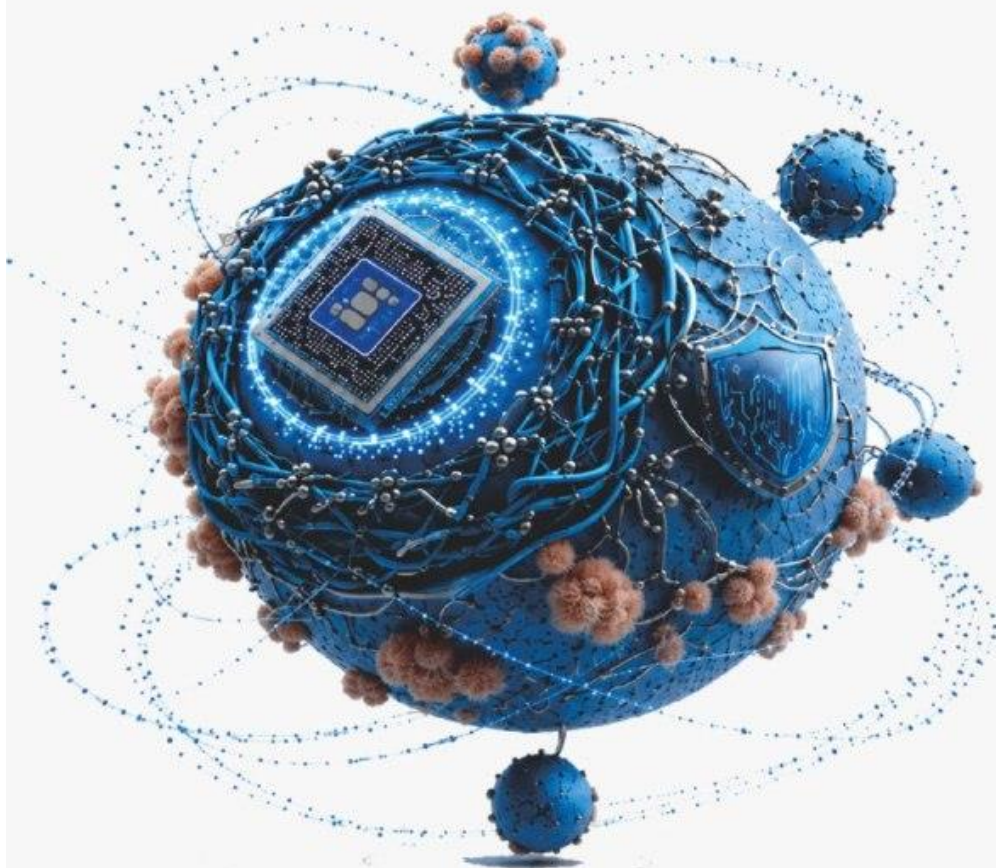


ENGLISH

— FOR —

COMPUTING AND
INFORMATION SYSTEMS



Sanksi Pelanggaran Pasal 113

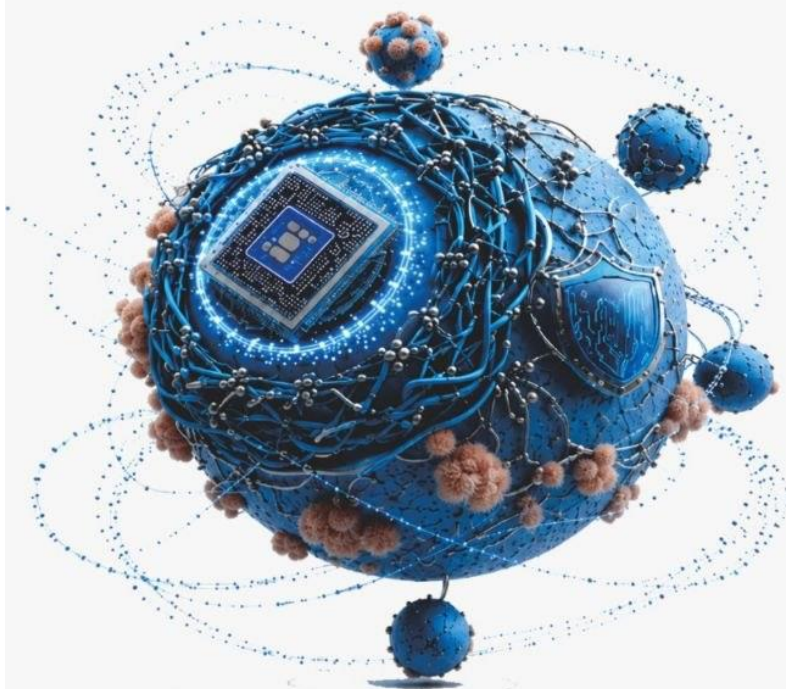
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ENGLISH

FOR

COMPUTING AND INFORMATION SYSTEMS



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Cindyra Galuhwardani
Dwi Iswahyuni**



English for Computing and Information Systems

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Foreword

In the rapidly evolving landscape of the digital age, technology and communication have become inextricably linked. Today, the global language of technology is undeniably English. For students, practitioners, and future professionals in the fields of Computing and Information Systems, mastering technical concepts alone is no longer sufficient; it must be paired with the linguistic competence required to navigate an internationalized workforce.

This textbook, *English for Computing and Information Systems*, is purposefully designed to bridge the gap between technical knowledge and language proficiency. Aimed primarily at university students, it offers a comprehensive curriculum that enhances language skills – reading, writing, listening, and speaking – within the practical context of Information Technology (IT). By integrating essential computing terminology with foundational grammar frameworks, this book empowers learners to express complex digital concepts with accuracy and confidence.

The material in this book is structured progressively, guiding students from fundamental computer concepts to advanced technical topics and professional workplace communication:

1. **Core Hardware & Core Systems:** The opening units lay the groundwork by exploring the role of computers in modern life, detailing internal computer components (such as the CPU, motherboard, and RAM), and examining the dynamics of software and operating systems.
2. **Development & Digital Security:** Students are then introduced to the logic of programming languages (including Python, Java, and JavaScript), alongside critical concepts in cybersecurity, such as

understanding malware, network connectivity, steganography, and cryptography.

3. Professional Communication: Moving beyond purely technical text, the final units focus on real-world application, equipping students with the tools for professional email communication, presenting system updates, and navigating search engines in the information age.

Each unit is built upon an interactive, task-based learning model. Rather than focusing on passive memorization, students are actively engaged through technical readings, real-world listening monologues and dialogues, structured grammar exercises (such as imperative structures for coding and passive voice for system networks), and speaking activities.

Every chapter culminates in a "Can-Do Statement" self-assessment to help learners track their proficiency and gain autonomy over their learning process. It is our sincere hope that this textbook will serve as a valuable guide for Information Systems students, providing them with the linguistic tools necessary to excel in their academic journey and pave the way for a successful career in the global IT sector.

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English for Computing and Information Systems

Buku ini bertujuan untuk meningkatkan kemampuan mahasiswa dalam menggunakan bahasa Inggris dalam konteks teknologi informasi dan sistem informasi. Mahasiswa akan mempelajari kosakata teknis, membaca teks terkait IT, berlatih komunikasi profesional, serta menulis teks sederhana yang berkaitan dengan dunia teknologi dan sistem informasi.

Computers in Modern Life

a. Learning Objective

After completing this unit, students will be able to:

- Understand basic vocabulary related to computers
- Explain the role of computers in modern life
- Read and understand a short text about computers
- Write a simple paragraph about computer use
- Speak about how computers help daily activities

b. Key Vocabulary

No	Word	Meaning
1	Computer	An electronic machine that processes data
2	Device	A piece of equipment used for a specific purpose
3	Software	Programs that run on a computer
4	Hardware	Physical parts of a computer
5	Internet	A global network connecting millions of computers
6	Digital	Information stored or processed using computer technology
7	Data	Information that can be processed by a computer

8	Application	A program designed for a specific task
9	Network	A group of connected computers
10	Technology	Tools and systems created using scientific knowledge

c. Matching

Match the words in **Column A** with the correct definition in **Column B**.

Column A		Column B
1. Hardware		A. A computer program
2. Internet		B. A group of connected computers
3. Application		C. Physical components of a computer
4. Network		D. A global communication system
5. Data		E. Information processed by computers

d. Reading

Read the text below about Computer in Modern Life

Computers in Modern Life

Computers have become a fundamental part of everyday life. Over the past few decades, they have transformed how people work, study, communicate, and access information.

From personal computers to smartphones and smart devices, computer technology is now present in almost every aspect of modern society.

One of the most important roles of computers is in communication. Through the internet, people can send emails, join video conferences, and interact through social media platforms. These technologies allow individuals to stay connected with others around the world quickly and efficiently. In addition, computers provide easy access to information. Students, researchers, and professionals can search for data, read digital books, and explore online learning resources in just a few seconds.

Computers also play a significant role in business and industry. Many organizations use computer systems to manage data, store financial records, and support decision-making processes. Automation and data processing allow companies to work more efficiently and reduce human error. As a result, computers have become essential tools for productivity and innovation.

In daily life, computers are also widely used for entertainment and personal activities. People watch movies, listen to music, play games, and browse the internet using their computers or mobile devices. Overall, computers have greatly improved convenience and efficiency in modern life. As technology continues to develop, computers will likely become even more important in shaping the future of society.

Adopted from <https://scv.org.uk/the-evolution-and-importance-of-computers-in-modern-life.html>

Answer the questions below based on information from the text above

1. Why have computers become important in modern life?
2. How do computers help people communicate?
3. What benefits do computers provide in education and information access?
4. How are computers used in business and industry?
5. Mention two ways people use computers for entertainment.

e. Listening

Listen [this audio](#) and then try to answer the questions below based on information you hear from the audio.

1. Where do people commonly use computers?
 - a. Only at school
 - b. Only at work
 - c. At school, at work, and at home
 - d. Only in hospitals
2. What do office workers use computers for?
 - a. Cooking meals
 - b. Writing reports and sending emails
 - c. Playing sports
 - d. Driving cars
3. How do computers help people communicate?
 - a. By sending letters
 - b. Through social media, video calls, and messaging apps
 - c. By reading newspapers
 - d. Through television only

4. Why are computers important for Information Systems students?
 - a. They only use them for games.
 - b. They need computer knowledge for their future careers.
 - c. They only learn typing.
 - d. They do not need computers.
5. What is the main idea of the monologue?
 - a. Computers are only for students.
 - b. Computers make life easier and more productive.
 - c. Computers are expensive.
 - d. Computers are difficult to use.

f. Writing

1) Language focus

Simple Present Tense for Facts and Daily Activities

The Simple Present Tense is used to describe general facts, routines, and habitual activities. It is commonly used when explaining how computers work or how people use technology in daily life.

Pattern

With verbs	(+) S + V + O	The program runs better.
	(-) S + do/does + not + O	The program does not run.
	(?) Do/does + S + O+?	Does the program run?
Without verbs	(+) S + am/is/are+ adj/adv/noun	The computer is new.

	(-) S + am/is/are+ not + adj/adv/noun	The computer is not new.
	(?) am/is/are+ S+ adj/adv/noun + ?	Is the computer new?

Adverbs commonly used in simple present are always, generally, seldom, never, sometimes, often, frequently, generally, occasionally, usually, etc.

2) Completing paragraph

A day as IT Student

Rina is a student of Information Systems. She usually (1) _____ (wake) up at 6 a.m. and (2) _____ (check) her phone for messages. After that, she (3) _____ (have) breakfast and (4) _____ (go) to campus.

In the morning class, she (5) _____ (study) programming and (6) _____ (learn) about different coding languages. Her lecturer often (7) _____ (give) assignments about software development.

In the afternoon, Rina (8) _____ (work) on her project. She (9) _____ (use) a computer to design a simple application and (10) _____ (test) the program. Sometimes, she (11) _____ (discuss) problems with her friends and (12) _____ (find) solutions together.

