential: skill

Group Activity
Make a list of what you require to make a virtual classroom in your school.

So you can understand that employees of an office need not assembled together to work as a cohesive unit. Do you know that the people, who wrote the book you are reading did not sit together, but they all completed the whole work sitting at their own home?

New Learning: Virtual Office, Call centre, Paperless Office

Lesson 5: Information and Communication Technology at Workplace

You must know that Bangladesh now builds huge ships and exports them to major countries of the world. Large rivers run through our beautiful country - the people of this country grew up around the rivers, lakes and the sea – so it is not surprising if they can build wonderful boats and ships.



Industrial robot is now doing the dangerous mechanical works.

To build large ships, huge pieces of metal have to be cut into specific shapes and then welded. You must have seen welding being done in shops on the streets. If someone looks directly at the intense light that comes out of there, their eyes will be permanently damaged. Those who weld have to wear special glasses to work. There is a lot of heat generated, pieces of metal fall apart. Just looking at the work, it seems that it is quite a dangerous job. What it would have been if humans did not have to do this dangerous work, but a robot would do?

You will be happy to hear that such dangerous tasks are gradually being given to robots instead of humans. Humans get tired of working - if the work is monotonous, they don't even want to work. Robots don't get tired. They never complain about monotonous work. That's why there are no more humans is risky work in the world's big factories. Robots do the work. Humans mostly oversee it that the work is being done properly. Robots can do monotonous and dangerous tasks much better than humans. So, as time goes by, these tasks are being replaced by machines - using information technology. Many accidents happend every day on roads and highways. It is expected that in the next few years, high-tech artificial intelligent vechicles would be run on the city streets



This car runs without driver.

roads and technology-based traffic management will reduce accidents. When huge planes fly in the sky, pilots don't have to do anything - computers do everything. Nowadays, fighter jets do not have pilots, and we all know that pilotless drones are taking pictures and videos every day. It seems like there is no end to the list of how information technology is used in our work. Official correspondence has already been mentioned - office meetings are also done differently these days. Different people from different offices sit separately and hold conferences together. In our country, many universities are setting up e-classrooms, a teacher will teach in his classroom, and countless people from all over the country will study with him. Office management cannot be imagined without information technology. Earlier, it used to take days to move large files from one room to another in the office. The new electronic files move from one office to another in the blink of an eye. The most important tasks in the office are related to money or accounting, and thanks to information technology, those tasks have now become easier with large ledgers.



A camera drone

Group Activity

Make a list of tasks you would like to have done by robots.

You do not have to write anything down in a notebook, the computer does everything in an instant. At work, people always have to tell someone something, explain something, and discuss something. Such wonderful systems have emerged for these tasks, and everything can be done so perfectly that sometimes you wonder how these tasks were done before?

New Learning: Robots, Pilotless Drones, e-classrooms

Lesson 6: Information and Communication Technology in Social Life

ICT for Improving Social Relations: We all live in a society. You and your friends may live in a village or a city. Some of you may live at a school hostel. Our society includes father, mother, grandfather, grandmother, relatives, friends, etc. Some work here, some do business, some are students, and some do household chores at home. A society moves forward through mutual relations and gives-take policies. We use various tools for various needs of society. At one time, communication meant going from one village to another to convey news. Later, it was found that news could also be conveyed by beating drums. When people learned to write, they started writing letters and sending their thoughts and news. The postal department was established, a system for delivering letters from one place to another. The invention of the telegraph and telephone made these things easier. And now, Information and Communication Technology (ICT) has brought the fulfillment of social needs within reach. In addition to the conventional tools of ICT, many popular social networking websites have been created on the internet, which make it easy to carry out these social activities.



E-cards may be very attractive, and as paper and ink are not used, it's environment friendly

Let's first look at some examples of how social relationships are evolving using ICT:

a. Invitations to events: Once upon a time, invitations to social events could only be given through paper invitations and telephone calls. Now, invitations can be given through email or mobile text messages (SMS). The advantage of email or SMS is that the recipients do not have to use their phones at the time of the invitation, but can check it at their convenience.

b. Greetings on special days: You want to send greetings to your friends on their birthdays, Eid or Puja. You can give your handmade cards to those who live near you. But to those who live in different countries or at different distances? Cards can also be sent to them by post, but now everyone sends e-cards. E-cards can be sent in two ways. One is by yourself on the computer.

You can create an e-card and send it via email. Again, there are many e-card sites on the internet from where you can send your favorite e-card to your loved one. Usually, no money is spent on this. Your friend or loved one receives your card through the Internet. Again, mobile phone text messages are now very popular for greetings. Through this, greetings, concerns or worries can be conveyed to your loved one very easily. Now it is customary to greet your dear friend by playing your favorite songs on various FM radios. Hearing-impaired people can also communicate through SMS. Similarly, visually impaired people can also use computers or smartphones through talking software. Through these, social bonds are strengthened.



There are many attractive websites for preserving and sending images.

c. Memory Preservation and Sharing: There has been a culture of taking pictures of colorful and important events in life and sharing them with everyone since long ago. Those who can afford it record their events on video cameras. Nowadays, mobile phones are easily available that have cameras and video cameras. As a result, it is possible to save any moment of life for the future. Moreover, such digital pictures can be sent to loved ones if desired. There are now various sites on the internet where you can upload pictures and share them with others. Among such sites, Google Photos (photos.google.com) and Yahoo's Flickr are now the most popular.Not only pictures, if you wish, you can present your videos to the whole world through video sharing sites. YouTube (www.youtube.com) is more popular among such sites.



You can watch video in Youtube

Group Activity

Invite guests to one of your class events using SMS

New Learning: Text Messages, e-cards, Video Sharing Sites.

Lesson 7: Information and Communication Technology in Social Life

Social networking sites: Information and communication technology has made our social communication fast, interesting, and effective. Not only that, but our social affairs have also come up on the internet in various ways. In the previous lesson, it was said that if you want to tell your friend something, you have to send a text message or email. But what if your friends know everything you are doing, without you having to do anything separately? Of course, it is very good. From this thought, several social networking sites have now been developed on the internet.



Millions of people use facebook

Information, pictures or videos about your likes and dislikes, events, job promotions, children's marriages, etc. can be exchanged from any of them. Currently, there are about a hundred such websites. These include Facebook (www.facebook.com), LinkedIn (linkedin.com), X (www.x.com) are popular.

Almost all language speakers in the world use these sites. The most widely used of these social network sites is Facebook. Billions of people in the world are now Facebook users. The number of Facebook users is also increasing in Bangladesh. On Facebook or similar sites, each user can launch a specialised webpage introducing himself. This is called a user profile. The user publishes various information about himself, his likes and dislikes, etc. in his profile. Then one finds his friends on Facebook from his profile. Here, what we conventionally mean by friend is not being understood, according to Facebook, all the other people with whom a person has contact are his 'friends'. If your friend also has a profile on Facebook, then you can find him and send a request to be friend. If he agrees, then you will become friend. Similarly, if someone else requests you to be a friend and you accept it, then you will also become his friend. You and your friends will together form your 'network' or your social network.



Usually professionals use LinkedIn



Small posts can be spread quickly on 'x'

Now your network will slowly grow. You can also find that friend from your primary school who you haven't seen for a long time, who might now live in Australia. Whenever you publish any information on your profile, it will immediately appear in a special place on your friends' pages. You can express your feelings, which is known as 'status' on Facebook. In X, this is called a post. If you publish a picture or video in your profile, then everyone in your network will able to see. Not only that, Facebook will remind all your friends when your birthday is. Everyone will be able to wish you. Not only your personal happiness and sorrow. Now, product advertisements, job news and even organizing social movements are being done through these social networking sites. Social media or social networking sites played a special role in the popular uprisings in Tunisia, Egypt, and Libya in 2010-2011.



In Bangladesh, during the quota reform movement and mass uprising in July-August 2024, social media — Facebook, YouTube, X and Telegram, etc. — played an important role in communication and public opinion formation among the protesters nationwide. When the traditional media was controlled by the fascist government and failed to disseminate accurate news, social media became a reliable source of news. On July 16, when pictures and videos of Begum Rokeya University student Abu Sayeed being shot dead by the police were spread on social media, there was nationwide outrage. As a result, the quota reform movement spread to all schools, colleges, madrasas and universities. When pictures and videos of the brutal repression and oppression of the Awami League government were spread on social media, people from all walks of life took to the streets. Finally, Sheikh Hasina fell on August 5 at the cost of the blood of thousands of martyrs. The journey to a new Bangladesh began.

Group Activity

Write what new things you can do by using a social network like facebook.

New Learning: Profile, Social Network, Status

Sample Questions:

1. Which invention shows drivers the location of their destination during travel?
   a. Computer b. The Internet c. Mobile phone d. GPS
2. Which technology can we use to find out about the Neutrino?
   a. Computer b. The Internet c. Land phone d. Mobile phone
3. Using information and communication technology, one can –
   i. Read books
   ii. Conduct bank transactions
   iii. Play games

Which of the following is correct?
   a. i and ii b. i and iii c. ii and iii d. i, ii and iii

Read the chapter below, and answer questions nos. 4, 5 & 6:

Reba was successfully qualified in the HSC examination this year. She wants to get admitted into a university. After watching the advertisement in the newspaper, he instantly applied to different universities for the admission.

4. Reba can apply using?
   i. mobile phone.
   ii. the Internet.
   iii. the computer.

Which one is correct?
   a. i & ii b. i & iii c. ii & iii d. i, ii & iii

5. The advantage of this application process is–
   i. saving time and money.
   ii. lessening physical exertion.
   iii. protecting environment.

Which one is correct?
   a. i & ii b. i & iii c. ii & iii d. i, ii & iii

Short Answer Questions

1. Write two advantages of the online admission process.
2. What kind of impacts are on the environment due to the transformation to a paperless office?
3. What is online banking? Write one advantage of online banking.
4. Write two advantages of a virtual office.
5. What is an 'e-classroom'?

Second Chapter
Computer Oriented Devices



After completing this chapter, we will be able to—

1. describe the activities of different computer devices ;
2. explain the interrelations of different computer devices ;
3. identify the devices after drawing their pictures.

Lesson 8: Input Devices

In grade 6, you learned about various ICT devices. In this lesson, you will learn more about ICT devices.

With the passage of time, these devices are becoming more and more upgraded. The situation is now such that today's most modern device will become obsolete tomorrow. Moreover, there are new inventions. Take the case of the television remote control device, now there are televisions that operate through voice dictation. It is possible to give such input by speaking.

Technology is changing very rapidly. Still, we need to know about the devices that are currently in use. Because even though the devices have changed, the concept of input, storage, processing, and output has not changed.

