

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

**O. M. BEKETOV NATIONAL UNIVERSITY
of URBAN ECONOMY in KHARKIV**

Methodical recommendations
for practical classes
on an academic discipline

“FOREIGN LANGUAGE FOR PROFESSIONAL PURPOSES”

Part I

*(for first-year full-time students first (bachelor's) level of higher education
specialty 122 – Computer Sciences, 126 – Information systems and technologies,
174 – Automation, computer-integrated technologies and robotics)*

**Kharkiv
O. M. Beketov NUUE
2024**

Methodical recommendations for practical classes on an academic discipline “Foreign language for professional purposes”. Part 1 (for first-year full-time students first (bachelor’s) level of higher education specialty 122 – Computer Sciences, 126 – Information systems and technologies, 174 – Automation, computer-integrated technologies and robotics) / O. M. Beketov National University of Urban Economy in Kharkiv ; comp. : O. V. Havrylova, O. O. Hnatysheva, O. L. Ilienکو. – Kharkiv: O. M. Beketov NUUE, 2024. – 42 p.

Compilers: O. V. Havrylova,
O. O. Hnatysheva,
O. L. Ilienکو

Reviewer PhD in Philology sciences L. V. Shumeiko

Recommended by the department of foreign philology and translation, record № 5 on December 1, 2023

CONTENTS

UNIT 1 COMPUTER USERS	4
Exercises	7
UNIT 2 COMPUTER ARCHITECTURE	8
Exercises	12
UNIT 3 COMPUTER APPLICATIONS	13
Exercises	15
UNIT 4 PERIPHERALS	16
Exercises	19
UNIT 5 OPERATING SYSTEM	20
Exercises	21
UNIT 6 GRAPHICAL USER INTERFACES	23
Exercises	26
UNIT 7 APPLICATIONS PROGRAMS	28
Exercises	31
UNIT 8 MULTIMEDIA	34
Exercises	36
UNIT 9 NETWORKS	37
Exercises	39

UNIT 1

COMPUTER USERS

A **computer** is a device that processes **data** according to a set of instructions known as a **program**. The equipment is known as the **hardware** and the programs and data are the **software**. A special set of programs, called an **operating system**, provides an interface for the user and allows **applications programs** to communicate with the hardware. Common applications programs include **word processors** for creating and editing texts, **spreadsheets** for calculating mathematical formulae and **ddatabases** for storing data in a way that allows the data to be sorted and searched. **Anti-virus programs** are used to detect and remove **viruses** (harmful programs that can reproduce themselves and attach themselves to other programs). Some operating systems have **graphical (user) interfaces** that allow the computer user to select items from **menus** (lists of choices) and to start programs using an input device called a **mouse**. This is done by pressing a button on the mouse i.e. **clicking** the mouse. The main device for inputting the data is a typewriter-style **keyboard** and the output is commonly displayed on a **monitor** screen that looks like a small television screen.

There is a range of sizes and types of computers. Those designed for use by one person at a time are known as **personal computers (PCs)** although the term PC is usually only applied to personal computers that are compatible with the standards laid down by the company known as **IBM** (International Business Machines). Personal computers include **desktop computers** (for use on an office desk) and **handheld computers** that can be carried around by the user. Electronics can be added to desktop computers by plugging in **expansion cards** (electronic circuit boards that can be plugged into special sockets called **expansion slots**).

It is also possible to build all the main parts of a computer into one electronic integrated circuit packaged as a single electronic chip (the common name for a microchip; an electronic integrated circuit in a small package) i.e. the '**computer on a chip**'. This enables computers to be built into other devices including household devices such as washing machines and fridges and to be incorporated into plastic

cards i.e. **smart cards**, which are able to store information such as health records, drivers' licences, bank balances, etc. Devices that include a computer circuit are commonly referred to as **smart devices**. A **multimedia computer** can process different forms of data including text, graphics, **audio** (sound), animation and video. This enables computer systems to be used for a combination of education and entertainment, sometimes referred to as **edutainment**.

Unlike most machines, computers do not have a fixed purpose. They are multi-purpose tools. They can be used in a very wide variety of situations and are found in a wide range of systems including security systems, cars and phones. Advanced systems, known as **expert systems**, enable computers to 'think' like experts. Medical expert systems, for example, can help doctors diagnose an illness and decide on the best treatment. As computer systems are developed, they are becoming more common and are gradually being used for more and more purposes. How they are developed, and for what purposes they are actually used in the future, can be influenced by computer users. A variety of devices known as **peripherals** can be added externally to a computer. One of the most common peripherals is a **printer** used for printing the computer **output** (the processed data or signals that come out of a computer system) on paper. A **digital camera** allows photographs to be input to a computer for editing.