In the evening, she (13) _____ (watch) online tutorials and (14) _____ (practice) her coding skills. She (15) _____ (enjoy) learning new things about technology.

3) Independent writing

Write 1 paragraph (min 5 sentences) about your daily activities as an Information Systems student using the simple present tense.

g. Speaking

Useful phrases

1. Introducing the Topic

- I would like to talk about...
- Today, I am going to explain...
- In this presentation, I will describe...

2. Describing Functions

- Computers are used for...
- One of the main functions of computers is...
- Computers help people to...

3. Giving Examples

- For example, ...
- For instance, ...
- Such as ...

4. Adding Information

- In addition, ...
- Moreover, ...
- Besides that, ...

5. Concluding

- In conclusion, ...
- Overall, ...
- To sum up, ...

Speaking model (monologue)

Computers play an important role in modern life. Almost every activity today involves the use of computers. For example, people use computers for communication, education, and business.

In education, computers help students access information easily through the internet. In business, computers are used to manage data and improve efficiency.

In addition, computers are also used for entertainment, such as watching videos and playing games.

Overall, computers make our lives easier, faster, and more efficient.

Practice

Instruction: create a short monologue about “The Role of Computers in Your Daily Life”.

Guidelines:

- Duration: 2-3 minutes
- Minimal 8 sentences
- Use simple present tense
- Use minimal 2 phrases for introduction, 2 phrases for giving examples, and 1 concluding phrase

- Points to cover:
 - a) What do you use computers for?
 - b) How do computers help your study?
 - c) How do computers help communication?
 - d) Give at least two examples

h. Assessment

Can Do Statement

No	Can Do Statement	Yes (✓)	No (X)
1	I can understand basic vocabulary about computers.		
2	I can explain the role of computers in modern life.		
3	I can understand the main idea of a text about computers.		
4	I can find important information from a reading text.		
5	I can understand information from a video about computers.		
6	I can use the simple present tense correctly.		
7	I can write simple sentences about daily activities.		
8	I can write a short paragraph about my activities as an IT student.		

9	I can talk about how computers help in my daily life.		
10	I can give simple examples when speaking about technology.		

Inside a Computer: Understanding Its Components

a) Learning objective

After completing this unit, students will be able to:

- Understand vocabulary related to computer components
- Identify the main parts of a computer system
- Explain the function of each component
- Read and understand a text about computer hardware
- Write simple sentences about computer components
- Speak about how computer parts work together

b) Key vocabulary

No	Word	Meaning
1	CPU (Processor)	The brain of the computer that processes instructions
2	Monitor	A screen that displays output
3	Keyboard	An input device used for typing
4	Mouse	A device used to control the cursor
5	Memory (RAM)	Temporary storage for data being used
6	Hard Drive	A device that stores data permanently
7	Motherboard	The main circuit board connecting all components

8	Input Device	A device used to enter data into a computer
9	Output Device	A device that shows results from a computer
10	Storage	A place to keep data

c) Matching

Match the words in Column A with the correct definition in Column B.

Column A		Column B
1. CPU		A. Displays information
2. Monitor		B. Stores data permanently
3. Keyboard		C. Processes instructions
4. Hard Drive		D. Used for typing
5. Mouse		E. Controls the cursor

d) Reading

Read the text below entitled Inside a Computer

Inside a Computer

A desktop computer consists of several important hardware components that work together as a system. These components are located inside the computer case and each of them has a specific function.

At the center of the computer is the motherboard, a large circuit board that connects all parts of the system. It allows

communication between components such as the CPU, memory, and storage devices. The central processing unit (CPU) is often called the brain of the computer because it processes instructions and performs calculations. Without the CPU, the computer cannot operate.

Another essential component is memory, or RAM, which temporarily stores data that is currently being used. This helps the computer run programs quickly and efficiently. In contrast, storage devices such as hard drives or solid-state drives store data permanently, even when the computer is turned off.

In addition, a computer includes a power supply unit that provides electricity to all components. Other parts, such as the graphics card and cooling system, support performance and maintain stable operation.

All of these components work together to process data, run applications, and produce output. Understanding what is inside a computer helps users better understand how technology works in daily life.

Adopted from <https://www.lifewire.com/tour-inside-a-desktop-pc-2624588>

Answer the questions below based on the text above.

1. What is the main function of the motherboard in a computer system?
2. Why is CPU called the “brain” of the computer?
3. What is the difference between RAM and storage devices?
4. How does the power supply unit support the computer’s operation?
5. Why is it important to understand the components inside a computer?

e) Listening

Listen to [audio 2](#) and try to answer these multiple questions based on information from the text.

1. What are Andi and Rina studying?
2. What is the function of the CPU?
3. What is the function of RAM?
4. What does the motherboard do?
5. What does Andi understand at the end of the conversation?

f) Writing

1. Language focus

Simple present is used to describe functions, such as function of keyboard and mouse; and to give description, such as how a mouse can work or a keyboard can work.

Pattern as function

S	V1	Object	Adverb
He/she/it	does/clean	the CPU	perfectly
i/you/they/we	do/cleans	the CPU	perfectly

Pattern as description

S	Be (auxiliary verb)	Complement (noun/adjective/adverb)
He/she/it	is	at home.

I	am	a temporary staff here.
you/they/we	are	the main person in this conference.

Example:

The CPU processes data.

Hard drive stores information.

RAM helps computer to run the program quickly.

Useful phrases:

- It is used to
- It functions as
- It stores
- It controls
- It connects

2. Completing paragraph

Instructions: Complete the paragraph using the correct form of the verbs in brackets.

A computer (1) _____ (have) several important components that work together as a system. The CPU (2) _____ (be) the brain of the computer. It (3) _____ (process) data, (4) _____ (control) all activities, and (5) _____ (manage) instructions from software. The CPU also (6) _____ (communicate) with other components to ensure everything runs smoothly.

RAM (7) _____ (be) a type of temporary memory. It (8) _____ (store) data that the computer (9) _____ (use) at the moment and (10) _____ (help) the system run programs quickly and efficiently. When the computer (11) _____ (turn) off, RAM (12) _____ (lose) all stored data.

The hard drive (13) _____ (be) a permanent storage device. It (14) _____ (save) files, programs, and documents for long-term use. It also (15) _____ (keep) the operating system and important software.

The motherboard (16) _____ (connect) all components inside the computer. It (17) _____ (allow) communication between the CPU, RAM, and storage devices. In addition, it (18) _____ (provide) pathways for data transfer.

The power supply (19) _____ (convert) electricity from an external source and (20) _____ (provide) power to all components so the computer (21) _____ (work) properly.

3. Independent writing

Instruction: Write a short paragraph (5–7 sentences) about **Inside a Computer**.

Directions:

- Describe at least 3 computer components
- Use simple present tense
- Explain their functions and descriptions

Example:

A computer has several important parts. The CPU is the brain of the computer. It processes data and controls all

activities. It also helps the computer work properly. RAM is a temporary memory. It stores data when the computer is on. It helps programs run faster. When the computer is off, RAM loses the data. The hard drive is a storage device. It stores files and programs permanently. Users save their data on the hard drive. The motherboard connects all parts of the computer. It allows communication between the CPU, RAM, and other components. The power supply provides electricity to the computer. It helps all parts work correctly.

g) Speaking

1. Useful phrases

- **Introducing**

- I would like to explain...
- Today, I will talk about...

- **Describing Functions**

- The function of this component is...
- It is used to...

- **Giving Examples**

- For example,...
- Such as...

2. Speaking model (monologue)

A computer has several important components. The CPU is the brain of the computer. It processes data and controls all activities. RAM stores temporary data and

helps programs run faster. The hard drive stores files permanently. The motherboard connects all components and allows communication between them.

3. Practice

Describing the components inside a computer. Please speak for 1-2 minutes, use simple present tense, explain at least 3 components and remember to mention their functions and descriptions.

4. Practice: Pair Work

Ask and answer questions about computer component

Instructions:

- a. Work in pairs
- b. Take turns asking and answering
- c. Use simple present tense
- d. Example questions
 - What is the function of the CPU?
 - What does RAM do?
 - What is the motherboard?
 - What does the hard drive store?
 - Why is the power supply important?

h) Assessment

Can Do Statement

No	Can Do Statement	Yes (✓)	No (X)
1	I can understand vocabulary about computer components.		
2	I can identify the main parts of a computer.		
3	I can explain the function of basic computer components.		
4	I can understand a text about computer hardware.		
5	I can find important information from a reading text.		
6	I can understand information from a video about computer components.		
7	I can use the simple present tense to describe functions.		
8	I can write simple sentences about computer components.		
9	I can write a short paragraph about computer parts and their functions.		
10	I can talk about how computer components work.		

Software and Operating Systems

a) Learning Objective

After learning this unit, you are expected to be able to:

- Explain the definition of software and operating system
- Identify types of operating system
- Use related vocabularies about software and operating system
- Use there is / there are and countable and uncountable nouns
- Compare two software or operating system verbal
- Write description about software

b) Key Vocabulary

Term	Definition
Software	Programs that tell a computer what to do
Operating System	Software that manages computer hardware and software
Application	A program designed for users
File	A collection of data stored on a computer
Interface	The way users interact with a computer
Hardware	Physical parts of a computer

Windows	A popular operating system by Microsoft
Linux	An open-source operating system
macOS	Operating system for Apple computers
Android	Operating system for mobile devices

c) Matching

Match the terms with the correct definitions:

A	B
1. Software	a. A set of programs that control a computer
2. Operating System	b. A program designed for users
3. Hardware	c. A collection of data stored on a computer
4. Application	d. The way users interact with a system
5. File	e. A system that manages hardware and software
6. Interface	f. An open-source operating system
7. Windows	g. An operating system developed by Microsoft
8. Linux	h. Physical components of a computer
9. macOS	i. An operating system for mobile devices

10. Android	j. An operating system for Apple computers
-------------	--

d) Reading

Read the text below about software!

Software is a collection of instructions that tells a computer what to do. It works like a set of commands that help the computer perform different tasks. There are two main types of software: system software and application software. System software is responsible for managing the basic operations of a computer, while application software is designed to help users perform specific tasks such as writing documents or playing games.

An operating system is the most important type of system software. It controls the computer's hardware and manages all other software. It also provides a user interface, so people can interact with the computer easily. Without an operating system, it would be very difficult to use a computer.

The main difference between software and an operating system is their function. Software usually performs specific tasks, while the operating system manages the overall system and allows software to run. In other words, the operating system acts as a platform for all other programs.

There are many types of operating systems available today. For example, Windows, macOS, Linux, and Android are widely used in computers and mobile devices. Each operating system has different features, but all of them help manage hardware, run applications, and support users in completing tasks efficiently.

Adopted from [The Difference Between Software And Operating Systems - Tech Training HQ](#)

Answer the questions below based on information from the text above

1. What is software?
 - a. A physical part of a computer
 - b. A collection of instructions for a computer
 - c. A type of hardware
 - d. A computer screen
2. What is the function of system software?
 - a. To play games
 - b. To manage basic computer operations
 - c. To write documents
 - d. To design images
3. What is an operating system?
 - a. A type of application software
 - b. A device for storing data
 - c. A system that controls hardware and software
 - d. A type of computer virus
4. Which of the following is NOT an operating system?
 - a. Windows
 - b. Linux
 - c. Android
 - d. Microsoft Word
5. What does the operating system provide for users?
 - a. Hardware connection
 - b. User interface
 - c. Electricity
 - d. Internet signal
6. Mention two types of software!

7. What is the role of an operating system in a computer?
8. Give one example of application software!
9. Explain the difference between system software and application software in your own words.
10. Imagine you design a new operating system. What features will it have? How will it help users?

e) Listening

Listen [this audio](#) about software and operating system, then answer the questions below based on information given in the audio.