Keyboard: The main (mostly used) input device in a computer is the keyboard. Most of the information and communication technology devices usually provide input through the keyboard. To perform any task using these devices, the devices need to be given some instructions. When we give these instructions to the devices by pressing the buttons on the keyboard, the devices do the task.

Today's modern computer keyboard concept originated from a machine called a typewriter. Typically, a computer keyboard has some keys arranged in an orderly manner, such numbers or special characters. Computer keyboards, like typewriters, also have some additional keys for special functions. Keyboards are usually available in English and other languages. Recently, the Bangladesh government has issued a directive to include a Bengali keyboard layout on all mobile phones.



Computer keyboard

Mouse: You must have used a device called mouse. It is a popular input device. Many people also call it a pointing device. Those who first invented it thought it looked like a rat, so it was named mouse.



Mouse

A mouse usually has two buttons and a scroll wheel. These buttons are used in various ways to provide input to the computer. There are many types of mouses in use in the world today. Common users use the standard mouse.

The position of the mouse on the computer monitor screen is shown by a pointer like an arrowhead. When the mouse is moved, the pointer changes position. By clicking the mouse button, various commands are given to the computer. The mouse is widely used in image-based operating systems. Usually, a programme is selected by clicking the left button and clicking it twice in quick succession opens it. The touchpad of a laptop computer can be used to perform mouse functions.



Microphone

Microphone:
This is also an input device. Our speech, music or any kind of sound can be entered the computer through it. Its popularity can be seen especially in the case of talking in internet-based communication. This device was invented quite a while ago as it was used in telephones. However, now it is regularly used as input to computers. In addition to speaking, microphones are also used for voice recognition.

Group Activity

1. List and present the names of several devices that have keyboards that are not mentioned here.
2. Create a common list from each group's presentation.

New Learning: Scroll Wheel, Icons, Voice Recognition, Microphone.

Lesson 9: Input Devices

Digital Camera: A very familiar device to us is the camera. Digital cameras are very popular at this time. Although the introduction of digital cameras started a long time ago, its use as an input device for computers started much later. Initially, digital cameras were used as an input device for computers, especially in research work, especially in space research. Nowadays, almost all types of digital cameras can be used as an input device for computers. The digital camera is connected to the computer through the USB port and digital images are entered into the computer.



Digital Camera



Webcam

Webcam: Webcam or web camera is a special form of digital camera. It is connected to the computer as hardware. Usually, a web camera is connected to a laptop computer. Still images or video images can be entered into the computer as input through a web camera. Using a web camera, computer users can exchange images or videos directly with each other over the network. Webcam is used for mutual communication on social websites. Webcam are most commonly used in video conferences or video phones. It is called a webcam because of its widespread use on the World Wide Web.

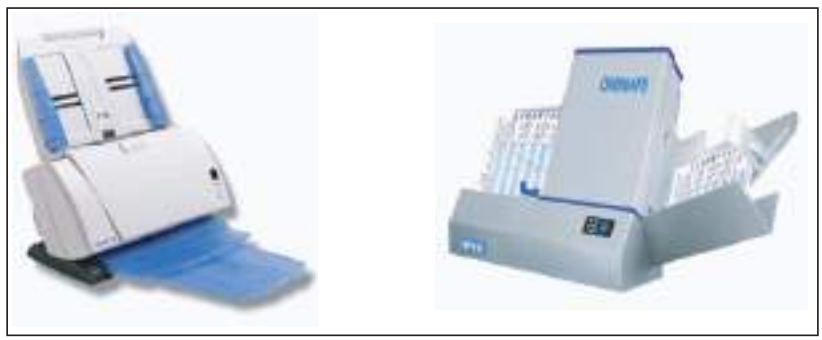
Webcams are currently being used for various security-related purposes. Starting from important state installations to various government and private institutions, these cameras are used for security purposes in homes. There is a direct connection to the computer with this camera. As a result, this camera constantly sends video images to the computer and stores them on the computer. Later, it is possible to identify criminals by viewing those video images. This method is also being used in our country to suppress crime.

Scanner: Once we would make copies of documents by photocopiers, but we had to use the machine as many times as we needed to copy. The information was not preserved. The machine that solved the problem is called the scanner. The scanner is the name of the machine which makes digital images of photographs, printed or written documents. These digital images can be stored on a computer.



Scanner

OMR (Optical Mark Reader): OMR is the abbreviation for Optical Mark Reader which is also an input device. It can understand information by analysing the reflection of light. The nature of its working is like that of a scanner.



Optical Mark Reader

It is now familiar to almost everyone as it is mostly used in evaluating answer sheets of objective questions in competitive examinations. The positions of circles of the correct answers are previously stored in the memory of the computer. If the candidates fill up the circles of correct right answers, they will get the credit. Incorrect filling up of circles, even with the correct ones will not give any credit. This system has provided the facility of assessing thousands of answer scripts in a very short time. There is no possibility of anomaly or partiality in the evaluation. That is why it is very popular.

Group Activity
Represent after writing the names of the devices that have cameras though not mentioned here.

New Learning: Webcam, Digital camera, Scanner, OMR

Lesson 10: Memory and Storage Devices

We have learned a lot about memory and storage devices in Grade VI. Now let's learn a little more about them. Nowadays, memory and storage devices are used in almost all types of technological products, apart from computers or mobile phones. All modern technological products are operated by microprocessors. Some instructions have to be given to this microprocessor to operate it. Memory or storage devices are required to store these instructions. Memory is very important in the functioning of computers, smartphones, game consoles or all such devices. Memory is of two types. Main or primary memory and auxiliary or secondary memory. When the central processing unit (CPU) processes information, the necessary information or software is located in the main memory. Since the speed of the main memory is very high, it is able to work quickly in line with the CPU.

There are generally two types of main or primary memory - one is RAM (Random Access Memory) and the other is ROM (Read Only Memory).
The capacity of main memory is expressed in two ways. One is the speed which is expressed in Hertz (Hz) and the other is the storage capacity which is expressed in `bytes'. One byte is equal to 8 bits, so 1024 bytes as very close to 1000 is called a kilobyte.

8 bits = 1 byte
1024 bytes = 1 Kilobyte
(1024×1024) bytes = 1 Megabyte
(1024×1024×1024) bytes = 1 Gigabyte
(1024×1024×1024×1024)) bytes =1Terabyte

RAM: RAM is connected to the motherboard of an ICT product, i.e. a computer or smartphone. The processor initially stores the necessary information in RAM. The processor processes the information by taking information from RAM.

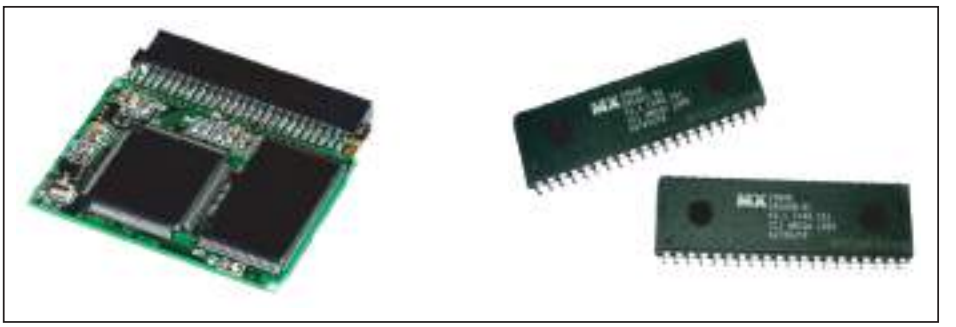
Since the processor collects information directly from any place in RAM, it is called Random Access Memory or RAM for short. As the power of the processor has increased these days, the software has become more efficient and complex, so they have to use a much larger part of the memory.



Ram

That is why today's computers require at least 8 GB or more of memory. RAM speeds are now much faster than processor speeds. Here is one thing you need to know - whether or not the information in RAM is stored depends on the flow of electricity. If the electricity is turned off, all its information is erased. That is, when the computer is turned on, the RAM starts storing the necessary information. Again, when the computer is turned off, the RAM information becomes empty.

ROM: ROM or Read Only Memory is connected to the motherboard. Some instructions are required to keep the ICT equipment or computer hardware running. Without these instructions, the computer cannot be started. Therefore, these instructions are permanently stored in ROM.
This memory does not depend on the availability of electric power. The user cannot erase it without special measures. Since this memory can only be read, it is called ROM or Read Only Memory. Since its information cannot be added or removed without special measures, it is called permanent memory.



Rom

Group Activity
Form two teams, RAM and ROM, and debate which is more important in computers.

New Learning: Microprocessor, Bit, Byte

Lesson 11: Storage Devices



Hard disc drive

Hard Disc: Those of you who have used computers must have heard of the hard disc. It is actually the main device for storing information. IBM Company first used hard discs to store data in mainframes and minicomputers in 1956. One of the features of ICT devices is their ability to store information. Today's computers usually have hard discs with a data capacity of 500 GB to 4 terabytes. Even the data capacity of our smartphones is determined in gigabytes. But you will be surprised to hear that in 1980, a hard disc with a data capacity of 1 GB was the size of a large refrigerator or freezer. And its price was also very high. USD 15,000 or Tk 18,00,000 had to be spent for each megabyte. It seems like a myth. But this was the reality. Today's hard discs can almost fit in the palm of your hand. Usually, a hard disc contains several discs called plotters. Plotters are made of aluminum alloy or glass or ceramic on which a electromagnetic coating is given. Data is stored on this magnetic material. When the hard disk is turned on, these plotters start spinning. When the hard disc runs, the plotters spin, and two heads, one on each side of the disc, read or write with the spinning. Hard discs are very popular due to their data storage capacity. They come in two types. One is permanently connected to the computer. The other is separate. This is called an external hard disc. It can be connected to any computer or laptop through a USB port. As a result, to transfer large amounts of data from one place to another, you no longer have to take the entire computer with you, but only the external hard disc.

Solid State Drive (SSD): Those of you who have recently bought a computer or have used a computer in the past will know about the Solid-State Drive or SSD. SSD is a type of storage device used in computers and laptops. It is different from the traditional hard disc drive (HDD), it has no moving parts, making it faster and more durable. It uses flash memory to store data, which allows for faster access to files and applications. Flash memory is an electronic non-volatile storage that can be electrically erased and reprogrammed or stored.

SSDs are generally used to improve system performance by reducing computer startup time and increasing software loading speed. SSDs do not have spinning disks, so they do not produce any noise and generate less heat than hard discs. They are more resistant to external damage such as shock and drops. SSDs of various sizes and capacities are available in the market. Overall, SSDs are preferred for their speed, reliability, and efficiency.