1. What is the main topic of the monologue?
2. What does the operating system do?
3. Name two applications mentioned in the monologue.
4. What can people download for free?
5. How can the right software help users?

f) Writing

1. Language focus

There is / there are + countable / uncountable nouns

There is → singular / uncountable

- There is an operating system in the computer.
- There is software installed on this device.

There are → plural

- There are many applications on this computer.
- There are several types of operating systems.

2. Completing paragraph

Complete the paragraph using **there is / there are**.

A computer system has many important parts. _____ (1) an operating system that controls the hardware. _____ (2) also many types of software installed on the computer. For example, _____ (3) application software that helps users complete tasks. _____ (4) word processing programs, and _____ (5) also graphic design applications.

In addition, _____ (6) a user interface that allows people to interact with the computer. _____ (7) many icons and menus on the screen. _____ (8) also several files stored in the system. Sometimes, _____ (9) a large amount of data in the computer.

On most computers, _____ (10) different operating systems available. For instance, _____ (11) Windows on many personal computers. _____ (12) also macOS on Apple devices, and _____ (13) Linux for developers. In mobile devices, _____ (14) Android and iOS as popular operating systems.

Overall, _____ (15) many components and software in a computer system that work together to help users perform tasks efficiently.

g) Speaking

1. Useful phrases
2. Speaking model (monologue)

Comparing two software or operating systems

I want to compare Windows and Linux. Windows is more user-friendly, while Linux is more flexible. There are many applications available on Windows. However, there are fewer viruses in Linux. In my opinion, Linux is better for developers.

3. Practice

Make a presentation about one of these topics; Windows vs Linux, Android vs IOS, or any two applications.

h) Assessment

Can Do Statement

No	Can-Do Statement	Yes (✓)	No (X)
1	I can explain what software is		
2	I can describe an operating system		
3	I can identify types of operating systems		
4	I can use there is / there are correctly		
5	I can use countable and uncountable nouns correctly		
6	I can understand the reading text about software and OS		

7	I can answer comprehension questions correctly		
8	I can write a simple paragraph about software		
9	I can compare two operating systems in speaking		
10	I can use key vocabulary in sentences		

Programming Languages in Software Development

a) Learning Objective

After completing this unit, students are able to:

1. Identify common programming languages used in software development
2. Understand the functions and characteristics of different programming languages
3. Use key vocabulary related to programming
4. Give instructions using imperative sentences
5. Write simple paragraphs about programming processes
6. Deliver short spoken instructions clearly

b) Key Vocabulary

No	Vocabulary	Definition
1	Programming language	A system used to write computer programs
2	Software development	The process of creating software
3	Syntax	Rules for writing code
4	Framework	A structure for developing software
5	Debugging	Finding and fixing errors
6	Application	A software program

7	Backend	Server-side part of software
8	Frontend	User interface part
9	Compiler	Program that translates code
10	Algorithm	Step-by-step problem-solving method

c) Matching

Match the terms in **Column A** with the correct meanings in **Column B**.

Column A		Column B
A. Algorithm B. Compiler C. Frontend D. Debugging E. Framework F. Syntax G. Application H. Backend I. Programming language J. Software development		1. The process of creating and maintaining software systems 2. A set of rules that determines how code must be written 3. A tool that converts code into machine-readable instructions 4. The visible part of a program that users interact with 5. A structured set of tools used to build applications more easily 6. A sequence of logical steps used to solve a problem

		7. A program designed to perform specific tasks for users 8. A system used by developers to write instructions for computers 9. The process of identifying and correcting errors in code 10. The part of a system that handles data processing behind the scenes
--	--	--

d) Reading

Read the text below!

Choosing the Right Programming Language

Programming languages play an important role in software development. Choosing the right language depends on the purpose of the project and the developer's goals. Some languages are easier to learn, while others are more powerful for complex systems.

Python is one of the most popular programming languages because of its simple syntax and flexibility. It is widely used in data analysis, web development, and automation. Java is another important language known for its stability and portability. It allows developers to create applications that can run on different platforms.

JavaScript is essential for web development, especially for creating interactive websites. It works on both the frontend and backend, making it very versatile. Other languages like C++ are used for high-performance systems such as games and operating systems.

Each programming language has its own strengths. Developers should consider factors such as performance, ease of use, and project requirements when selecting a language. Understanding these differences helps developers build efficient and effective software.

Adopted from [Top 12 Software Development Languages \[2024\] - GeeksforGeeks](#)

Answers the questions below based on the information!

1. Why is choosing the right programming language important in software development?
2. What are two reasons Python is widely used by developers?
3. How is Java different from other programming languages mentioned in the text?
4. Why is JavaScript considered a versatile programming language?
5. What factors should developers consider when selecting a programming language?

e) Listening

Listen [this audio 4](#) about Learning Javascript. To check your understanding about the audio, please answer the questions below.

1. What is Dina watching?
2. Why is Dina confused?
3. What is JavaScript mainly used for?
4. Which two technologies work together with JavaScript?
5. Why does Rafi think JavaScript is important?
6. What project does Rafi want to build with Dina?

f) Writing

1) Language focus

Imperative (instructions and commands)

Imperative sentences are used to give instructions, commands, directions, or advice. The subject (usually “you”) is not stated but understood.

Pattern

Base verb + object	Open the file.
Base verb + object + additional information	Run the program carefully.
Do not + Base verb (negative command)	Do not close the application.

Example:

- Install the software on your computer.
- Write the code step by step.
- Save your file before running the program.
- Check the output carefully.
- Do not ignore error messages.

2) Practice

Fill in the blanks with appropriate verbs:

1. _____ the code editor and make sure all necessary tools are ready before you start coding.
2. _____ a new project file and organize your folders properly for better management.
3. _____ the program using the correct programming language and follow the syntax rules carefully.
4. _____ the output on the screen and compare it with the expected result.
5. Do not _____ the application before saving all your changes in the project file.
6. _____ the documentation to understand how each function works in the program.
7. _____ the program step by step to identify any possible errors in the code.
8. Do not _____ any warnings that appear during the compilation process.

Rearrange the words into correct imperative sentences:

1. program / the / run / carefully / to / output / the / check
2. instructions / the / read / before / starting / carefully / coding
3. errors / the / fix / immediately / appear / that / during / execution
4. file / your / save / regularly / to / losing / avoid / data

5. not / do / forget / program / the / test / running / before / submission
6. software / the / install / correctly / before / beginning / project / the
7. code / your / review / submitting / before / final / assignment / the
8. steps / the / follow / in / order / correct / complete / to / task / the

3) Completing paragraph

Complete the paragraph with suitable imperative verbs:

First, _____ the programming language that is suitable for your project. Then, _____ the necessary software and tools on your computer. After that, _____ a new project file and _____ your workspace properly. Next, _____ your code step by step and _____ attention to the syntax. Then, _____ the program to see if it works correctly and _____ the output carefully. If you find any errors, _____ them immediately and _____ the program again until it runs successfully.

4) Independent writing

Write a short paragraph (5–7 sentences) with the topic “How to develop a simple software application”. Remember to use at least 4 imperative sentences.

g) Speaking

1. Useful phrases
2. Speaking model (monologue)

Giving instructions

First, open your code editor.

Then, create a new file.

Write your program carefully.

After that, run the program to check the output.

Finally, fix any errors you find.

3. Practice

Task:

- Give instructions on one topic:
- How to install software
- How to write a simple program
- How to debug code
- Speak for 1-2 minutes.

h) Assessment

Can Do Statement

No	Can-Do Statement	Yes (✓)	No (X)
1	I can identify different programming languages		
2	I can understand basic concepts of software development		
3	I can use programming vocabulary correctly		
4	I can give clear instructions using imperative sentences		
5	I can write a short paragraph about programming		
6	I can explain steps in software development orally		

Understanding Malicious Software (Malware)

a) Learning objective

By the end of this unit, students are able to:

1. Understand the concept and types of malicious software (malware).
2. Use key vocabulary related to cybersecurity.
3. Identify how malware works and spreads.
4. Apply **present continuous tense** to describe ongoing processes.
5. Explain how malware infects a computer in spoken and written form

b) Key Vocabulary

No	Word	Definition
1	Malware	Software designed to damage or disrupt a system
2	Virus	A program that replicates itself and spreads to other files
3	Worm	Malware that spreads without user interaction
4	Trojan	Malware disguised as legitimate software
5	Spyware	Software that secretly collects user information

6	Ransomware	Malware that locks data and demands payment
7	Firewall	Security system that monitors network traffic
8	Antivirus	Software that detects and removes malware
9	Infection	The process of malware entering a system
10	Vulnerability	A weakness in a system

c) Matching

Match the terms with their correct definitions:

Terms	Definitions
A. Malware B. Virus C. Worm D. Trojan E. Spyware F. Ransomware G. Firewall H. Antivirus I. Infection J. Vulnerability	☐ ___ A program that can copy itself and spread to other files ☐ ___ Malicious software disguised as a legitimate program ☐ ___ Malware that spreads automatically without user action ☐ ___ Software that secretly collects user information ☐ ___ A system that protects a network from unauthorized access ☐ ___ Malware that locks files and demands payment ☐ ___ Software that is designed to harm or disrupt a computer system

	☐ ____ The process of malware entering a system ☐ ____ Software used to detect and remove threats ☐ ____ A weakness in a system that can be exploited
--	--

d) Reading

Read the text below!

Malware, short for malicious software, refers to any program intentionally created to harm or exploit computer systems, networks, or devices. It is designed to interfere with normal operations, often by gaining unauthorized access or control. Once inside a system, malware can perform various harmful actions such as stealing personal data, encrypting files, deleting information, or monitoring user activity without permission.

There are many ways malware can infect a device. The most common methods include downloading infected files, opening malicious email attachments, or visiting compromised websites. In some cases, users unknowingly install malware through applications that appear legitimate. Once installed, malware may operate silently in the background, making it difficult to detect.

Different types of malware have different characteristics. For example, viruses attach themselves to files and spread when those files are opened, while worms can replicate and spread automatically across networks. Trojans disguise themselves as useful programs to trick users, whereas spyware secretly collects user data. Ransomware, one of the most

dangerous types, locks files and demands payment for their release.

Signs of malware infection may include slow system performance, frequent crashes, unexpected pop-up ads, or unusual internet activity. However, some advanced malware can remain hidden and continue operating without obvious symptoms. Therefore, it is important for users to stay cautious, avoid suspicious downloads, and use reliable security software to protect their systems from potential threats.

Adapter from [What is Malware? Malware Definition, Types and Protection](#)

Answer the questions below based on the text above!

- 1) What is malware?
 - A. Software used to improve system performance
 - B. Software designed to harm or exploit systems
 - C. Software for managing data storage
 - D. Software used for communication
- 2) How does malware commonly enter a system?
 - A. Through hardware installation
 - B. Through safe applications only
 - C. Through downloads, emails, or websites
 - D. Through system updates
- 3) What does spyware do?
 - A. Deletes files
 - B. Collects user data secretly
 - C. Repairs system errors
 - D. Speeds up the computer
- 4) Which malware spreads automatically without user action?
 - A. Virus

- B. Trojan
 - C. Worm
 - D. Spyware
- 5) What is a common symptom of malware infection?
- A. Faster performance
 - B. Increased battery life
 - C. Slow system and pop-up ads
 - D. Improved security
- 6) Explain what malware is and how it affects computer systems.
- 7) Describe at least three types of malware and their functions.
- 8) How can malware infect a computer? Give examples.
- 9) What are the common signs of malware infection?
- 10) How can users protect their devices from malware attacks?

e) Listening

Listen to [audio 4](#) about how Malware infect a computer and then answer the following questions based on information from the audio.

1. What is malware?
2. Name two types of malware mentioned in the monologue.
3. How can malware enter a computer?
4. What can malware do after infecting a computer?
5. How can users protect their computers from malware?

f) Writing

1. Language focus

Present continuous (process and ongoing actions)

Function : to explain ongoing process or ongoing action

Pattern : Subject + to be (am/is/are) + verb-ing

Examples:

- The virus is spreading across the network.
- The system is detecting threats.
- Hackers are attacking the server.