SSD

Fl ash Drive & Memory Card: For those who use computers, data and information has to be transferred from one computer to another. The easiest way to do this is by using networks. To transfer information where there is no network, you have to use some kind of storage device. The storage device that is easiest to carry is called a pen drive or flash drive. As you can tell from the name, it is small like a pen and can be carried in your pocket.



Pendrive

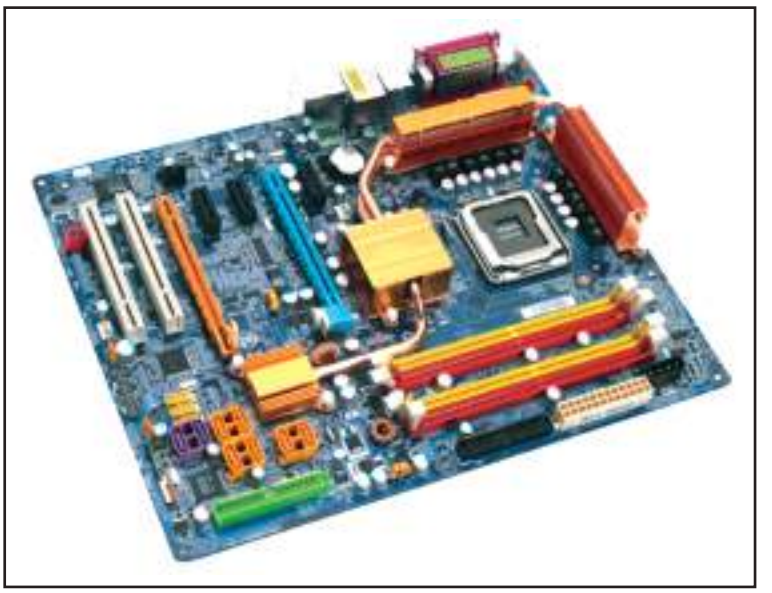
When they came into the market around 2000, they could hold 32 megabytes of information. Now 1 terabyte pen drives are easily available. The price is also more affordable than before. It also lasts longer than CD-DVDs. That is why its popularity among users is increasing. Pen drives of various beautiful designs are available in the market. In addition to flash drives or pen drives, a type of microchip-attached card is currently used to store information.These are called memory cards. A lot of information can also be stored on memory cards. However, it cannot be connected directly. For this, a designated slot is required or a card reader has to be used. Memory cards can be of various shapes and capacities. In addition to your very favorite MP3 or MP4 players and gaming devices, they are widely used in all types of digital cameras, mobile phones or smartphones.

Group Activity
Which do you think is more suitable for storing information: CD, DVD, pen drive or memory card? Explain with reasoning.

New Learning: Gigabyte, Terabyte, Aluminium alloy, Ceramic, Polycarbonate, Laser beam.

Lesson 12 &13: Motherboard and Power Supply

Motherboard is a very familiar word to you. You have already seen the picture of the motherboard. However, you need to know more about the motherboard. If you open any electronic device, a board will catch everyone's attention. This board is actually a printed circuit board. Almost all the necessary components are connected to this board. This board maintains the flow of electricity in addition to interconnecting the components. Before such boards were invented, it was necessary to connect the components with wires. It was a sight to behold!



Motherboard

This motherboard is known as mainboard, system board or logic board for Apple computer. Whatever it is called, it is the board that connects the computer's processor to all other input, memory, output, or storage devices, including all other devices.

At one time, in addition to the processor or CPU socket, there were slots or sockets for installing video cards, sound cards, RAM, etc. on the motherboard. However, recently, other cards (built-in) other than RAM are permanently attached to the motherboard. This has reduced the cost of manufacturing a computer. Moreover, due to the increase in processor power, the processor itself performs the work of many devices.

An essential part of the motherboard is the chipset, which coordinates the activities of the CPU and other devices. The working capabilities and features of the motherboard depend on this chipset. That is, the type of processor that the motherboard is suitable for is determined based on this chipset.

A modern motherboard, along with other components, typically includes:

1. Microprocessor or CPU socket;
2. RAM slot;
3. Chipset;
4. ROM;
5. Clock generator;
6. Extension slot; and
7. Power connection slot.

Additionally, USB ports, networking cards, and ports are currently connected to the motherboard.

Power supply: You know that a computer is an electronic device, so it needs to be supplied with electricity to make the computer work. The part from which different levels of electricity are supplied to make the motherboard, hard disk and other parts of the computer work is called a power supply unit. This power supply unit of the computer converts the AC electricity of the power line into DC electricity. Different parts of the desktop computer require different levels of direct current or DC electricity from +3 volts to +12 volts.



Power Supply

That is why different types of connectors are used to provide different levels of electricity in the power supply unit. Different types of power supply units are available in the market for desktop computers ranging from 200 watts to 800 watts. If the quality of the power supply unit is not good, the computer components may be damaged.

Group Activity

Open up an old broken computer, look at the motherboard, and draw and label its various parts.

*At least one class activity must be allocated for this task.

New Learning: Printed Circuit Board, Built-in, Chipset, RAM Slot, Clock Generator, Expansion Slot, Networking Card, Power Supply

Lesson 14 : Processor

If you are asked which is the most important part of the body - almost everyone will say the brain. Because other organs work under the instructions of our brain. Similarly, the most important part of computers, smartphones or such ICT devices is the processor. It is also called Central Processing Unit (CPU). Nowadays, all kinds of high-tech equipment including cars, cameras, smartphones, game consoles, televisions are controlled by processors.

The most modern technology in the world today is the processor. Since its discovery, its development has been very rapid. It can be said at an unimaginable speed. The interesting thing is that the processor itself is used to develop the processor. So, it can be said that the processor itself is constantly improving and developing itself. Processors are made up of numerous integrated circuits (ICs). ICs are made up of transistors.

All of these are contained in a small chip. Although the number of ICs in a processor has increased significantly compared to the past, the size of the chip is gradually getting smaller. Although its size is small, its working capacity is increasing. The overall processing work of the computer is done by the CPU. Its job is to understand the instructions of the software and process the information accordingly. That is, the CPU or processor controls the exchange of information through input and output devices. In short, the processor coordinates the work of all computer-related equipment and software instructions. The processor is made up of three parts.

1. Arithmetic and Logic Unit: This section organises mathematical and logical decision-making tasks.
2. Control Unit: All tasks are controlled through this part. It is determined which instruction will be followed after which instruction.
3. Register Memory: This is a small, very fast temporary memory. Information is retrieved from this memory and processed quickly.

Intel invented the first microprocessor in 1971. It was named the 4004. Its inventors were Ted Hoff, Stan Major, Federico Faggin of the United States, and Masatoshi Shima of Japan.
You already know that the power of processors has been increasing gradually since birth. An example will make this clear to you. The number of transistors in the 4004 microprocessor was 2300, and the number of transistors in the current Core i7 processor is 227,00,00,000. Imagine the future!

Computers follow all the commands and instructions given by people of different ethnic groups of the world. But how does a computer understand everyone's language or instructions? --- This question must be puzzling you to know the answer. The simple answer is that the computer or processor does not actually understand anyone's language. It only understands its own language. In the computer language, there are only two letters '0' and '1'. '0' means 0 to 2 volts of electricity and '1' means 3 to 5 volts of electricity. The name of this language is known as Machine Language. Suppose, you can speak Bengali and English but want to talk to a French gentleman who does not know Bengali and English --- in this case, you will have to talk with the help of an interpreter. Similarly, a translator program or software is needed to make the processor understand our language. There is a specific machine language code for every letter and symbol in our language and in every language in the world. The translator program converts our language into a code that the processor or machine can understand. There are various types of codes. For example, ASCII (American Standard Code for Information Interchange) code can be mentioned. ASCII code is an 8-bit code. According to this code etc.



A = 01000001
B = 01000010
? = 00111111
, = 00101100

Currently the most popular code is Unicode. When you become a programmer, you will learn many languages including Machine Language.

Group Activity

Point out the difference between processor language and human language.

New Learning: IC, Transistor, Chip, Arithmetic and Logic Unit, Control Unit, Register Memory, ASCII code, Unicode.

Lesson 15: Input and Output Device

Sound Card: A must-have device in today's ICT devices is the sound card. It acts as both an input and output device. It is usually controlled by software.

Most sound cards convert digital data into analog sound. The output signals are connected to an amplifier and the sound is heard through headphones or speakers. Almost all sound cards have input connectors and output connectors. When input is given from an external microphone or other input device, the sound card sends it to the processor, and the processor processes that input and sends it back the sound card, from where we hear the sound through the output section on the headphones or speakers. Nowadays, most sound cards are built-in to the motherboard. There is no need to install a separate sound card. Multimedia is completed through the sound card. Apart from listening to music and enjoying movies, we also enjoy games with sound because of the sound card. However, the sound card used for professional work usually has to be installed separately on the motherboard.



Sound Card

Graphics Card: When you use a computer or smartphone, you give various instructions by looking at the image on the screen. Now the question is how this image is displayed on the screen? Actually, the graphics card does the job. It is often called a video card, display card or graphics adapter.

There is a separate slot or socket on the motherboard to install this card. Currently, most motherboards have this card connected. And in modern processors, this video or display chip is connected, or in other words, the processors can display our images without any card.



Graphics Card

All graphics cards can show us two-dimensional (2D) images. However, now graphics cards are also available that can show three-dimensional (3D) images. Of course, to see three-dimensional images, we will need a monitor that can show three-dimensional images. As a result of this improvement in graphics cards, today we can see absolutely vivid and realistic images. Like sound cards, graphics cards also have input and output connectors. Graphics cards also have separate ports for playing games. This makes it easy to connect joysticks or other devices for playing games.

Touch screen: You must see using smartphones or touch phone. In this type of phones, various instructions are given by touching the finger and the results are also seen on the screen. A touchscreen is a type of display that can detect touch or finger touch input from the user and can also display the results on the screen like a monitor. It consists of both an input device (touch or touch panel) and an output device (visual display). Thats means it is an input as well output device. Touchscreens are commonly found in smartphones, tablets, laptops and other electronic devices. Touch screens are used in automation work in various industries.



Touch Screen

Group Activity

Apart from sound cards and graphics cards, what other types of output cards would be useful for you? Discuss and present them in your group.

New Learning: Analog, Amplifier, Adapter, Two-dimensional, Three-dimensional

Lesson 16 & 17: Output Device

Monitor: A monitor is basically an output device. Now there are monitors that can also act as input devices. You must have understood that we are talking about touchscreen monitors here. Nowadays, smartphones, tablet computers, laptops or regular monitors with touchscreens are available everywhere. Many of you may have already used these. There is not much difference between a monitor and our home television.



CRT Monitor LCD Monitor LED Monitor

Monitors are available in various shapes. The length of the diagonal of the monitor is considered as the size of the monitor. Earlier, CRT or Cathode Ray Tube monitors were used by everyone. Now, thin LCD (Liquid Crystal Display) or LED (Light Emitting Diode) screen monitors are used. These are light and thin. They look attractive and consume much less electricity than CRT monitors.

Printer: After the monitor, the output device that we need the most is the printer. After processing on the computer, we have to use the printer to print its output on paper. We also print the pictures taken with the digital camera on the printer. Generally, there are three types of printers.



types of printers available. A. Dot matrix printer. This is the earliest version of printer. This printer is still very popular because the printing cost is very low. However, it cannot do perfect printing. Moreover, its printing speed is very slow.

B. Inkjet printer: It is widely used as a low-cost printer. Inkjet printers are generally used more for personal use. It uses liquid ink. It can be used to do perfect printing. Inkjet printers are especially used for printing pictures. However, its printing cost is relatively high.



Inkjet printer



Laser printer

C. Laser Printer: As you can probably guess from the name, it has something to do with laser. In this type of printer, text is printed on paper using a laser beam. The printing speed and quality of laser printers are very advanced and precise. It is very popular for both general printing and photo printing. Although it was once expensive, it is now much more cost-effective due to the development of technology.

A plotter is also a printing machine. It is used to print architectural designs, maps, or graphs accurately and on very large paper.

Group Activity
Discuss in groups and present your reasoning on which type of printer is suitable for use in your school.

New Learning: CRT or Cathode Ray Tube, LCD or Liquid Crystal Display, LED or Light Emitting Diode, and Architectural Design.

Lesson 18: Output Device

Speaker: You all must love listening to music. What is connected to the music listening devices is called speaker. The speaker can make us listen all kinds of sounds. It is an output device. The speaker is an essential device of a multimedia computer. The speaker can be installed inside the computer or can be installed outside. To get good quality sound, we need to use good speakers. The speaker's job is to convert the electrical waves generated by the sound card or receiver into audible sound waves.



Speakers



Headphone

Headphones: Headphones are devices that are used to listen to sound close to the ears. Many people also call it an earphone or headset. It is also an output device. It is usually used with mobile phones, smartphones, CD/DVD players, MP3/MP4 players, laptops or personal computers. Since it is used alone, it is not likely to disturb others. However, excessive use of headphones, especially playing at high volumes, should be avoided. Otherwise, our hearing senses can be seriously damaged.

Nowadays, many people use wireless headphones. They use Bluetooth or WiFi technology to transmit sound to us.

Multimedia Projector: A multimedia projector is an electro-optical device. It converts data from a computer or other video source into an image. This image is magnified many times over through a lens system and projected onto a distant wall or screen to create a bright image. Modern projectors are also capable of creating three-dimensional images.

Multimedia projectors are commonly used for presentations. They are modern versions of slide projectors and overhead projectors. They can project digital images onto any surface, such as a wall or desks.

For use in a large meeting room, its brightness should be between 1,000 and 4,000 lumens. It depends on the power of the lamp.

The lamp of LCD projectors usually needs to be changed after four thousand hours of use. There is another type of projector that uses LED technology. Their lamps can work for twenty thousand hours. However, their price is relatively high. It takes an image from a computer or other source such as television, CD/DVD player, etc. and supplies it to the LCD. Then the image is projected onto a flat surface through a lens. This does not require any large substance. LCD or LED projectors are small in size and are very easily portable. Currently, pocket projectors are available that allow use from a computer, tab or mobile phone.



Multimedia projector

Group Activity

In addition to the devices discussed, create and present a list of input and output devices based on your experience.

New Learning: Sound Waves, Bluetooth, Wifi, Lumens, LCD, LED

Sample Questions:

1. You want to make a digital copy of a photograph. Which device will you use?

   a. Plotter b. Keyboard c. Printer d. scanner

2. Processor is called the head of a computer because—

   i. it is connected to the motherboard;
   ii. it gives commands to the computer;
   iii. it processes the data;

Which of the following is correct?

   a. i and ii b. i and iii c. ii and iii d. i, ii and iii

3. Which device will you use to save a photograph taken on your digital camera?

   a. ROM b. RAM c. Processor d. Hard disc

4. Which device is used to watch images and to talk together?

   a. Mobile phone & Webcam b. Webcam & Microphone
   c. Computer & Microphone d. Computer & Webcam

Read the passage below, and answer the question nos. 4&5:

Kona, the eldest granddaughter of Mr. Matin, is watching the cricket match between Bangladesh and South Africa. Noticing her watching the cricket match, Mr. Matin asked her, 'Have you taken satellite connection to your laptop?' Kona recorded the match.

5. Kona can watch the match by…

   i. the Internet.
   ii. connecting TV card to laptop.
   iii. connecting television-laptop.

Which one is correct?

   a. i & ii b. i & iii c. ii & iii d. i, ii & iii

6. What's the convenient device to record the match?

   a. Hard disc drive b. Pen drive c.CD d. DVD

Short Answer Questions

1. Why is the keyboard called an input device?
2. Why is the mouse called an input device?
3. Give a brief introduction to two output devices.
4. What is an external hard disk? Write one advantage of an external hard disk.
5. Why is the processor called the most important part of a computer?
6. Why is a touch screen called both an input and an output device?

Third Chapter
Safe and Ethical Use



After completing this chapter, we will be able to—

1. explain the detrimental effects of the excessive use of internet;
2. describe its impacts on society;
3. explain the rules, regulations and Acts of using ICT;
4. explain the necessity of safe and ethical use;
5. draw cartoons about the consequence of excessive use of ICT.

Lesson 19: Sensible Use

If you are asked to cut down a branch of a tree with a small knife you will hardly manage to peel the bark trying throughout the whole day. But, if you are given a sharp chopper, you will cut the branch down with a few strokes. If you use the small knife carelessly, you may just be pricked once or twice, but if you use the chopper absent-mindedly, you may receive serious wounds, and bleed heavily.

The cutting power of a sharp chopper is more than that of a small knife and the careful use of it can successfully get the big job done, but an accident may happen if you abstractedly use it. It is also true to your life and true to the use of Information Technology as well. Perhaps, you can guess that a high risk of danger is involved in its wrong application.



Use internet infront of everybody

So we will learn operation of the computer, the Internet and Information Technology, and use it carefully so that we may not fall in danger. The use of the internet gets priority to the most of the users. Almost all the computers of the world are connected to the Internet, and when someone uses the internet the whole world seems to appear at their room. In this world, there are many beautiful sites where you like to travel in, but there are also some dangerous places where you should keep yourselves away from. It is the same when using the internet.



You should not give your name, address, picture or password to any unacquainted person

When you communicate with others using the internet, you may come across people you do not know. What if it is revealed later that the person you trusted surfed the internet with an ill intention? If you gave them your name, address, phone number and photograph, and the person used it for a bad purpose, what will you do then?

The first rule you should follow is that you must never give your name, address and password to unknown people.

Communication with unknown people through the Internet may sometimes be risky. As no one notices, you may be free to exchange views that may cross the limit of modesty. Why should you tolerate obscenity and filthy things online if you do not do it in your personal life?



Be friendly while using internet

Age is regarded as an important factor for every conduct and practice of life. Perhaps, you have noticed that you like the books written for children like you. Books written for adult people may not suit your taste. You may even be shocked by the subject matter. The same thing may happen in the cyber world. You may be shocked if anything unsuitable for your age comes across you. A feeling of disdain may grow in you.

Those who use the internet must follow the three rules given below:

1. You must not use the internet secretly. Work sitting in a position from where everyone can watch the monitor.
2. Never give your name, address or photographs to any unfamiliar person.
3. Use the internet with good intention. Never harm anybody. Though you stay out of sight, never cross your limit through unrestrained, filthy, or appalling behaviour.

Group Activity

1. Make a list of the technologies that should be used carefully except the computer and the internet.
2. Make a beautiful poster writing the three instructions of the use of the Internet.

New Learning: Cyber world, Filthy website, Password

Lesson 20-22: Obsession

In 2009, two people were arrested in China. They were husband and wife. They were arrested because they sold their children. In three different times, they sold their three children for $9000. Perhaps, those who read newspapers daily might have noticed that a helpless mother of our country had also sold her kid for some money as she had not the financial solvency to bring them up. When we read news like this, we feel sad, and hope that one day, our country will be a prosperous one where no mother will have to sell their kids.

But, the Chinese couple did not sell their children for insolvency. They sold them to pay for online game. Both of them developed an obsession with playing an online computer game called MMO (Massively Multiplayer Online-game), and the obsession was so acute that they sold their children to pay for it.


THE INQUISITR

Chinese couple sells their children to pay for online game obsession

The news of selling children by a Chinese couple in the media

It was a very unusual incident. When it was focused in the media, the whole world was perplexed. Panic gripped the people as they realised that computer game might develop a serious obsession and snatch away our sense of proportion. We should remember that being fond of anything is a very usual instinct of human beings, and life becomes beautiful as we adore beauty. But obsession is completely a different thing, there is nothing good in it. When someone becomes obsessed with something, reason does not work for him. Drug is the most significant example. When someone gets addicted to drug, he fails to come out of its dreadful consequences. He destroys himself and makes the family life hell. Similarly, the obsession with computer games may be same as drug addiction. Those who are playing computer games now and will play in future should remember one thing that you will just enjoy the game, not be obsessed with it.

How will you understand whether you have developed an obsession with



Kids may easily be obsessed with cartoons

anything or not? It's not very hard to find out. When you will notice someone crossing the limit on any work, it can be identified as an addiction. In our country, different satellite channels broadcast cartoons on television throughout 24 hours. The kids enjoy these animated films, and as soon as it is over, they concentrate on their other essential works. But if it happens that they watch cartoons, all the time and other family members can not watch anything, it is evident that they are going to develop an obsession with animation. Some parents do not have any clear idea about the danger ahead of their kids. So they always allow their kids to watch cartoons on television to keep them silent. Thus, they develop an obsession with cartoons, and it hinders the mental as well as the intellectual growth of the kids.

The children cannot only be obsessed with cartoons or computer games, but also be addicted to a particular type of food. Some days ago, it is known through the newspaper that a British woman can eat nothing except pizza. She has been eating this fast food for the last 31 years at breakfast, lunch and dinner. It's an addiction too.

So, you will be very careful about not being addicted to anything. If you are obsessed with anything, it is difficult to get rid of it.

Group Activity

Compose a drama script on the detrimental effect of obsession with the computer games, and perform on the stage.

Once the word 'addiction' was used to describe the habit of gambling and abusing drugs. Perhaps you will be surprised at hearing that the excessive use of computer is regarded as an addiction. Even those who keep themselves busy most of the time with browsing the web are suffering from a kind of disorder. A new jargon, IAD (Internet Addiction Disorder) is coined for these addicts.