2. Completing paragraph

Fill in the blanks using the correct form of verbs in present continuous.

Malware is becoming a major issue in cybersecurity. Many hackers _____ (develop) new types of malware every day. A virus _____ (spread) through infected files, while a worm _____ (move) across networks without user interaction. At the same time, spyware _____ (collect) sensitive information from users. Currently, many organizations _____ (improve) their security systems to prevent attacks.

In many cases, users _____ (not realize) that their systems are infected. The malware _____ (run) in the background and _____ (damage) files silently. Meanwhile, antivirus software _____ (scan) the system and _____ (try) to detect threats. However, cybercriminals _____ (create) more advanced malware that _____ (avoid) detection.

Right now, IT experts _____ (develop) better security tools and _____ (educate) users about online safety. They _____ (encourage) people to update their software regularly. As technology _____ (grow), cybersecurity _____ (become) more important than ever.

3. Independent writing

- a. Write a short paragraph (100–150 words):
- b. **Topic:** Explain how malware attacks a computer system.
- c. **Guidelines:**
 - Use at least 5 vocabulary words from the unit
 - Use present continuous tense
 - Explain the process clearly

g) Speaking

1. Useful phrases
 - First, the malware is entering the system through...
 - Then, it is spreading across...
 - After that, it is damaging...
 - At the same time, it is collecting...
 - Finally, the system is becoming...
2. Speaking model (monologue)

Malware is attacking a computer in several steps. First, it is entering the system through an infected file or email attachment. Then, it is installing itself without the user's

knowledge. After that, it is spreading across the system and infecting other files. At the same time, it is collecting sensitive data. Finally, it is damaging the system and slowing down its performance.

3. Process explanation

Explain how data travels in a network

4. Practice

Explain how malware infects a computer using your own words (1–2 minutes).

h) Assessment

Can Do Statement

No	Statement	✓
1	I can understand different types of malware	
2	I can use vocabulary related to cybersecurity	
3	I can describe processes using present continuous	
4	I can explain how malware infects a system	
5	I can write a paragraph about malware clearly	

Computer Hardware and Devices

a) Learning objective

By the end of this unit, students are able to:

- Identify different types of computer hardware and devices.
- Understand the functions of each hardware component.
- Use vocabulary related to hardware and devices correctly.
- Use **modal verbs (can, must, should)** to express ability and rules.
- Explain how computer devices work in spoken and written English.

b) Key Vocabulary

No	Word	Definition
1	Hardware	Physical components of a computer
2	CPU	The brain of the computer
3	Monitor	A screen that displays output
4	Keyboard	Input device for typing
5	Mouse	Pointing device
6	Printer	Produces printed documents
7	Hard Drive	Stores data permanently
8	RAM	Temporary memory
9	Motherboard	Connects all components

10	Input Device	Used to enter data
11	Output Device	Used to display results
12	Storage Device	Used to store data

c) Matching

Match the terms with their correct definitions:

Terms	Definition
A. CPU	a) ___ Connects all components
B. Monitor	b) ___ Processes data
C. Keyboard	c) ___ Used to enter data
D. Mouse	d) ___ Displays visual output
E. Printer	e) ___ Temporary memory
F. RAM	f) ___ Shows results
G. Hard Drive	g) ___ Controls the cursor
H. Motherboard	h) ___ Used to type text
I. Input Device	i) ___ Permanent storage
J. Output	j) ___ Prints documents
K. Device	

d) Reading

Read the text below!

Types of Computer Hardware and Their Functions

Computer hardware refers to the physical parts of a computer system that can be seen and touched. These

components work together to help a computer perform different tasks efficiently. Hardware can be divided into internal components and external devices. Each part has a specific function that supports the overall performance of the system.

One of the most important internal components is the Central Processing Unit (CPU), which is often called the “brain” of the computer. It processes instructions and controls system operations. Another essential component is RAM (Random Access Memory), which temporarily stores data while programs are running. Storage devices such as hard drives and SSDs are used to save files and software permanently. The motherboard connects all components and allows communication between them.

External hardware devices are also important. Input devices like keyboards and mice are used to enter data into the computer. Output devices such as monitors and printers display or produce information for users. Communication devices like routers and network cards help computers connect to networks and the internet. Cooling systems and power supplies are also necessary because they maintain stable performance and prevent overheating.

Understanding computer hardware is important because all hardware components must work together to ensure a computer operates properly and efficiently.

Adapted from [Types of computer hardware and their functions](#)

Answer the questions below based on the text above.

1. What is computer hardware?
 - A. Programs used in computers
 - B. Physical parts of a computer system
 - C. Internet connection systems
 - D. Digital files and documents
2. Why is the CPU called the “brain” of the computer?
 - A. It stores all files permanently
 - B. It controls and processes instructions
 - C. It displays information on the screen
 - D. It connects the computer to the internet
3. What is the function of RAM?
 - A. To print documents
 - B. To connect devices to networks
 - C. To temporarily store data while programs run
 - D. To cool the computer system
4. Which of the following is an output device?
 - A. Keyboard
 - B. Mouse
 - C. Monitor
 - D. Router
5. Why are cooling systems important?
 - A. They increase internet speed
 - B. They prevent overheating
 - C. They store data permanently
 - D. They control user input
6. Explain the difference between internal and external hardware components.
7. Describe the functions of the CPU, RAM, and motherboard.

8. Why are input and output devices important in a computer system? Give examples.
9. Explain how communication devices help computers connect to networks and the internet.
10. Why must all hardware components work together properly in a computer system?

e) Listening

Listen [this conversation](#) between Alya dan Bima about computer hardware and device. Then, answer the following questions based on information from the audio.

1. What is Alya reviewing?
2. What is computer hardware?
3. Name three examples of input devices.
4. Name three examples of output devices.
5. What does Alya learn at the end of the conversation?

f) Writing

1. Language focus

Function:

- **Can** → ability
- **Must** → obligation/rules
- **Should** → advice

Pattern: Subject + modal + base verb

Examples:

- The CPU can process data.

- Users must protect their hardware.
- You should clean your computer regularly.

2. Completing paragraph

Fill in the blanks using **can, must, or should**.

A computer system consists of many hardware components. The CPU _____ process data and control system operations. The monitor _____ display information clearly for users. Input devices such as keyboards and mice _____ be used to enter data into the computer.

Users _____ take care of their hardware to ensure good performance. They _____ clean their devices regularly to avoid damage. Computers _____ be protected from dust and heat. If the system becomes slow, users _____ upgrade the RAM to improve performance.

A hard drive _____ store large amounts of data, and users _____ back up their important files. The motherboard connects all components, so it _____ function properly at all times. Hardware components _____ work together to ensure the system runs efficiently.

By understanding hardware functions, users _____ operate computers more effectively and safely.

3. Independent writing

- Write a paragraph (100–150 words):
- Topic:** Explain the functions of computer hardware and how to use them properly.

c. **Guidelines:**

- Use **can, must, and should**
- Use at least 5 vocabulary words
- Explain both function and rules

g) **Speaking**

1. Useful phrases

- This device can...
- Users must...
- You should...
- It is used to...
- This component helps to...

2. Speaking model (monologue)

A computer has several hardware components. The CPU can process data and control the system. The monitor can display information. Users must use input devices like keyboards and mice to interact with the computer. They should maintain the hardware properly to avoid damage. For example, users should clean the computer regularly and must protect it from dust.

3. Practice

Explain the function of computer hardware and give rules for using it (1–2 minutes).

h) Assessment

Can Do Statement

No	Statement	✓
1	I can identify hardware components	
2	I can explain functions using “can”	
3	I can give rules using “must”	
4	I can give advice using “should”	
5	I can speak and write about hardware clearly	

Computer Networks and Connectivity

a) Learning Objective

By the end of this unit, students are able to:

1. Understand basic concepts of computer networks and connectivity.
2. Identify types of networks and network devices.
3. Use vocabulary related to networking and cybersecurity.
4. Use **passive voice (simple present)** correctly.
5. Explain cybersecurity problems and solutions in spoken English.

b) Key Vocabulary

No	Word	Definition
1	Network	A system of connected computers
2	Internet	Global network connecting millions of devices
3	Router	Device that directs network traffic
4	Switch	Connects devices in a local network
5	Server	Provides services or data to other computers
6	Client	A computer that receives services
7	Wi-Fi	Wireless network connection
8	Bandwidth	Amount of data transmitted
9	Firewall	System that protects networks
10	Data Packet	Small unit of data sent over a network

c) Matching

Terms	Definition
A. Router	• ___ A global system of connected networks • ___ A device that directs data traffic • ___ A device that connects computers in a LAN • ___ A computer that provides services • ___ A computer that receives services • ___ A system that protects a network • ___ Wireless connection technology • ___ A group of connected computers • ___ The amount of data transmitted • ___ Small pieces of data sent across networks
B. Switch	
C. Server	
D. Client	
E. Firewall	
F. Wi-Fi	
G. Network	
H. Internet	
I. Bandwidth	
J. Data Packet	

d) Reading

Read the text below!

Computer networks exist in different types, each designed to meet specific needs depending on size, distance, and purpose. As technology continues to develop and more devices become connected, the demand for efficient and secure networks is increasing. Understanding these types is essential for building and managing modern IT systems.

One common type is the Local Area Network (LAN), which connects devices within a small area such as a home, office, or building. It allows users to share resources like printers and files easily. In contrast, a Wide Area Network (WAN) connects devices across large geographic distances, such as between cities or countries, enabling global communication.

Another type is the Personal Area Network (PAN), which is used for short-range connections between personal devices like smartphones and laptops. Wireless Local Area Networks (WLANs) provide similar connectivity as LANs but without cables, allowing users to move freely while staying connected.

There are also specialized networks such as Metropolitan Area Networks (MAN), which cover a city, and Virtual Private Networks (VPN), which provide secure communication over the internet. Each type of network has its own advantages and is selected based on performance, coverage, and security requirements.

Adopted from [11 Types of Networks: Explanations, Use Cases, and Expert Tips](#)

Answer the questions below based on the text above!

1. What is the main purpose of different types of networks?
 - A. To replace hardware devices
 - B. To meet different connectivity needs
 - C. To reduce internet usage
 - D. To simplify software installation
2. What is a LAN typically used for?
 - A. Connecting global networks
 - B. Connecting devices in a small area
 - C. Connecting satellites
 - D. Connecting only mobile phones
3. Which network covers large geographic areas?
 - A. PAN
 - B. LAN
 - C. WAN
 - D. WLAN
4. What is the function of a PAN?
 - A. Connecting devices over long distances
 - B. Connecting personal devices at short range
 - C. Protecting networks from attacks
 - D. Managing servers
5. What is the advantage of WLAN?
 - A. Requires cables
 - B. Limited mobility
 - C. Allows wireless connection
 - D. Only works in offices
6. Explain why different types of networks are needed in modern technology.
7. Compare LAN and WAN in terms of function and coverage.

8. Describe how a PAN works and give examples.
9. What are the advantages of wireless networks compared to wired networks?
10. How does a VPN improve network security?

e) Listening

Listen [this monologue](#) about types of computer network, then answer the questions below to check your understanding.

1. What is a computer network?
2. What does a LAN connect?
3. Where is a MAN usually used?
4. Which network covers the largest geographical area?
5. What is the largest example of a WAN?

f) Writing

1. Language focus
 - Function: used to explain process or facts when focusing on action, not actors.
 - Pattern: Subject + am/is/are + past participle (V3)
 - Examples:
 - Data is transmitted through networks.
 - Information is stored on servers.
 - The system is protected by a firewall.
2. Completing paragraph

Fill in the blanks using the correct passive form.