Today, most of the people use the computer. So they should clearly

understand the difference between the essential use and addiction. When someone spends maximum time on the computer, it is obvious that he is going to develop an obsession that harms his study. It will equally harm his health if his addiction increases and if he does not take rest or sleep in time. As people bear a good notion of the computer, they do not clearly understand their children getting addicted to it. Going beyond the limit of anything is bad, and it is true for the users of computers too.

What are the harmful effects of the obsession with the computer use? Some damages are very evident. The growing up children need physical exercise and outdoor games, but if they remain busy with the computer inclining their heads, then it hinders their physical growth. An obsessed user of the computer can not think beyond this machine. He not only spends time but also compels his parents to spend money behind it.



We will use the computer, not be used by it

Once, if addicted, it is hard to get rid of it. So it is better not to develop any addiction. Children of your age should know that the computer is a very effective device, and you must use it in needs, not develop any obsession.

If anybody gets addicted to it, we should help him shake his addiction off and show him the ways how he can get merriment from outer world, especially from games. Time should be fixed for him and how long he will use the computer. It should not be more than 1 hour, and he will be given the condition that he may get the chance of using it if he completes the other essential works including study. He should remember that the computer is an essential device, and we will use it, not be used by it.

Now a new kind of obsession about information technology has come into being. It is called social communication network such as facebook, 'x', Linkedln, youtube etc. crores of people of the world use facebook. At present, a large number of people of Bangladesh use facebook and the number is gradually increasing.

Group Activity

Write a fictional story about how a boy or girl addicted to computers or smartphones spend their day.

We guess its importance as thousands of people use these social communication networks that are unparallel for communicating a bit of information to a huge number of people. The autocrats rule many countries in the world on the pretext of not practising basic democracy by the political parties, but protests can be launched by organising people through the social network. In Bangladesh, the 2024 quota reform movement and mass uprising, which led to the fall of the oppressive dictator Sheikh Hasina, heavily relied on the crucial use of social media.

People continue communicating with others through the social networks that are very popular among the younger generation as they can accept information technology very easily. Although there is an age limit to join the networks, but the adolescents join by giving fake information about them, and there is no easy way to stop them. You may argue that as it has so many positive sides, what if the adolescents join it? We do not prevent you from reading newspapers or watching television, why do not we allow you to join the networks?

Certainly, there are some valid grounds for that. People who are involved in this social communication networks can not watch them physically. We fail to guess anything about the people you are communicating through social networks. It's usual that a adolescent will spend his time with the friends same to his age, but if they develop friendship with adults, that may not be good for them.

Even the adults are obsessed with social networks, and it becomes a problem for them as well. They can spend hours exchanging views with familiar, little familiar or even unfamiliar people by using the network which has made the

whole process very convenient. In offices and workplaces, it has been made strictly prohibited as the officials neglect their responsibilities being busy with unnecessary communications. But prevention may not be a good solution. If they apply their rationality and use it sensibly, it will not be an obsession for them, and that is the best possible solution desired ever.



There is a gulf of difference between a real friend and a social network friend.

People may be unsocial even after being connected to social networks. Those who are related to each other through the social networks address themselves as friends, and consider exchanging views friendship. If anybody regards the friendship of social network friends as real and become complacent about it, you will definitely be deprived of many significant things of life.

Group Activity

Being divided into two groups, one in favour of and another against joining the social networks of the students of your class, arrange a healthy debate.

New Learning: Obsession, IAD (Internet Addiction Disorder), Autocrat , facebook, linked-in.

Lesson 23: Copyright

Human beings need two kinds of property to live on. We can easily recognise the property that includes money, living house, transport, food and other material things. But people can not be satisfied only with these material belongings. They should foster their human faculties. They listen to music, recite poetry, conduct research, and develop new products and services to improve people's lives. We can make asset through these creative activities that we call intellectual assets. We can protect and save all the assets we have. No one can take away our material assets easily as our right is protected by the law. But you can compose a song that can be sung by many singers. Even someone can deceive people introducing him as the composer of the song. Similar thing may happen in the case of a writer. You may write something, but someone may publish it somewhere without your consent. If it happens, it's not good from either social or ethical point of view. The composer or the writer may not get the recognition, and they lose financially too. A writer spends his time, thought and intelligence in writing a book. The publisher invests capital to publish it, and fixes a price keeping a profit margin. The writer gets a percentage of it which is called royalty. If any body pirates the book and sells it, the writer is deprived of his right. In different countries of the world, laws were enacted to prevent the illegal reproduction, copying and use of creative things. As this law protects the right of the writer, it is called copyright law, in brief copyright.

Reproduction or copying books has been easier after the invention of printing machine. In 1662, the Licensing of the Press Act was passed in parliament of the United Kingdom. Those who wanted to stop piracy of their book took a license after the registration under the Act. The procedure was started with the books, but later included all the creative things such as scientific inventions, business labels, merit ownership etc. After the invention of computer, reproduction of books, photographs, labels etc. have become easier, and now the Internet can spread it throughout the world. So the reproduction through the computer has come under the purview of this law, and as the computer programming is a creative work, the programmer can also protect his right too. Now the copyright continues after the death of the owner. In some countries, it remains in effect until 100 years, but usually until

50-70 years after the death of the writer, artist or playwright. In Bangladesh, under the clauses of the copyright Act of 2000, its duration is 60 years. When a creative work is reproduced breaking the copyright act, it is called piracy. As the computer software and programmes can be copied easily, the rules are frequently broken. We should be careful while using the computer. When we will give anything from our computer to anybody, we should not break the copyright act. We preserve many literary pieces of works along with the computer games and programmes. We should keep in mind that we do not have the right to transfer the copies of those pieces to anywhere, but there are some liberties in using the creative works. The academic or study materials are almost free, and copying of any such materials does not violate the act. It is called 'fair use'.

A different stream of thought is also active against this conservative outlook. They think that the writers, artists, programmers can free their creative pieces on some terms and conditions. It is called 'Open Philosophy' or 'Open Source Philosophy'. Those who are the followers of this philosophy allow people to use their creative products under some licensing regulations. The opposite of copyright is 'copyleft'. It means that the producers allow everyone to copy and use their products, and those who are 'creative commons' stay in between the copyright and copyleft. Some rights of the job-creators are protected in some categories of the creative commons licensing act which permits anyone to publish or copy any writing or any creation without the permission of the writers or the creators. But that must be published in the writers' names, and he will not make any profit by it. The computer software being operated under the regulations of open source philosophy are called 'Open source software'. Anyone can copy and give the software to anybody. As the software are permitted to be copied and modified, those become gradually upgraded. A remarkable contribution of this philosophy is wikipedia, an open storehouse of knowledge (www.wikipedia.org). People of the farthest corners of the world contribute together to enrich this website of knowledge under free licensing act.

Group Activity

Arrange a debate making two groups, one in favour of and another against the open source philosophy.

New Learning: Copyright, Copyleft, Creative Commons, Open Source Software, Piracy, Fair use, Open Philosophy.

Lesson 24-26: Ethics and Plagiarism

When we walk along the street, we watch the shops on the either side of the road, but do not push the door to see whether it is open or closed. If it remains open, an unknown person does not enter the shop or ransack the goods. Rather we call the shopkeeper to shut the door if he leaves the shop keeping the door open. It is our responsibility as civil citizen.

A similar situation happens after the invention of the information technology. When we visit various websites, we just see what the persons or organisations behind the constructions want to show us. We can not enter the protected data of the websites, and we do not have any need either. Only the selected persons have the access by using the password. But those who do not have the access, may desperately try to enter the sites either bypassing password or breaking the security code. Entering there, they may come back just navigating the site, or damage a lot by changing the configurations. One can easily do it by using his personal computer sitting in his own room as the location is faraway, an invisible cyber world which is out of the peoples' sight. So it can not be traced. This process is called 'hacking', and nowadays, the computer websites are frequently being hacked. Those who hack into a website but do not damage it are called 'white hat hackers', but those who damage it are called 'black hat hackers'. Numerous hackers are active in the cyber world, but security measures are gradually being tightened. In 1983, a boy of 19 years of age hacked the website of the USA defense force.

So you have understood that hacking is an unethical work. A try out for intelligence or facing challenge might be a passion, but hacking into website is not a challenge at all. There is no honour in taking any unethical challenge. Hundreds of challenging fields are waiting for you, and you can try with any of them to measure your intelligence.

When the results of SSC, HSC or equivaled examinations are published in the website, all try to view the pages at a time, and then the website disappears from the net. It's not very unusual as every site has a containing capacity. The website goes beyond control when overloaded. Besides, somebody can intentionally create a situation so that a programme can artificially hit a website hundreds of times per second. This constant hits make the website malfunctioning. It's an unethical practice. No one deserves honour by stopping a website.

Nowadays, almost all newspapers are available in the internet and the readers can write comments on news items. They can easily write thought provoking and positive comments, but it is frequently seen that some readers write meaningless and obscene comments. It is unjustified from the ethical point of view.

As there is the freedom of speech in the Internet, visitors of websites can express their opinions as they like. Sometimes, they abuse this freedom either by threatening people or posting superimposed pictures or sending disgraceful information through email to humiliate someone. Communicating millions of people at a time was previously a tough job, but now it has been made easy. If anybody abuses the advantage provided by this technology, it is evident that his use was unethical.



Almost all newspapers are available in internet

Group Activity
Estimate the damages of the websites done by hacking. Give an example to justify your statement.

In the Internet, unethical as well as unlawful works are done crossing the limit. There are people who do illegal and heinous crimes in the Internet. We should know how the crafty men deceive innocent people. As the whole procedure is done behind the back in the cyber world, the most frequent is cheating. Suppose, someone may contact you and say that you have won a lottery, and ask you to meet somewhere to receive the money. When you meet them, they say that you have to spend some money to receive the prize of the lottery. After realising their demand, you saw that the lottery-story was a total fabrication, and you had been deceived by them. Again, an unfamiliar person may inform you that he has unexpectedly got a huge amount of money, and he wants to deposit a big sum in your account for security. Thus you may be entrapped. So an offer from any unknown person to your email box is nothing but an attempt to deceive you.

Credit card fraud is very massive and frequent in the Internet. Perhaps you know that exchanging of notes has been thinned, and the use of credit cards is rapidly increasing. Even the card is not essential to transfer money through the Internet. You should only know the number. So the criminals often commit cyber crimes to know the numbers of credit card holders. The question of security is the top priority while using the credit cards, and it is very tough to know the numbers, but the cyber criminals succeed to know the numbers by deceiving people, and draw a big amount from their accounts without their knowledge.

Nowadays, the notorious criminals use the internet to despatch their information. So laws have been enacted globally to prevent this crimes. Those who cannot be tried by the existing laws, will be tried by the new laws. In many countries, there are people who harbor intense hatred and resentment towards other communities or ethnic groups. They can be the members of any extreme political faction—right-wing, left-wing, secular, nationalist, or monarchist. These types of individuals use the internet to recruit young people like you with various promises and then exploit them to carry out their sinister agendas. Therefore, always be cautious while making friendship with strangers online. Remember, the best way to end injustice or oppression is through systematic and lawful means. Destructive paths don't bring about change. Some people can commit cyber crimes by abusing the technology, but they are small in number. If we are careful, we will not be deceived by them. We will use the positive sides of it. You are very much familiar with the computer virus. Someone may create computer virus to make fun or to commit crimes. They spread the virus in the internet, and it enters our computrer, laptop or smartphone causes insignificant to massive problem like erasing data from the hard disc. A computer virus called 'Mydoom Worm' attacked 2,50,000 computers on a day in 2004. In 1999, a virus named 'Melissa' massively attacked the cyber world that many big companies like Microsoft was bound to keep their email server off.



Sending emails by using the names of renowned companies, the cyber criminals deceive people



David Smith was sentenced to 10 years' imprisonment for spreading Melissa virus inthe Internet.

Group Activity
Draw a cartoon of a man who has fallen into a danger after committing the cyber crime.

Plagiarism: When anybody copy an information from anywhere to use in his/her write up, he/she must cite the reference or source of information.

When we study, we learn many new things that were unknown to us, and along with this, we learn to be enlightened and perfect. A perfect human being neither commits nor tolerates any crime. As they do not commit wrong, they prevent others from doing it. We expect our children to be good human beings when they will learn many things through study.

In spite of that, we notice that students adopt unfair means in the examination, and are expelled from the examination hall. Thus they ruin their future.

The similar things happen in almost all the parts of the world, and in the age of the Information and Communication Technology, it has got a different level. Homework is must in academic study, and the learner himself should do it. If anybody does it for him, he may get good credit, but definitely, he will not learn anything. In the higher classes, they have to write monograph or class project. The brilliant students undergo toil to prepare the papers, but some idle students do not work hard. They copy the subjects thoroughly from the webpage and submit in their names. It's called "Plagiarism" which is a very unethical job.



Farid Zakaria, the internationally famous journalist was sacked from his job for the complain of plagiarism

Perhaps the word is not familiar with you. Your elders did not hear it either. But in the age of information technology, you must be acquainted with the terminology. It has become a real problem right now. People either knowingly or unknowingly plagiarise from others' writings. Some were strictly penalised.



Different softwares and apps that check plagiarisam in writing

We will learn from others' writings, and taking help from their writings is not a crime, but they should be given the due recognitions. There is nothing illegal if you correctly refer to the portion used in your writing.

Though plagiarism is increased, the ways of detecting it are increased too. Do you know if anybody plagiarise anything from anywhere that can easily be detected by using computer software?

If you commit any wrong, it may bring about a danger for you. You will not evade doing crimes considering it dangers rather as a duty of a citizen of the country. You should remember that one day you would shoulder the responsibilities of the country.

Group Activity

Arrange a debate on the difference between plagiarising and memorising.

New Learning: Hacking, Black hat hacker, White hat hacker, Credit card, Plagiarism

Sample Questions:

1. Which is the most convenient place at home to set a computer?
   a. Drawing room b. Bedroom c. Dining room d. Reading room
2. In the field of social network –
   i. you may not directly communicate the individuals
   ii. people lack sincerity
   iii. there is every possibility of being deceived

Which one of the following is correct?
   a. i &ii b. i & iii c. ii & iii d. i, ii & iii

3. A man obsessed with the computer may be–
   a. unsocial. b. skilled in computer
   c. good at study d. advanced in science and technology

Read the chapter below, and answer the question nos. 4 & 5:

Rimu is 5 years old. Recently waking up in the morning, she starts watching cartoons on television. As she does not bother her parents, they are also pleased.

4. Her watching cartoons can be termed as ?
   a. spending time b. serving purpose
   c. an obsession with cartoons d. enjoyment
5. For the attitude of parents, Rimu may be-
   i. become an unsocial
   ii. grow up poorly
   iii. become creative individual

Which one is correct?
   a. i & ii b. i & iii c. ii & iii d. i, ii & iii

Short Answer Questions

1. Mention two rules to follow while using the internet.
2. What is computer addiction? How can it be understood if someone has become addicted to computers?
3. What should be done to get rid of computer addiction?
4. What is copyright?
5. What is open-source software? Write one advantage of open- source software.

Fourth Chapter
Word Processing



After completing this chapter, we will be able to—

1. explain the technique of applying word processor by using correct terminology;
2. explain the technique of using Bengali keyboard;
3. explain document management;
4. create Bangla documents in words;
5. arrange the documents in a right way.

Lesson 27-54: Word Processing and the Use of Bengali Keyboard

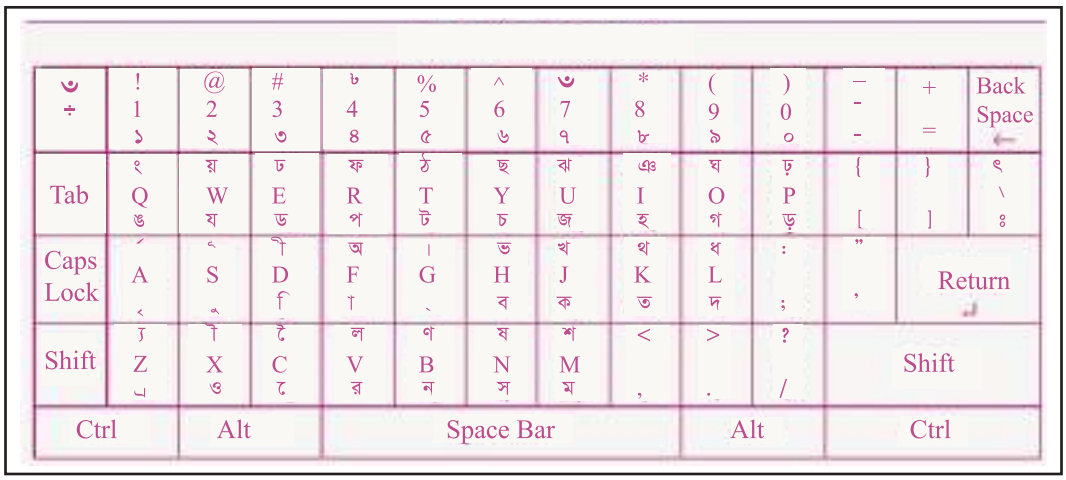
You have already know that we can do a lot of work including word processing and drawing images on the computer. You have learnt how to type documents in English. Now we will learn to create Bangla document by using word processor.



Layout of Munir Unicode keyboard

Bangla keyboard: We need a keyboard to write something with word processor. Keyboard is the main input device of word processor. We should have an idea of Bengali keyboard to write in Bengali in word processing. Martyr intellectual Professor Munir Chowdhury of the University of Dhaka at first invented a layout of a scientific keyboard for Bangla typewriter in 1965.

Later, this keyboard layout was developed for the computer, and it required a software which would help to write in Bangla in the computer. The 'Shaheed Lipi' software with some fonts were introduced in 1985, but it could not acclaim popularity. More software such as Bijoy, Proshika Shobdo, Probortana, Lekhoni came to the market since the mid-eighties to the late nineties. The Bijoy software became popular for being rightly upgraded and compatible with other software.



The Bijoy Keyboard Layout

Press Ctrl + Alt + B together to activate the Bijoy keyboard in word processor on your computer. Press 'g' after the first letter to write conjunct-letter in the Bijoy keyboard and then press the second letter.

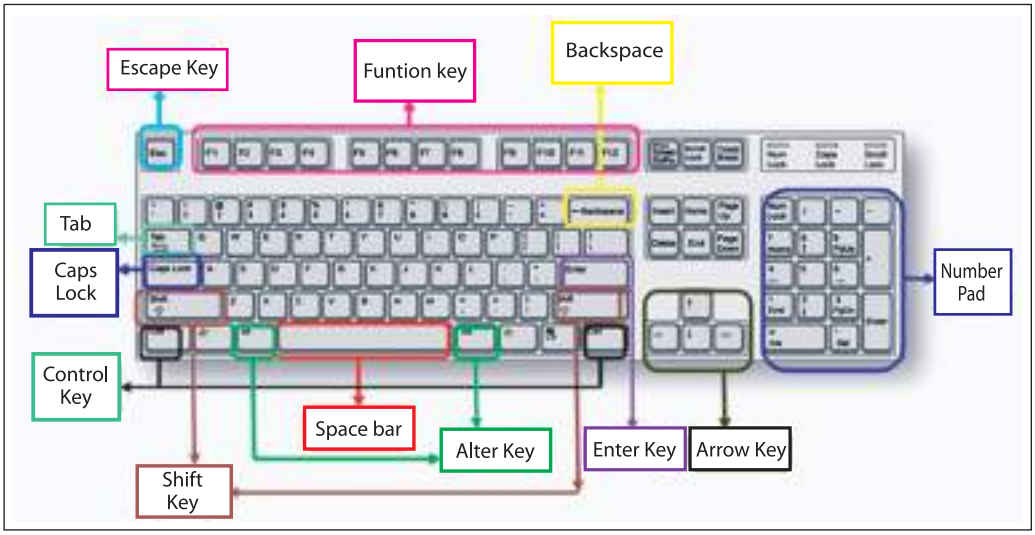
Some conjunct-letters:

letter	key	letter	key	letter	key	letter	key
ক্ষ	jgN	ঙ্ক	NgB	গ্ধ	lgy	ত্ত	ugl
ঞ্জ	lgu	ঞ্ছ	lgY	ঙ্গ	qgo		

Though Bangladesh Computer Council has approved a keyboard layout called 'National Keyboard', it is yet to be introduced on the computer. Like other languages of the world, Bangla can be written by using Unicode and voice dictation.



Phonetic Keys



The Special Keys of the Keyboard

The importance of a specific keyboard has diminished due to the adoption of international standards. Meanwhile, after 2000, the number of internet users began to increase, leading to a demand for creating web pages in Bangla. The popularity of the internet necessitated software that would facilitate Bangla typing across various online platforms. In 2007, Mehedi Hasan Khan introduced Avro, a free unicode software. Its phonetic-based Bangla typing system made it quite popular among the youth. For his invention, he received the Ekushe Padak in Science and Technology in 2025.