A computer network _____ (use) to connect devices. Data _____ (send) in the form of packets and _____ (transmit) through cables or wireless signals. A router _____ (use) to direct traffic, and a switch _____ (use) to connect devices in a local network.

In modern systems, sensitive data _____ (protect) by firewalls and security software. Unauthorized access _____ (prevent) through strong security systems. However, cyber threats _____ (detect) in many networks every day.

When a problem occurs, network traffic _____ (analyze) by IT professionals. Security systems _____ (update) regularly to prevent attacks. In addition, users _____ (educate) about safe internet practices.

Today, most communication _____ (support) by networks, and large amounts of data _____ (transfer) every second. Therefore, strong security measures _____ (require) to maintain system safety.

3. Independent Writing

- a. Write a paragraph (100–150 words):
- b. Topic: Explain how a computer network works and how it is protected.
- c. Guidelines:
 - Use passive voice
 - Use at least 5 vocabulary words
 - Focus on process and security

g) Speaking

1) Useful phrases

Stating Problems:

- The network is being attacked.
- Data is being stolen.
- The system is being slowed down.

Giving Solutions:

- The firewall should be updated.
- The system should be monitored.
- Security software should be installed.
- Access should be restricted.

2) Speaking model (monologue)

The network is being attacked by hackers. Unusual traffic is being detected, and sensitive data is being accessed. This problem is caused by weak security systems. To solve this issue, the firewall should be updated and stronger passwords should be used. In addition, the system should be monitored regularly. By applying these solutions, the network can be protected effectively.

3) Practice

Discuss a cybersecurity problem and give solutions (1–2 minutes).

h) Assessment

Can Do Statement

No	Statement	✓
1	I can understand network concepts	
2	I can use passive voice correctly	
3	I can describe processes in networks	
4	I can explain cybersecurity problems	
5	I can suggest solutions in English	

Steganography: Hiding Information in Digital Media

a) Learning objective

By the end of this unit, students are able to:

1. Understand the concept of steganography.
2. Identify types and functions of steganography in digital media.
3. Use vocabulary related to data hiding and cybersecurity.
4. Give instructions using sequence expressions correctly.
5. Explain steps to solve technical problems in spoken English.

b) Key Vocabulary

No	Word	Definition
1	Steganography	The practice of hiding information in digital media
2	Encryption	The process of converting data into secret code
3	Cipher	A method used to encrypt information
4	Digital Media	Electronic files such as images, audio, or video
5	Hidden Message	Information concealed inside another file
6	Carrier File	A file used to hide information

7	Password	Secret code used for security
8	Data Security	Protection of digital information
9	Extraction	The process of retrieving hidden data
10	Image File	A digital picture used for storing information
11	Audio File	A sound file that may contain hidden data
12	Software Tool	A program used to perform tasks

c) Matching

Match the terms with the correct definition

Terms	Definitions
A. Steganography B. Encryption C. Carrier File D. Hidden E. Message F. Extraction G. Password H. Cipher I. Image File J. Data Security K. Software Tool	1. ____ A secret code for access protection 2. ____ A program used to perform digital tasks 3. ____ A process of converting information into secret code 4. ____ The process of retrieving hidden information 5. ____ A system or method for encryption 6. ____ A file used to store hidden data 7. ____ Secret information concealed in another file

	8. ____ Protection of digital data from threats 9. ____ A digital picture file 10. ____ A method used to hide information in digital media
--	--

d) Reading

Read the text below about Steganography!

Steganography is the practice of hiding secret information inside ordinary digital files such as images, audio, videos, or text documents. The purpose of steganography is not only to protect information but also to hide the existence of the message itself. Unlike cryptography, which changes data into unreadable code, steganography conceals data within another file so that people do not realize a secret message exists.

The process of steganography usually begins with selecting a cover file, also called a carrier file. This file may be an image, audio clip, video, or document. In many cases, the hidden message is encrypted before it is inserted into the carrier file to provide additional security. After that, special techniques are used to embed the message into the digital media. One common technique is Least Significant Bit (LSB) encoding, where small changes are made to image pixels or audio data without creating visible differences.

There are several types of steganography, including text, image, audio, video, and network steganography. These methods are used for secure communication, copyright protection, and digital watermarking. However, steganography can also be misused by cybercriminals to hide malware or secret commands inside harmless-looking files.

Because of this, cybersecurity experts continue developing tools to detect suspicious hidden data in digital systems.

Adapted from

<https://www.geeksforgeeks.org/cybersecurity/what-is-steganography/>

Once you finish reading the text above, answer the questions below.

1. What is the main purpose of steganography?
 - A. To delete digital files
 - B. To improve internet speed
 - C. To hide secret information inside digital media
 - D. To compress large files
2. How is steganography different from cryptography?
 - A. Steganography changes data into code
 - B. Cryptography hides the existence of data
 - C. Steganography hides the existence of the message
 - D. Cryptography only works with images
3. What is a carrier file?
 - A. A file used to spread malware
 - B. A file used to hide secret information
 - C. A damaged digital file
 - D. A password protection system
4. Which technique is commonly used in image steganography?
 - A. Firewall encoding
 - B. Network scanning
 - C. Least Significant Bit (LSB) encoding
 - D. Data compression
5. Why is steganography considered a cybersecurity concern?

- A. It increases computer speed
 - B. It can be used to hide malware
 - C. It deletes encrypted files
 - D. It blocks internet access
6. Explain the difference between steganography and cryptography.
 7. Describe the steps involved in the steganography process.
 8. What is Least Significant Bit (LSB) encoding, and how is it used?
 9. Discuss the advantages and risks of steganography in digital communication.
 10. Why do cybersecurity experts need to detect hidden data in digital media?

e) Listening

Listen [this conversation](#) between Dina and Nanda about steganography in today's world. Then, answer the questions below to check your understanding.

1. What topic did Nina and Dika discuss?
2. What is steganography?
3. Where can secret information be hidden?
4. Mention two positive uses of steganography.
5. Why do cybersecurity experts need to detect steganography?

f) Writing

1. Language focus: Giving instructions

There are some sequence expressions that can be used to give instructions, such as first, second, next, then, after that, finally.

The pattern is sequence expression + imperative verb

Examples:

- First, open the software.
- Next, upload the image file.
- Then, enter the secret message.
- Finally, save the file.

2. Completing paragraph

Complete the paragraph using suitable sequence expressions and verbs.

_____, open the steganography software on your computer. _____, choose an image file that will be used as the carrier file. _____, type the secret message into the text box. _____, enter a password to protect the hidden information.

_____, click the "Hide Message" button to insert the data into the image. The new file will be created automatically. _____, save the file in a secure folder on your computer.

If the hidden message cannot be extracted, there are several troubleshooting steps. _____, check whether the correct password is used. _____, make sure the image file is not corrupted. _____, restart the software and try the

extraction process again. _____, reinstall the application if the problem is still not solved.

By following these steps carefully, users can hide and retrieve information safely using steganography tools.

3. Independent writing

Write a paragraph (100–150 words) with topic “explain how to hide a message inside an image using steganography software”.

Guidelines:

- Use sequence expressions
- Explain the steps clearly
- Use at least 5 vocabulary words

g) Speaking

1. Useful phrases

Giving Instructions

- First, open the application.
- Next, select the file.
- Then, enter the password.
- After that, save the document.
- Finally, restart the system.

Troubleshooting

- Check the connection first.
- Make sure the password is correct.

- Try reinstalling the software.
- The problem may be caused by...
- The issue can be solved by...

Speaking model (monologue)

Trouble shooting simulation: Give step-by-step instructions to fix a problem

Situation: Two students are discussing a problem in steganography software.

A: Hi, can you help me? I am having a problem with my steganography project.

B: Sure. What problem are you experiencing?

A: I cannot extract the hidden message from the image file. The software keeps showing an error message.

B: Okay. First, make sure you are using the correct password. Sometimes the extraction process fails because of an incorrect password.

A: I already tried the password several times, but it still does not work.

B: Alright. Next, check whether the image file is corrupted or modified. Did you edit the image after hiding the message?

A: Yes, I resized the image before sending it to my friend.

B: That may be the problem. In steganography, the hidden data can be damaged if the carrier file is changed.

A: I see. What should I do now?

B: First, use the original image file before it was edited. Then, open the software again and start the extraction process.

A: Okay. Should I reinstall the software too?

B: You can try that if the problem continues. Also, make sure the software version is updated. Older versions sometimes cannot read newer files properly.

A: Alright. I will try using the original image first.

B: Good idea. After that, enter the correct password carefully and click the extract button.

A: Great! The hidden message is displayed now.

B: Excellent. Next time, do not edit or compress the carrier file after the message is hidden.

A: Thank you for your help. Now I understand how the problem happened.

B: You're welcome. Troubleshooting is very important in cybersecurity and digital communication.

2. Practice

Task: Work in pairs. One student explains a technical problem related to steganography, and the other gives step-by-step instructions to solve it.

Example Problems

- Hidden file cannot be opened
- Password is rejected
- Software crashes during extraction
- Carrier file is corrupted

h) Assessment

Can Do Statement

No	Statement	✓
1	I can explain what steganography is	
2	I can use vocabulary related to digital security	
3	I can give instructions clearly	
4	I can explain troubleshooting steps	
5	I can speak about technical problems and solutions	

Cryptography: Protecting Digital Information

a) Learning Objective

By the end of this unit, students are able to:

1. Understand the concept and functions of cryptography.
2. Identify common cryptographic terms and techniques.
3. Use vocabulary related to digital security and encryption.
4. Use the **simple past tense** to describe past actions and processes.
5. Explain how digital systems and databases work in spoken English.

b) Key Vocabulary

No	Word	Definition
1	Cryptography	The practice of protecting information using codes
2	Encryption	The process of converting data into secret code
3	Decryption	The process of converting encrypted data back into readable form
4	Cipher	A method used to encrypt information
5	Key	A code used to encrypt or decrypt data
6	Plaintext	Original readable information

7	Ciphertext	Encrypted unreadable information
8	Authentication	Verification of identity
9	Digital Signature	Electronic signature used for verification
10	Database	Organized collection of data
11	Security System	A system used to protect digital information
12	Access Control	Restriction of unauthorized users

c) Matching

Match the terms with their definitions.

Terms	Definition
A. Encryption	1. ___ A method used to encode information
B. Decryption	2. ___ Restriction of unauthorized access
C. Cipher	3. ___ A code used for encryption and decryption
D. Key	4. ___ Original readable information
E. Plaintext	5. ___ Verification of a user's identity
F. Ciphertext	6. ___ Encrypted unreadable information
G. Authentication	7. ___ The process of converting readable data into secret code
H. Database	
I. Digital	
J. Signature	
K. Access Control	

	8. ____ Electronic verification signature 9. ____ The process of restoring encrypted data into readable form 10. ____ An organized collection of data
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d) Reading

Read the text below about Cryptography!

Cryptography is the practice of protecting information by converting it into secret codes. It is widely used in digital communication to ensure that sensitive data remains secure during transmission and storage. In modern technology, cryptography plays an important role in online banking, messaging applications, e-commerce, and cybersecurity systems. The main goal of cryptography is to prevent unauthorized access to digital information.

The process of cryptography usually begins with plaintext, which is the original readable data. This information is transformed into ciphertext through encryption algorithms and cryptographic keys. Only authorized users who possess the correct key can decrypt the information and return it to its original form. Different encryption methods are used depending on the level of security required.

There are two main types of cryptography: symmetric and asymmetric encryption. Symmetric encryption uses the same key for both encryption and decryption, while asymmetric encryption uses a public key and a private key. These

techniques are used to protect passwords, financial transactions, and confidential communications.

Today, cryptography is considered one of the most important tools in cybersecurity. It helps organizations protect digital systems, verify user identities, and maintain data privacy in modern computer networks.

Adapted from

<https://www.ibm.com/think/topics/cryptography>

After reading the text above, answer the following questions!

1. What is the main purpose of cryptography?
 - A. To increase internet speed
 - B. To protect digital information
 - C. To create hardware devices
 - D. To repair computer systems
2. What is plaintext?
 - A. Encrypted information
 - B. A security key
 - C. Original readable data
 - D. A database system
3. What is used to decrypt encrypted information?
 - A. A printer
 - B. A firewall
 - C. A cryptographic key
 - D. A monitor
4. What is the difference between symmetric and asymmetric encryption?
 - A. Symmetric encryption uses two keys
 - B. Asymmetric encryption uses one key
 - C. Symmetric encryption uses the same key for both

processes

- D. Asymmetric encryption does not use encryption
- 5. Why is cryptography important in cybersecurity?
 - A. It reduces hardware costs
 - B. It protects data and verifies identities
 - C. It improves graphics performance
 - D. It creates wireless networks
- 6. Explain how cryptography protects digital information.
- 7. Describe the process of encryption and decryption.
- 8. Compare symmetric and asymmetric encryption.
- 9. Why is cryptography important in online communication and banking?
- 10. How does cryptography support cybersecurity systems?

e) Listening

Listen [this monologue](#) about how people save data in the past and today. Once you finish listening the monologue, answer the following questions.

- 1. How did people protect messages in the past?
- 2. Who often used simple codes in the past?
- 3. How is data protected today?
- 4. Where is modern cryptography commonly used?
- 5. What is the main purpose of cryptography?

f) Writing

1. Language focus: Simple past (past actions and processes)
 - **Function:** Used to describe completed actions or processes in the past.
 - **Pattern:** Subject + Verb 2 + Object
 - **Examples**
 - The system encrypted the data successfully.
 - The user entered the password carefully.
 - The database stored the information securely.
2. Completing paragraph

Complete the paragraph using the correct form of verbs in the simple past tense.

Yesterday, the IT team _____ (install) a new security system to protect company data. They _____ (create) encrypted passwords and _____ (update) the database server. After that, the administrator _____ (check) all user accounts and _____ (remove) suspicious access.

During the process, sensitive information _____ (transfer) to a secure database. The system _____ (encrypt) the files automatically before storage. Several employees _____ (receive) instructions about cybersecurity procedures and _____ (follow) the new security rules carefully.

Later, the team _____ (test) the encryption system to ensure everything worked properly. They _____ (detect) several weaknesses and _____ (improve) the system immediately. Finally, the company _____ (complete) the

security upgrade successfully and _____ (protect) its digital information more effectively.

3. Independent writing

- a. Topic: Explain a cybersecurity process or system that was used in the past.
- b. Guidelines
 - Write 100–150 words
 - Use simple past tense
 - Explain actions and processes clearly
 - Use at least 5 vocabulary words from the unit

g) Speaking

1. Useful phrases

Explaining a System

- The system works by...
- First, the data is...
- Then, the information is...
- After that, the system verifies...
- Finally, access is granted...

Explaining Processes

- The database stores...
- The server processes...
- Users enter...
- The system protects...

2. Speaking model

A: Can you explain how a database system works?

B: Sure. A database system stores and organizes digital information. First, users enter data into the system through an application or website.

A: What happens after the data is entered?

B: Then, the database server processes and stores the information securely. The system also checks user access and permissions.

A: How is the data protected?

B: The information is protected using encryption and authentication systems. Only authorized users can access the data.

A: What happens if users search for information?

B: The database processes the request and retrieves the required data quickly. After that, the information is displayed on the user's screen.

A: Why are databases important in companies?

B: They help organizations store, manage, and protect large amounts of information efficiently.

3. Practice

Task: Work in pairs. Explain how a digital system works.

Suggested topics:

- Database system
- Login authentication system
- Online banking system

- School information system
- Cloud storage system

h) Assessment

Can Do Statement

No	Statement	✓
1	I can understand cryptography concepts	
2	I can use cybersecurity vocabulary correctly	
3	I can use simple past tense for processes	
4	I can explain how a system works	
5	I can discuss digital security in English	

Internet Services and Online Applications

a) Learning Objective

After completing this unit, students are able to:

1. Identify various internet services and online applications.
2. Understand a reading text about the use of online applications in business.
3. Use Present Perfect Tense to talk about experiences and results.
4. Discuss internet-based services in business and academic contexts.
5. Write a short paragraph about experiences using online applications.
6. Communicate effectively about digital tools in workplace situations.

b) Key Vocabulary

Vocabulary	Definition
Cloud Storage	Online storage service for saving files
Video Conference	Online meeting using video and audio
E-commerce	Buying and selling products online
Social Media	Online platforms for communication and networking

Mobile Banking	Banking services through mobile applications
Search Engine	A tool used to find information on the internet
Online Marketplace	Website where sellers and buyers meet
Digital Payment	Electronic method of payment
Web Application	Software accessed through a web browser
Data Sharing	The process of exchanging digital information

c) Matching

Match the words (A-J) with their definitions (1-10).

Vocabularies	Definitions
A. Cloud Storage	1. ____ Electronic transfer of money.
B. E-commerce	2. ____ Online communication platform.
C. Search Engine	3. ____ A software program that runs in a browser.
D. Mobile Banking	4. ____ A service used to store files online.
E. Digital Payment	5. ____ A system for finding information on the internet.
F. Social Media	6. ____ Exchange of digital information.
G. Data Sharing	
H. Video Conference	
I. Web Application	
Online	
J. Marketplace	

	7. ____ Banking transactions through smartphones. 8. ____ Business transactions conducted online. 9. ____ An online platform for buying and selling products. 10. ____ Online meeting using video technology.
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d) Reading

Read the text below!

Internet Services and Online Applications in Business

Today, many businesses use internet services and online applications to support their daily operations. Employees can communicate, share information, and complete tasks more efficiently using digital tools. As technology continues to develop, companies increasingly depend on online services to improve productivity and customer satisfaction.

One of the most common internet services is cloud storage. Cloud storage allows users to save files online and access them from different devices. Businesses use this service to store important documents, back up data, and collaborate with team members. As a result, employees can work together more effectively even when they are in different locations.

Another widely used application is video conferencing software. Companies use platforms such as Zoom, Google Meet, and Microsoft Teams to conduct meetings without requiring participants to travel. These applications have made communication faster and more convenient. Many

organizations have also adopted web applications to manage projects, monitor employee performance, and organize business data.

In addition, online marketplaces, digital payment systems, and mobile banking applications have transformed the way companies conduct business. These services allow businesses to reach more customers, process transactions quickly, and manage finances efficiently. Many companies have experienced significant improvements in sales and customer service after implementing online applications. Therefore, internet services have become essential tools in the modern business environment.

Reading Comprehension

Check the statements below whether it is TRUE or FALSE based on the given text above!

1. Cloud storage can be accessed from different devices.

2. Video conferencing requires employees to travel for meetings. _____
3. Web applications can help companies manage projects.

4. Digital payment systems slow down business transactions.

5. Internet services are important in modern business operations. _____

Answer the following questions based on the text above!

1. Why do businesses use cloud storage?
2. How does video conferencing benefit organizations?
3. What are some functions of web applications in companies?
4. How do digital payment systems help businesses?
5. What improvements have many companies experienced after implementing online applications?

Vocabulary in Context

Match the words from the reading with their meanings.

Word	Meaning
1. Productivity	a. To carry out or put into use
2. Collaborate	b. The ability to produce results efficiently
3. Conduct	c. To work together with others
4. Implement	d. To manage or perform an activity
5. Transaction	e. An exchange of money or business activity

e) Listening

Listen [the dialogue between Alina and Calder](#). Then answer the following questions to check your understanding.

1. What are Alina and Calder talking about?

2. Mention three activities that young people do on the Internet.
3. What does Calder use the Internet for?
4. What online risks does Alina mention?
5. What do they think about using the Internet?

f) Writing

1. Language focus : Present perfect (experience and results)

Form : Subject + have/has + Past Participle (V3)

Usage :

- 1) Used to talk about experiences without mentioning a specific time.

Examples :

- I have used cloud storage services.
- She has attended several online meetings.
- They have worked with many web applications.

- 2) Used to describe a present result of a past action.

Examples :

- The company has increased its sales.
- We have completed the online registration.
- The IT team has improved system security.

2. Signal words :

- already
- yet

- ever
- never
- recently
- just
- since
- for

3. Practice

Complete the Sentences

Use the correct Present Perfect form

1. The company _____ (implement) a new web application.
2. We _____ (not/use) this platform before.
3. She _____ (already/send) the online report.
4. They _____ (improve) customer service through digital tools.
5. _____ you ever _____ (use) cloud storage?

4. Completing Paragraph

Complete the paragraph using the words provided.

Words : implemented, improved, used, increased, adopted

Our company has recently _____ several online applications. We have _____ cloud storage to manage documents more efficiently. The new system has _____ communication among employees. As a result, productivity has _____ significantly. We have also

_____ a digital payment system to simplify transactions.

Independent Writing Task

Write a paragraph of 120–150 words about your experience using online applications for study, communication, or business activities.

Include:

- Applications you have used
- How often you use them
- Benefits you have experienced
- Results you have achieved

Use at least **five Present Perfect sentences**.

g) Speaking

1. Useful phrases

Talking about Experience

- I have used ...
- I have worked with ...
- I have experienced ...
- I have never used ...
- I have recently started using ...

Talking about Results

- It has improved ...
- It has helped me ...
- It has increased ...

- It has reduced ...
- It has made my work easier ...

Example Monologue

Business Scenario

Good morning everyone.

I would like to share my experience using online applications in our company. We have used cloud storage for more than two years. It has helped us manage files efficiently and access documents from different locations.

We have also adopted video conferencing tools for meetings with clients and business partners. These applications have reduced travel costs and improved communication. Recently, we have implemented a digital payment system, and it has simplified financial transactions.

Overall, online applications have increased our productivity and improved customer service. I believe these technologies will continue to support business growth in the future.

Example Dialogue

Situation: Two employees are discussing online applications used in their company.

Andi: Have you ever used cloud storage services?

Sinta: Yes, I have. I have used Google Drive for three years.

Andi: Has it helped your work?

Sinta: Absolutely. It has improved collaboration within our team.

Andi: Have you attended online meetings recently?

Sinta: Yes, I have attended several video conferences this month.

Andi: What benefits have you experienced?

Sinta: They have saved time and reduced travel expenses.

2. Speaking Practice. Work in pairs.

Student A

Ask your partner about:

- Online applications they have used
- Online shopping experiences
- Mobile banking usage
- Cloud storage services

Student B

Answer the questions using Present Perfect sentences.

Example:

A: Have you ever used mobile banking?

B: Yes, I have used mobile banking for two years. It has made transactions easier.

h) Assessment

Can Do Statement

Tick (✓) the statements that describe your ability

Can Do Statement	Yes	Not Yet
I can identify internet services and online applications.		
I can understand a reading text about online business applications.		
I can use Present Perfect to talk about experiences.		
I can use Present Perfect to describe results.		
I can complete a paragraph using appropriate vocabulary.		
I can write a paragraph about my experience using online applications.		
I can discuss online applications in a business context.		
I can deliver a short monologue about digital technology.		
I can participate in a dialogue about internet services.		
I can explain the benefits of online applications for business and study.		

Professional Email Communication

a) Learning Objective

After completing this unit, students are able to:

1. Identify common vocabulary used in professional email communication.
2. Understand the structure and purpose of professional emails.
3. Use formal expressions and linking words appropriately in emails.
4. Complete and write professional emails in workplace situations.
5. Present a short system report or project update orally.
6. Communicate professionally through spoken and written English.

b) Key Vocabulary

Vocabulary	Definition
Subject Line	The title of an email
Recipient	The person receiving the email
Attachment	A file sent together with an email
Deadline	The latest time a task must be completed
Update	New information about progress
Inquiry	A request for information

Confirmation	A statement verifying information
Schedule	A planned timetable
Issue	A problem or difficulty
Follow-up	Additional communication after a previous message

c) Matching

Match the vocabulary with the correct definition.