In the phonetic-based Bangla typing system, if you type 'ami banglay gan gai', it will be written as 'আমি বাংলায় গান গাই'. As a result, those who were hesitant to type in Bangla on computers or smartphones can now easily do so. Nowadays, smartphones, laptops, and computers with microphones have introduced the convenience of converting spoken words and sentences into text. Therefore, writing in Bangla, or any other language, is now much easier.



Mehdi Hasan Khan

Do you remember how to launch a word processing programme?

After opening a word processing programme, you have to press Ctrl+Alt+B together for the Bijoy software and F12 for Avro software to write in Bangla. The next step is selecting font. You have to select SutonnyMJ for Bijoy and NikoshBAN or any other unicode font for the Avro. After making all these commands, prepare the word processor for writing in Bangla. Press the keys to locate the letters. You can take the help of the picture of keyboard layout to know the

locations of the letters. Now start writing, and you will gradually be familiar with the keys. After finishing a document, you will save it by giving it a name.

Group Activity

After having some idea of the keys, let us type the first line of the National Anthem.

আমার সোনার বাংলা, আমি তোমায় ভালবাসি

Editing Documents:

I think all of you are writing in Bangla. Making mistakes? It's not very unusual. How can you make the writings error free?

The process that is followed to erase errors on a document is called 'editing'. It is described in brief below:

Select: While editing a document, you need to select a letter, or a word, or a sentence, or a part. To select something, you have to take the cursor just before it and at first press the shift key, then the right arrow (Shift +→).

Cut: Sometimes you need to move words or pictures from one place to another in a computer document. To perform the action, at first select the words or the picture, then press Ctrl and x keys together (Ctrl + x).





Copy: If you want to copy something on a computer screen, you have to move it from one area to another. Press Ctrl and c together (Ctrl + c) after selecting what you want to move.



Paste: After copy or cut function, the next step is paste. To move a piece of text to a particular place in a computer document, take the cursor to that place and press Ctrl and v together (Ctrl + v).

Delete: To erase a piece of text, press del or backspace key after selecting it.

You should follow the commands given below to move the cursor to a particular place in a document by using the keyboard:

Functions	Command keys
Taking the cursor before a line	Home
Taking the cursor after a line	End
At the starting point of a document	Ctrl + Home
At the end of a document	Ctrl + End

Formatting a Document:

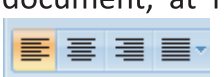
After creating and editing a document, you need to arrange it in such a way that it will look good. This is called formatting. We can arrange it in a different way, but we will keep our discussion limited on some elementary items. You will know more while working.

Increasing or reducing the font size: To increase or reduce the font size either of the partial or of the whole document, select it and then change the numerical figure by the side of font name on the toolbar or ribbon. Select the figure on the basis of what you want to make it, bigger or smaller in size. You can do it by giving commands through keyboard.

Functions	Commanding keys
To make font size 1 point bigger	Ctrl +]
To make font size 1 point smaller	Ctrl + [

Making writing bold, italic and underlining: At first Select which part you want to change, then taking the pointer on B, I, U on the toolbar, and clicking the right button of the mouse get the desired effect. You can do it by commanding through keyboard:

Functions	Commanding keys
Bold	Ctrl + b
Italic	Ctrl + i
Underline	Ctrl + u

Alignment of a document: The margin alignment of the paragraphs of a document is determined by this command. Usually the paragraph is aligned with left, but the alignments are of four kinds, left, right, centre and justified alignment. To change the alignment of a document, at first select it, then clicking the icons get the desired alignment. 

Keyboard Shortcut:

Functions	Commanding keys
Left Alignment	Ctrl + l
Right Alignment	Ctrl + r
Centre Alignment	Ctrl + e
Justified Alignment	Ctrl + j

Besides, formatting has so many works such as determining line space, making table, bullet symbols and numbers, and changing colour of fonts etc. You will master all the techniques by working in word processing software.

Printing: Now we can write document in Bangla by using Bangla word processor. Let's learn how to print the document.

To print a document, we need—

- a printer connected rightly to the computer;
- software to install the printer;
- papers of perfect size .

After making everything ready and taking the permission of your teacher click the button of the mouse on the icon  of the printer. You can get the job done by pressing Ctrl + p together. Then press enter key, and the printing work will be started instantly.

Document Management: It's very easy to make a Bangla document in word processor. What is next? The next step is to save the document so that you can find it easily again when necessary. It is called document management.

Usually every document is saved in My Document folder, but your document will stay with a lot of documents. So you should follow the steps given below to find out the document easily:

a. Open another folder in My Document folder;

b. Initially the name of the folder will be New Folder. You may give it a new name as per your choice (after your name or according to dates);

c. To save your document, press Ctrl and s together (Ctrl+s) , or click the left button of the mouse on the 'save' icon on the toolbar. A dialogue box will appear, write the name in the file name box and save it;

d. Name the file according to the nature of the document so that you can find it quickly when required;

Group Activity

Make a statement about the necessity of the document management and represent in the classroom.

New Learning: Keyboard layout, Document formatting, Cut, Copy, Paste, Keyboard shortcut, Printing

Sample Questions:

1. Which one is the writing software in the computer?
a. Graphics Software b. System Software
c. Word processing Software d. Spreadsheet Software

2. Which one is Bangla Phonetic Software?
a. Science b. Probortan c. Lekhoni d. Avro

3. Why is 'Enter' key used?
a. To delete a selected part b. To move the cursor down a line
c. To delete the letter before the cursor d. To cancel menu or dialogue box

4. Where of the following should be clicked to copy something?
a.  b.  c.  d. 

Read the chapter below, and answer the question nos. 5 & 6:
Ranu was born in America. She can talk, but not write anything in Bangla. She has decided to design an Eid greeting card, and to send it to her grandpa wishing in Bangla.

5. Which software will Ranu use to design the card?
a. Bijoy b. Lekhoni c. Proshika d. Avro

6. To design the card, Ranu beautifully and easily can –
i. copy some words
ii. insert picture
iii. correct the spelling through editing
Which one is correct?
a. i & ii b. i & iii c. ii & iii d. i, ii & iii

Short Answer Questions

1. Why is the keyboard called the main input device of a word processor?
2. What is unicode software? What is the reason for unicode's popularity among young people?
3. When is it necessary to copy in a word processor? Mention the process of copying.

Fifth Chapter
Use of the Internet in Education



After completing this chapter, we will be able to–

1. analyse the importance of the internet in education;
2. use the internet in education;
3. search education related information by using web-browsers.

Lesson 55: The Internet in Education

Story no. 1: Sara lost her Bangla book. She never thought of losing it, but the reality was that she lost it. When she was carrying her favourite story books from the school library, perhaps then, it fell down from her loose grip, and she could not notice it. She became deeply depressed since the examination was not far away. How could she take the preparation for the examination without the textbook?

Her father solved her problem. She knew that all the textbooks were kept in the website of NCTB. Anybody can download it from there. After taking the printout and binding it up, she can get a textbook almost like the original one. In this way, Sara got her favorite Bangla book within a few hours.



Any textbook can be downloaded from NCTB website (www.nctb.gov.bd)

Story no.2: Akash has learnt from his science textbook that Pluto is no longer a planet. He was very surprised at hearing it. He has known since his boyhood that Pluto is a planet in the solar system. How is it excluded from the list of planets? He asked his parents and his elder brothers about the reason, but no one could give him a convincing answer. His class teacher could not give him the right answer either. Then he abruptly remembered of the Internet, and just searching a little got the answer he was looking for. It was fortunate that, the thought of the Internet came to his mind.

Story no. 3: Sunaira was busy with a computer programming, but she was stuck somewhere, and could not proceed further. She could not use a particular function though she tried hard. But she had to finish a huge homework, and without

knowing the function, it was impossible for her to complete the job. She searched a lot in the internet for the solution, but her effort ended in vain. In spite of that, she did not give up. She put the question in the language forum. Five people replied to her by an hour, and one of the answers was what she really required. Sunaira was very delighted, and she dived into working with fresh enthusiasm.

Story no.4: Ratan will sit for the examination on English. He has been reading this subject for a long time, but he cannot understand whether his preparation was enough or not. He sought advice from a friend who told him, 'You'd better sit for an online test to assess how much you have learnt.' 'Is there any system of online test?' Ratan asked in surprise. 'Of course, there is,' his friend replied.

Ratan visited a website on the internet and saw in great surprise that there was a system of sitting for test. He appeared at a test very enthusiastically, and discovered that his preparation was good enough. As online test has an additional advantage that the questions' answered incorrectly will be shown on the screen.

Story no. 5: Ayesha teaches Fibre optics in a university. As she is younger, she lacks wide experience. She always thinks if she would have acquaintance with an experienced teacher, she would learn how to teach the course more effectively by sharing knowledge with them.

One day while browsing the internet, she luckily got some important courses and materials on fibre optics. She found many universities offer free courses on fibre optics and there are avaialble knowledge materials. She instantly downloaded the some course materials and prepared her note in an organised way. Next day, she went her classroom to delliver lecture on the topic with more confidence.

Story no. 6: Razib obtained a master's degree in Physics, but he felt a bit dejected for not having any course in Astrophysics in his university. He had long cherished desire to study the course. One day he came to know that a renowned professor of a famous university was going to run an online course in Astrophysics. He learnt that he would take the course, submit the homework and also sit for the examination in online.

Razib instantly registered his name and started learning Astrophysics.

All the six events cited above are true. Do you still have any suspicion about the use of the Internet in education?

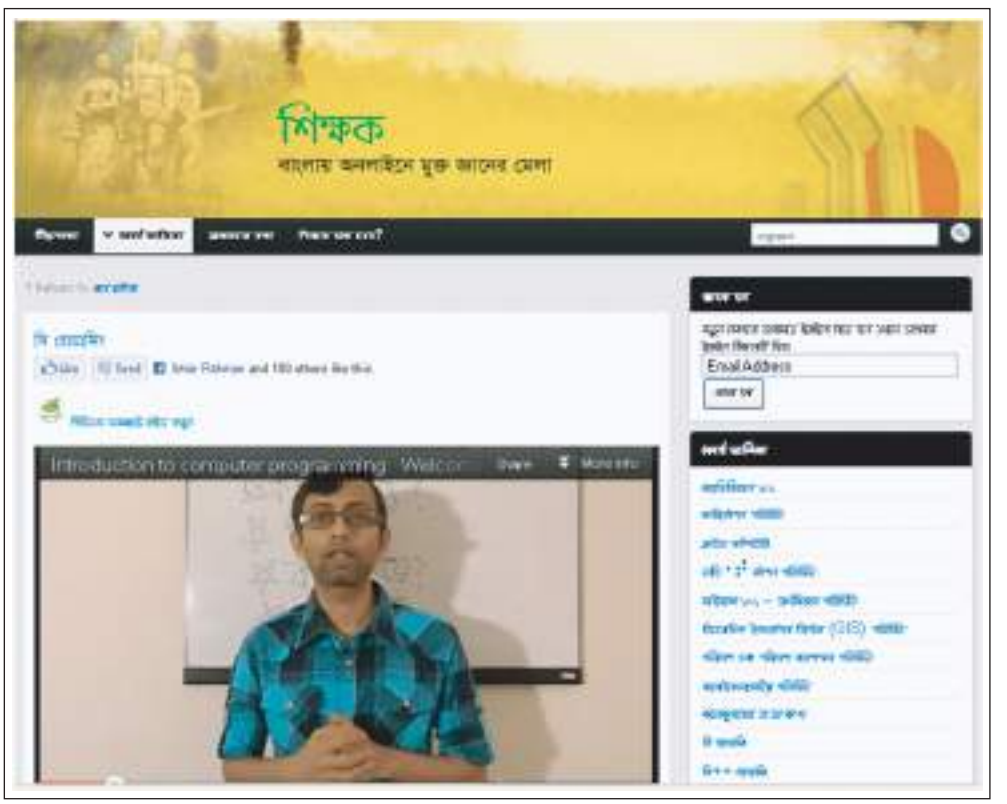
Group Activity

Write an essay on the steps that could have taken if all the students of Bangladesh had a laptop of their own.