Vocabulary	Definition
1. Attachment	a. Verification of information
2. Deadline	b. A file included with an email
3. Inquiry	c. The title of an email
4. Update	d. A problem that needs attention
5. Follow-up	e. Communication sent after a previous message
6. Recipient	f. A planned arrangement of activities
7. Confirmation	g. New information about progress
8. Issue	h. The final date for completing a task
9. Schedule	i. A person who receives an email
10. Subject Line	j. A request for information

d) Reading

Read the text below!

The Importance of Professional Email Communication

Professional email communication plays an important role in modern workplaces. Employees use emails to exchange information, request assistance, provide updates, and communicate with clients or colleagues. Unlike informal messages, professional emails require clear organization, appropriate language, and a respectful tone.

A well-written email usually includes a subject line, greeting, body, and closing. The subject line should clearly indicate the purpose of the email. The body should provide relevant information in a concise manner. In addition, professional emails often use formal expressions to maintain politeness and professionalism.

In information systems and accounting environments, email communication is frequently used to report technical issues, submit project updates, schedule meetings, and share documents. Effective emails help prevent misunderstandings and ensure that information is delivered accurately. For example, a project manager may send a progress report to stakeholders, while an IT staff member may notify users about system maintenance.

Furthermore, professional emails often include linking words such as *therefore*, *however*, *in addition*, and *as a result* to connect ideas logically. Using these expressions improves readability and helps readers understand the message more easily. As organizations continue to rely on digital communication, the ability to write professional emails has become an essential workplace skill.

Reading Comprehension

Check the statements below whether it is TRUE or FALSE based on the given text above!

1. Professional emails should use informal language. _____
2. A subject line helps readers understand the purpose of an email. _____
3. IT staff may use email to report system maintenance.

4. Linking words help connect ideas in an email. _____
5. Professional email communication is not important in workplaces. _____

Answer the following questions based on the text above!

1. Why is professional email communication important?
2. What are the main parts of a professional email?
3. How do information systems professionals use email?
4. Why are linking words useful in email writing?
5. What skills can students develop from learning professional email communication?

e) Listening

Listen to [this audio about history of email](#) and answer the questions below.

1. What did people use before email?
2. Who sent the first email?
3. In what year was the first email sent?

4. What is the function of the "@" symbol in an email address?
5. Why is email still important today?

f) Writing

- a. Language focus : Formal expressions and linking words

Formal Expressions in Professional Emails

Opening

- I am writing to inform you that...
- I would like to inquire about...
- I am writing regarding...
- I would like to request...

Requesting Information

- Could you please provide...?
- I would appreciate it if you could...
- Would you mind sending...?

Giving Information

- Please be informed that...
- I would like to update you on...
- I am pleased to inform you that...

Closing

- Thank you for your attention.
- I look forward to hearing from you.

- Please do not hesitate to contact me.
- Thank you for your cooperation.

Linking Words

Function	Linking Word
Adding Information	Furthermore, In addition, Moreover
Showing Contrast	However, Nevertheless
Showing Cause	Because, Since
Showing Result	Therefore, As a result
Sequencing	First, Next, Finally

Example

- The system experienced a technical issue. **Therefore**, users could not access the application.
- The project is progressing well. **In addition**, all milestones have been completed on schedule.

Completing an Email: Complete the email using the words below.

Words : therefore - attachment - update - appreciate - regards

Subject: Project Progress Report

Dear Mr. Hasan,

I would like to provide an _____ regarding the website development project.

The design phase has been completed successfully. _____, the team has started system testing.

Please find the project report in the _____.

I would _____ your feedback on the report.

Best _____,

Nina Prasetyo

Project Coordinator

Independent Writing Task

Write a professional email (120–150 words) to your lecturer or supervisor.

Choose one topic:

- Requesting an extension for an assignment
- Reporting a technical problem
- Asking for project feedback
- Scheduling a meeting

Use:

- At least three formal expressions
- At least three linking words
- Proper email structure

g) Speaking

Useful Phrases for Presenting a Report

Opening

- Good morning, everyone.
- Today, I would like to present a brief update on our project.
- I am going to share the progress of our system development.

Reporting Progress

- We have completed...
- The team has successfully finished...
- The project is currently in the testing phase.
- We are on schedule.

Reporting Problems

- We encountered a minor issue with...
- One challenge we faced was...
- However, the problem has been resolved.

Closing

- Thank you for your attention.
- That concludes my report.
- I would be happy to answer any questions.

Example Monologue

Project Update Presentation

Good morning, everyone.

Today, I would like to present a brief update on our inventory management system project. The project started six weeks ago, and we have completed several important tasks.

First, the team finished the system analysis and database design stages. Next, we developed the user interface and implemented the main features. Currently, we are conducting system testing to identify and fix any errors.

We encountered a minor issue related to data synchronization. However, the technical team resolved the problem successfully. As a result, the system is now operating more efficiently.

Our next step is user acceptance testing, which will begin next week. Overall, the project is progressing according to schedule.

Thank you for your attention.

Example Dialogue

Situation : Two team members discuss a project update before sending a report to their manager.

Rina : Good morning, Dimas. Have you completed the project progress report?

Dimas : Good morning, Rina. Yes, I have prepared most of it. However, I still need information about the testing phase.

Rina : The testing team completed the first round yesterday. They identified three minor bugs, but

- two of them have already been fixed.
- Dimas** : That's good news. Should we include that information in the report?
- Rina** : Absolutely. The manager needs a complete update on the project's status.
- Dimas** : What about the remaining bug?
- Rina** : The developers are currently working on it. They expect to resolve it by Friday.
- Dimas** : Great. Then we can mention that the project is still on schedule.
- Rina** : Yes. In addition, we should include the next phase of development.
- Dimas** : You mean user acceptance testing?
- Rina** : Exactly. The testing will start next Monday if everything goes according to plan.
- Dimas** : Perfect. I'll revise the report and send it to you for review this afternoon.
- Rina** : Thank you. Once I review it, we can email it to the manager.
- Dimas** : Sounds good.
- Practice** : **Pair Work**
- Scenario** : **Project Update Meeting**
- Student A : Project Manager
- Student B : System Analyst

Discuss :

- Project progress
- Completed tasks
- Current problems
- Future plans

h) Assessment

Can Do Statement

Can Do Statement	Yes	Not Yet
I can identify vocabulary related to professional email communication.		
I can understand a reading text about workplace email communication.		
I can use formal expressions appropriately in emails.		
I can use linking words to connect ideas clearly.		
I can complete a professional email correctly.		
I can write a professional email using appropriate format and language.		
I can present a short project update orally.		
I can explain system progress and project status in English.		
I can participate in workplace-related dialogues.		
I can communicate professionally in written and spoken contexts.		

Websites and Search Engines in the Information Age

a) Learning Objective

After completing this unit, students are able to:

1. Identify vocabulary related to websites and search engines.
2. Understand the role of websites and search engines in accessing information.
3. Explain how websites and search engines support learning, business, and communication.
4. Use **will** and **going to** to express predictions and future plans.
5. Write a paragraph about future technology and digital trends.
6. Express opinions and predictions about technological developments.
7. Participate in discussions about future technologies and digital innovation.

b) Key Vocabulary

Vocabulary	Definition
Website	A collection of web pages available on the internet

Search Engine	A tool used to find information online
Browser	Software used to access websites
Keyword	A word or phrase used in a search query
Search Result	Information returned by a search engine
Artificial Intelligence (AI)	Technology that enables machines to perform intelligent tasks
Algorithm	A set of rules used to process information
Digital Content	Information available in digital form
Online Database	An organized collection of digital information
Information Retrieval	The process of finding and obtaining information

c) Matching

Match the vocabulary with the correct definition.

Vocabulary	Definition
1. Browser	Information in electronic form
2. Keyword	A tool used to find information online
3. Website	The process of finding information
4. Search Result	Technology that simulates human intelligence

5. Algorithm	Information returned after a search
6. Search Engine	A set of rules for solving problems
7. Artificial Intelligence	A collection of web pages
8. Digital Content	A word used in a search query
9. Online Database	Organized digital information
10. Information Retrieval	Software used to access websites

d) Reading

Read the text below!

Websites and Search Engines in the Information Age

The internet has become one of the most important sources of information in modern society. People use websites and search engines every day to find news, educational materials, products, and services. As a result, accessing information has become faster and more convenient than ever before.

Websites provide information on a wide variety of topics. Universities, businesses, government institutions, and organizations use websites to communicate with users and share resources. For example, students often visit educational websites to access learning materials, while companies use websites to promote products and services.

Search engines help users locate information efficiently. By entering keywords into a search engine, users can receive thousands of relevant results within seconds. Search engines use complex algorithms to organize and rank information according to relevance and quality. This process enables users

to find useful information quickly without browsing multiple websites manually.

In the future, websites and search engines will become even more intelligent. Artificial intelligence will improve search accuracy and provide more personalized results. As digital technology continues to evolve, people will rely on websites and search engines not only for information retrieval but also for learning, communication, business, and decision-making.

Reading Comprehension

A. Check the statements below whether it is TRUE or FALSE based on the given text above!

1. Websites are used only by businesses. _____
2. Search engines help users find information quickly.

3. Keywords are used when searching online. _____
4. Artificial intelligence may improve search results in the future. _____
5. People rarely use websites for education. _____

B. Answer the following questions based on the text above!

1. Why are websites important in modern society?
2. How do students use websites?
3. What is the function of a search engine?
4. How do search engines organize information?
5. What future developments are mentioned in the text?

e) Listening

Listen this audio about [how a website work](#). Then, answer the questions below to show your understanding.

1. What happens when you type a website address into a browser?
2. What does the web server do?
3. What will the browser do after receiving data from the server?
4. What is the speaker going to learn?
5. Why does the speaker want to learn web development?

f) Writing

- i. Language focus: will and going to.

Both **will** and **going to** are used to talk about the future.

Will

Use **will** for:

- Predictions
- Decisions made at the moment of speaking
- Future facts

Structure : Subject + will + Verb 1

Examples

- Search engines will become more intelligent.
- AI will improve information retrieval.
- Future websites will provide personalized content.

Going To

Use **going to** for:

- Future plans
- Intentions
- Predictions based on present evidence

Structure : Subject + am/is/are + going to + Verb 1

Examples

- Our company is going to launch a new website next month.
- We are going to improve the user interface.
- Technology is going to change the way people search for information.

Will	Going To
Prediction or spontaneous decision	Planned action or intention
AI will transform education.	We are going to develop an AI chatbot.
Search engines will be faster.	The company is going to redesign its website.

b. Completing Paragraph

Complete the paragraph using the words provided.

Words : will – going to – improve – develop – become

Technology is changing rapidly. In the future, search engines _____ more accurate and efficient. Artificial

intelligence _____ search results and provide better recommendations. Many companies are _____ invest in advanced digital technologies. Developers _____ new applications that support information retrieval. As a result, websites _____ more interactive and personalized.

3. Independent Writing

Write a short opinion paragraph.

Topic: *"Will Artificial Intelligence Replace Traditional Search Engines?"*

State:

- Your opinion
- Supporting reasons
- Future prediction

Length: 120–150 words.

g) Speaking

Useful phrases for giving opinions

Expressing Opinions

- I think that...
- In my opinion,...
- From my perspective,...
- I believe that...
- It seems to me that...

Agreeing

- I agree with that idea.

- That's a good point.
- I completely agree.

Disagreeing

- I don't think so.
- I see your point, but...
- I have a different opinion.

Making Predictions

- I think ... will ...
- I believe ... will become ...
- In the future, ... will ...
- ... is going to change ...
- ... is going to improve ...

Example Monologue

Future Technology Prediction

Good morning, everyone.

Today, I would like to share my opinion about future technology. I believe that websites and search engines will become more intelligent in the next ten years. Artificial intelligence will help users find information faster and more accurately.

In addition, websites will provide more personalized experiences. For example, educational websites will recommend learning materials based on students' interests and abilities. Businesses are also going to use AI-powered websites to improve customer service.

I think people will rely more on digital technology in their daily lives. Search engines are going to understand user needs better and provide more relevant information. As a result, accessing knowledge will become easier and more efficient.

Thank you for listening.

Example Dialogue

Topic : **Future Technology and Search Engines**

Andi : What do you think about the future of search engines?

Rina : I think search engines will become much smarter because of artificial intelligence.

Andi : I agree. They already provide personalized recommendations.

Rina : That's true. In the future, they will probably understand natural language better.

Andi : Do you think traditional websites will still be important?

Rina : Yes, I do. People will still need reliable sources of information. However, websites are going to become more interactive.

Andi : What kind of features do you expect?

Rina : I think many websites will include AI assistants that can answer questions instantly.

Andi : That's interesting. I also believe virtual reality will be integrated into websites.

- Rina** : That could happen. Online learning platforms are going to use immersive technologies for education.
- Andi** : How will these technologies affect businesses?
- Rina** : Businesses will improve customer engagement and provide better online services.
- Andi** : I agree. Technology will continue to change how people access information and communicate online.

Speaking Practice

Pair Work Activity : Future Predictions

Discuss the following questions with a partner.

1. How will search engines change in the future?
2. What technologies will become more important?
3. Will AI improve education?
4. How will websites support businesses?
5. What digital tools are going to be popular in the next decade?

Independent Activity: Mini Presentation

Prepare a 1–2 minute presentation about:

- Future websites
- AI-powered search engines
- Smart cities
- Future education technology
- Future business technology

Use at least:

- 3 sentences with **will**
- 3 sentences with **going to**

h) Assessment

Can Do Statement

Can Do Statement	Yes	Not Yet
I can identify vocabulary related to websites and search engines.		
I can understand a reading text about digital information access.		
I can explain the role of websites and search engines.		
I can use will correctly for predictions.		
I can use going to correctly for future plans.		
I can complete a paragraph using future expressions.		
I can write about future technology developments.		
I can express opinions about technology.		
I can make predictions about future digital trends.		
I can participate in discussions about future technology.		
I can present ideas about future websites and search engines.		

Scripts

Unit 1 Monolog: Role of computers in modern life

Hello, everyone. Today, I would like to talk about the role of computers in modern life.

Computers are an important part of our daily activities. We use computers at school, at work, and at home. Students use computers to study, do assignments, and join online classes. Office workers use computers to write reports, send emails, and manage data.

Computers also help people communicate with family and friends through social media, video calls, and messaging applications. In hospitals, banks, and businesses, computers make work faster and more accurate.

For Information Systems students, computers are not only tools but also an important part of their future careers. They need to understand computer hardware, software, and information systems to solve real-world problems.

In conclusion, computers have changed the way we learn, work, and communicate. They make our lives easier and help us become more productive.

Thank you for listening.

Unit 2 Dialog: Inside a computer

Andi : Hi, Rina. What are you studying today?

Rina : Hi, Andi. I'm studying the parts inside a computer, especially the CPU and RAM.

Andi : I learned that the CPU processes data, while RAM stores data temporarily when the computer is running.

Rina : That's right. The motherboard also connects all the components inside the computer.

Andi : Great! Now I understand how the main parts inside a computer work together.

Unit 3 Monolog

Hello, everyone. Today, I am going to talk about software and operating systems.

There are many types of software on a computer. There is an operating system that controls the computer and helps all the programs work properly. There are also applications for writing documents, browsing the internet, and editing photos.

There is important information stored on the computer, and there are many files that users can open every day. There is some free software that people can download, but there are also paid programs with more features.

An operating system makes it easy to manage files, run applications, and use computer hardware. Choosing the right software can help people work more quickly and efficiently.

Thank you for listening.

Unit 4 Dialog about learning javascript

Rafi : Hi, Dina. What are you doing? You look very busy today.

Dina : Hi, Rafi. I'm watching a video about JavaScript. Our lecturer said it is one of the most important programming languages for web development, but I'm still confused about what it can do.

Rafi : JavaScript is used to make websites interactive. With

JavaScript, users can click buttons, fill out forms, see animations, and receive messages without reloading the webpage. It also works together with HTML and CSS to create modern websites.

Dina : That sounds useful. So, HTML creates the structure, CSS improves the design, and JavaScript adds interactive features. I think learning these three technologies is important for Information Systems students.

Rafi : Exactly. Many companies need people who understand JavaScript because it is widely used in website and web application development. I hope we can practice together and build our own website for our final project.

Unit 5 Malware

How malware infects a computer

Hello, everyone. Today, I would like to explain what malware is and how it infects a computer.

Malware is harmful software that can damage a computer or steal important information. There are different types of malware, such as viruses, worms, ransomware, and spyware.

Malware can enter a computer in several ways. A user may download an unsafe file, open a suspicious email attachment, click a dangerous link, or install software from an untrusted website. After entering the computer, the malware begins to spread. Some malware deletes files, while others steal personal data or slow down the system. Some types of malware can even lock a computer and ask the user to pay money to unlock it.

To protect a computer, users should install antivirus software, update the operating system regularly, and avoid opening unknown files or links. Safe online habits can reduce the risk of malware attacks.

Thank you for listening.

Unit 6

Dialogue: Computer Hardware and Devices

Alya : Hi, Bima. I'm reviewing computer hardware for tomorrow's class. Can you help me?

Bima : Of course. Computer hardware is the physical part of a computer. For example, the keyboard, mouse, monitor, CPU, printer, and scanner are all hardware devices. Each device has a different function.

Alya : I understand the keyboard and mouse, but what is the difference between an input device and an output device?

Bima : Input devices, such as the keyboard, mouse, and scanner, are used to enter data into a computer. Output devices, such as the monitor, printer, and speakers, display or produce information for the user.

Alya : Thanks, Bima. Now I know that every hardware device has an important role, and they all work together to help the computer perform different tasks.

Unit 7 Monologue: Types of computer network

Hello, everyone. Today, I would like to talk about the types of computer networks.

A computer network is a group of computers and devices that are connected to share information and resources. There are several types of computer networks.

The first type is a Local Area Network (LAN). A LAN connects computers in a small area, such as a classroom, an office, or a school. It is fast and easy to manage.

The second type is a Metropolitan Area Network (MAN). A MAN connects several LANs within a city or a large campus.

The third type is a Wide Area Network (WAN). A WAN covers a large geographical area and connects computers across different cities or countries. The Internet is the largest example of a WAN.

Each type of network has a different size and purpose. Choosing the right network helps people communicate, share files, and access information more efficiently.

Thank you for listening.

Unit 8 Dialogue: Steganography in Today's World

Nanda : Hi, Dika. Our lecturer talked about steganography today, but I'm still curious. Is it really used in everyday life?

Dika : Yes, it is. Steganography is used to hide secret information inside digital files such as images, audio, or videos. People use it to protect sensitive data and support secure communication.

Nanda : That's interesting. So, the file looks normal, but it actually contains hidden information that other people cannot see?

Dika : Exactly. It is useful in areas like cybersecurity, digital copyright protection, and confidential communication. However, some criminals also misuse it to hide malicious data, so experts need to detect it.

Nanda : I understand now. Steganography is a powerful technology that can improve information security when people use it responsibly.

Unit 9

Hello, everyone. Today, I would like to talk about how people protect data with cryptography, both in the past and today.

Long ago, people used simple codes to keep messages secret. They replaced letters with other letters or symbols so that only the right person could read the message. This method was often used by kings, soldiers, and government officials during wars.

Today, cryptography is much more advanced. Computers use mathematical algorithms to encrypt data. When you send a message, shop online, or use mobile banking, your personal information is protected by encryption. Only people with the correct key can read the original data.

Although the technology has changed, the main purpose of cryptography is still the same: to keep information private and secure. As technology continues to develop, cryptography becomes more important in protecting our digital lives.

Thank you for listening.

Unit 10

Dialogue: How Young People Use the Internet Today

Alina : Hi, Rian. I think young people spend a lot of time on the Internet these days. What do they usually use it for?

Calder: You're right. Many young people use the Internet to study, watch online videos, join virtual classes, communicate with friends, and search for information. Some also use it to shop online or create digital content.

Alina : I often use the Internet to complete my assignments and learn new skills. I also watch programming tutorials on YouTube and read technology blogs.

Calder: That's a good way to use it. However, we should also be careful because there is false information, online scams, and cyberbullying. It is important to use the Internet wisely and protect our personal information.

Alina : I agree. The Internet is a powerful tool, but we should use it responsibly to learn, communicate, and improve our skills.

Unit 11 history of email

Hello, everyone. Today, I would like to talk about the history of email.

Email, or electronic mail, is one of the oldest ways to communicate on the Internet. Before email, people sent letters through the post office, and it often took several days or even weeks for a message to arrive.

The first email was sent in **1971** by an American computer engineer named **Ray Tomlinson**. He created a way to send messages between computers. He also introduced the "@" symbol to separate the user's name from the computer's address. Today, this symbol is used in every email address.

As the Internet became more popular, email became an important communication tool. People use email to send messages, documents, photos, and files. Schools, universities, companies, and government offices use email every day because it is fast, convenient, and reliable.

Although many people now use instant messaging apps, email is still important for formal communication, business, and education.

Thank you for listening.

Unit 12

How a website work

Hello, everyone. Today, I would like to explain how a website works.

When you type a website address into your browser and press Enter, your computer will send a request to a web server. The server will find the information and will send it back to your browser. Then, the browser will display the website on your screen.

If you click a link, the same process will happen again. The browser will request a new page, and the server will respond with the correct data.

In the future, I am going to learn more about web development. I am going to build my own website using HTML, CSS, and JavaScript. I believe these skills will help me become a successful Information Systems professional.

Thank you for listening.

Authors

Sri Rejeki is an English lecturer at Universitas Bina Sarana Informatika. She is passionate about helping students use language to connect, to grow, and to create opportunities. Her journey has taken her from the classroom in Indonesia to the Harvard Kennedy School in the United States as a Fulbright scholar, and to Dili, Timor Leste, where she was assigned by the Ministry of Education and Culture to teach at the Indonesian Cultural Center. With a Bachelor's degree from Universitas Ahmad Dahlan and a Master's degree from Universitas Sebelas Maret, she now focuses on ESP, BIPA, language assessment, educational technology, and entrepreneurship. As both a lecturer and a practitioner, she believes that language is not just a skill, but a bridge to a better future. She lives by one simple idea: when we find our voice, we can change our world.

Cindyra Galuhwardani, S.Pd., M.Pd., was born in Pontianak on December 5, 1994. The second of two children, she was raised in a humble family that deeply valued education, hard work, and perseverance. Her academic journey began with undergraduate studies in English Language Education at Universitas Muhammadiyah Purwokerto in 2012. Driven by a passion for education, she subsequently pursued a master's degree in English Language Education at Universitas Ahmad Dahlan, Yogyakarta. In 2019, she gained a valuable opportunity to participate in a student exchange program in the Philippines, focusing on academic writing and thesis completion through collaboration with faculty members from the University of Saint Anthony (USANT). This international experience broadened her academic horizons and strengthened her competence in the fields of education and research. Since 2022, she has served as a

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Dwi Iswahyuni was born on March 30, 1991. She earned her Bachelor's degree in English Education from Universitas Negeri Semarang in 2013. She then continued her study in the same field and at the same university. She completed her Master's degree in 2017. Her professional career began in 2014 as an English teacher. Since 2018, she has been serving as an English lecturer at Universitas Bina Sarana Informatika. She is deeply passionate about English Language Teaching, including English for Specific Purposes (ESP).