New Learning: Astrophysics, Fibre Optics, Pluto

Lesson 56: The Internet in Education

Those who read the previous lesson very attentively have understood that the Internet is one of the most important of all the tools being used in education. It not only actively helps in teaching but also passively helps educational institutions to run effectively.



Teachers of different disciplines conduct different courses in Shikkhok.com

Now you get the results of public examinations instantly by using the Internet. It was unimaginable a few years ago. People living in the periphery would come to the city to collect it. Now it can be known just through a SMS or by a click of the mouse.

Now the internet plays a very vital role not only in publishing results but also in completing the admission process quickly. You are familiar with the registration process in universities through mobile phones. Similarly, thousands of students can complete their registration process by using the internet. Every year Thousands of students appear at the admission test of the National University of our country. Do you know that all of them use the Internet for the application?



National University admission application forms can be filled using ICT

Students want to have information about the institution before getting admission there. Once people would physically go there to collect the information, but now you can get the information of the institutions located in the farthest corner of the world using the Internet sitting in your home.

We have availed of many advantages of the technology, and very soon, we are going to enjoy more facilities. Virtual classrooms are coming into being in our universities, and they will be interconnected with each other. When a teacher will teach in their classroom, not only the real students present there listen to them, but hundreds of students throughout the country will attend the class sitting in virtual classrooms.

Students of medical colleges will get the opportunity to watch a critical surgery from a long distance. A learner can watch a planet or a star of the remote galaxy through the telescope set on the peak of a mountain. A student can successfully accomplish an experiment of a modern lab staying in his reading room. He/She can easily collect the book from internet which is not available in the school library.

Are you perplexed thinking about how people studied when there has no Internet?

Group Activity

Design a wall magazine imagining what role the information technology might play after 2050.

New Learning: Virtual Classroom, Telescope, Galaxy

Lesson 57-70: Searching Academic Information by Using Web Browser

Academic Information in the Internet

The internet is a big source of information. It contains information of almost all the subjects of the world including education, sports, culture, religion, and so on. We can get valuable information of education i.e. system of education, way of education, curriculum, syllabus etc. by browsing the Internet.

The information is kept in the internet arranging in different ways. One is written information i.e. information in the black and white. Some websites have information that is direct and specific such as Newton's laws of motion. Some websites facilitate explanations and examples of the laws. Besides, many subjects are available in the internet as audiovisual format. When an expert explains an academic subject, it is recorded in the video camera, and finally uploaded in the video sharing site like youtube (www.youtube.com). Anybody can either watch or download it. There are cartoons or animated films on academic subjects in some websites where the subject is explained through animations. Some sites provide facilities of asking questions, quiz competitions, and even aptitude test.

Courses on different disciplines are available in the internet. Generally, learners create accounts on the e-learning platform, providing necessary personal and contact information. Upon successful course completion and assessment, learners receive digital certificates. There are some sites in English language such as www.coursera.org, www.alison.com, www.edx.org etc.



You can enrol free courses in www.coursera.org

The world famous American university Massachusetts Institute of Technology (MIT) offers different courses in their website. Visiting ocw.mit.edu, anybody from any country can complete the course after the registration.

Not only in English, but internet-based educational activities are now also developing in the Bengali language. All school-level textbooks from the Bangladesh government are now available as e-books. You can download the e-book versions of your textbooks from the website www.nctb.gov.bd.

Various education-related courses have also been launched in Bangla. One such site is http://shikkhok.com, where you have the opportunity to take various courses on subjects like mathematics, biology, computer science, and information technology.



Similar to any other subject, the easiest way to find any education-related information on the internet is to search for it on a search engine. To find information, you need to write your search query correctly.

Here's an example of searching for information related to Newton's Laws of Motion on the search engine Google. It shows that there are approximately 14.3 million websites or videos containing this information. From there, you can choose the information you need.

With all search engines, if you type correctly, you can find links to countless pieces of information on any topic. This is why it's important to be skilled in using search engines to extract information from the internet. This skill becomes easier to acquire if you use them regularly.

You will get the links of information of education in the Internet through right browsing. The following are the education related websites:

Group Activity
Get the results of the following subjects after searching through one of your favorite search engine like Google, Yahoo, or anything else:
1. The Education Policy of Bangladesh
2. Origin of Matter
3. William Shakespeare
4. Kazi Nazrul Islam
5. Three States of Material

1. www.nctb.gov.bd : It is the website of NCTB, Bangladesh. The digital editions of the textbooks of all the classes are found here. You can read the book on the monitor of the computer. You can download any of the textbooks of your class. The academic books of your elder and younger brothers and sisters can be downloaded from the site too.

2. www.moedu.gov.bd: It is the website of the Ministry of Education of Bangladesh. All the policy making decisions and directives regarding the educational system are circulated through the site. People can collect information of the national education policy, creative system of examination, the dates of public examinations, results etc.

3. www.wikipedia.org: Wikipedia is the internet's largest free encyclopedia. It has been created and is continuously enriched by people worldwide on a voluntary basis. It's available in over two hundred languages, but its English and Bengali encyclopedias are very useful for us. The English Wikipedia has approximately 7 million articles, many of which are directly education-related. Each Wikipedia has a search box. If you type your desired word or words there, you'll see articles related to your search. The Wikipedia in Bangla language is not yet as rich; it has over 160,000 articles, and you might find your desired information there.



4. www.khanacademy.org: Salman Khan, a Bangladeshi born educationist is the founder of the site.



Any academic video can be downloaded from the website of Khan Academy

He has explained different subjects including mathematics, history, healthcare physics, chemistry, biology, economics, space-technology, computer science etc. by making 3400 audiovisual files. These audiovisuals have been watched more than 213 crore times. You can download the videos that you require.

5. bn.khanacademy.org: All the audiovisuals of Khan Academy are in English, but those are translated in different languages including Bangla. This site will provide you with the Bangla translations of these lessons that are divided into four categories such as biology, chemistry, physics and organic chemistry. There is a list at the beginning of every link from where you may pick your essential videos. www.youtube.com/user/khanacademybangla has several hundred audiovisuals on mathematics, algebra, arithmetic, statistics, trigonometry etc. You can download the necessary audiovisuals from the website.

6. https://bbcjanala.ghorilearning.com: It is a website of learning English language. There are plenty of websites in the Internet to learn English, but this site is useful for the learners of our country. There are some courses in this site to develop fluency in English Language. Anybody can attend the courses through free registration. After the completion of the course, you can take the printout of the course report and certificate. You can register for the course to enhance your fluency in English.

7. https://www.themathdoctors.org: It is a popular mathematics related website. Problems of algebra, geometry and calculus of school level have been explained clearly with examples in the website. If anything is not available in this site, consult Dr Math.

8. www.matholympiad.org.bd: It is a website of discussion or mathematical problems, and the learners can ask questions to solve their problems. Teachers and volunteers of Bangladesh Mathematics Olympiad run the site. They discuss and give the solutions of the problems of Bangladesh and the International Mathematics Olympiad in this forum. Besides, they arrange competitions in regular intervals.

9. www.learningscientists.org: In this website you may have the practical knowledge of the subjects of science.

10. www.w3schools.com or www.tutorialspoint.com are two popular websites for learning programming language.

11. The Ancient Elementary books: Scientists and educationists of the world immensely contributed to develop science and knowledge, and they helped the civilization to advance. Their thought and experience were recorded in the books written by them. The digital versions of those fundamental books are found in the Internet. The links of some of those books are given below:

Elements by Euclid	**https://www.gutenberg.org/files/21076/21076-pdf.pdf**
Principia Mathematica by Newton	**https://redlightrobber.com/red/links_pdf/Isaac-Newton-Principia-English-1846.pdf**
The Origin of Species by Darwin	**https://labgenmol-fo-unam.com/wp-content/uploads/2019/04/the-origin-of-species_charles-darwin.pdf**

The digital version like these books can be collected from the internet free of cost. You can download the books by using search engine in a right way.

Sample Questions:

1. From which institution's website can school and madrasha textbooks of Bangladesh be downloaded?
   a. Secondary and Higher Secondary Education Board, Dhaka
   b. Madrasa Education Board
   c. Board of Technical Education
   d. National Curriculum and Textbook Board

2. What are the textbooks of School and Madrasah posted in the website called?
   a. e-book b. Internet book c. NCTB book d. digital book
3. Through the Internet, you can—
   a. get help of your academic subject.
   b. complete the admission process.
   c. attend online classes.
   Which one is correct?
   a. i & ii b. i & iii c. ii & iii d. i, ii & iii

Read the passage below, and answer the question nos. 4 & 5:

Sara often gets poor results in math and English. She has to suffer from her parents' scolding. She does not find interesting to learn math in the traditional way. She wants to learn math with joy. Sara wants to learn math like others and participate in the Math Olympiad to impress everyone.

4. Sara can solve his problem by—
   a. using the Internet.
   b. taking help of the friends through cell phones.
   c. using the computer.

   Which one is correct?
   a. i & ii b. i & iii
   c. ii & iii d. i, ii & iii

5. Which one is a useful website for Sara to learn Mathematics?
   a. www.matholympiad.org.bd
   b. www.khanacademy.org
   c. www.themathdoctors.org
   d. www.bn.khanacademy.org

Short Answer Questions

1. Describe two areas of internet use in the field of education.
2. What is a search engine?
3. How can various courses be done using the internet?

The End

2026 Academic Year

Class Seven : ICT

সুস্থ দেহ সুন্দর মন।



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