Not all computer systems are **compatible** i.e., they cannot use the same programs and data. Connecting computers together to form a **network** can provide the '**connectivity**' required to enable computers and software to communicate and to share resources. Networks connected together form an **internet**. The connection of networks throughout the world is known as **the Internet** (note that a capital I is used) or, more simply, **the Net**. Various communication services are available on the Internet, including **email** (electronic mail) for sending and receiving text messages and **IRC** (Internet Relay Chat) which allows users to communicate using text messages in **real-time** i.e. without any delay, while the users are **logged on** (connected to a network system account, normally using a password) to the system. An Internet service called **FTP** (File Transfer Protocol) is used for transferring data

or program files between the powerful **server** computers that provide the network services and the **client** computers that use these services e.g. **downloading** music files. Note that copying data from a larger server system to a client is referred to as downloading and copying from the client to the server is known as **uploading**.

One of the newest and most popular services available on the Internet is **the World Wide Web (WWW)** which is often simply referred to as the Web (note the use of the capital W). **The Web** contains interlinked documents called **webpages**. A set of related webpages stored together on a server computer is called a **website**. Websites, such as Dogpile and Ask Jeeves, give the user access to special programs called **search engines** that are designed to allow the user to find relevant webpages on the Web. An Internet system designed to provide free, interactive access to vast resources for people all over the world is sometimes referred to as an **information superhighway**.

Services such as these allow people to **telecommute** (use their computers to stay in touch with the office while they are working at home). Computer uses mentioned in this unit include producing greetings cards; learning, using three-dimensional graphics programs called 'Splat the Cat' and 'Pets 3'; using the Microsoft Word word processing program including features such as **clipart** (ready-drawn graphic images that can be inserted into documents); communicating on the Internet using email and chat programs including the use of **email attachments** (other types of files e.g. video files attached to simple email text messages); distance learning and **videoconferencing** (a form of communication over a network that uses video cameras so that the people taking part can see and hear each other); electronic classrooms or boardrooms; **browsing** the Web (moving from webpage to webpage using a Web browser program); selling, using a website; painting; scanning pictures; downloading music and creating **CD-ROMs** (compact disk read only memory, commonly referred to as **CDs**). CD-ROMs are storage devices that use laser light for reading and writing data. The most common storage device is a **hard disk** (a set of aluminium disks coated in a magnetic material and enclosed in a vacuum-sealed case)

used for storing the operating system and applications programs as well as the user's data.

Exercises

1. Explain the meaning of the words in bold.

2. Describe common computer uses such as: word processing, sending emails, downloading music, browsing the Web.

3. Answer the following questions:

1. Do you have a computer at home/at college?
2. Do you have access to any network?
3. What do you use computer for?
4. Do you use the Internet? Which search engine did you use?
5. Have you ever fitted an expansion card? Which type did you fit?
6. Have you ever replaced a hard disk? What model did you replace?
7. Have you ever fixed a printer fault? What kind of fault was it?
8. Have you ever made your own website? How did you design it?
9. Have you ever had a virus? Which virus did you have?
10. Have you ever written a program? Which language did you use?

4. How do you think these professions might use computers?

Architects, interior designers, farmers, landscape gardeners, musicians, rally drivers, sales people.

5. Complete each gap in these sentences with the appropriate form of correct verb (*up-* and *-up* verbs) from the list:

Back up Build up Catch up Free up	Keep up Set up Start up	Update Upgrade Upload
--	-------------------------------	-----------------------------

1. To avoid losing data, you should _____ your files regularly.
2. You can _____ your PC by adding a new motherboard.
3. Delete some files to _____ space on your hard disk.
4. Data is _____ from regional PCs to the company's mainframe each night.
5. The operating system boots when you _____ your computer.
6. She's taking a course to _____ her knowledge of computing.
7. The computer checks the memory when it _____.
8. He _____ a website to advertise his travel company.
9. You can _____ with developments by reading PC magazines.
10. If you miss a class, you can study the hand-outs to _____.
11. The image in a digital camera is _____ from red, green and blue image.

6. Give an advice. My PC crashed. I had to replace the hard disk and My PC has crashed. Can you advise me what to do?

UNIT 2

COMPUTER ARCHITECTURE

There are different types of computers of varying size and power, including the following:

- **supercomputer** (the most powerful type of mainframe);
- **mainframe** (large, very powerful, **multi-user** i.e. can be used by many people at the same time, **multi-tasking** i.e. can run many programs and process different sets of data at the same time);
- **minicomputer** (smaller than a mainframe, powerful, multi-user, multi-tasking);
- **personal computer (PC)** (single user);
- **desktop computer** (suitable size for sitting on an office desk);
- **workstation** (most powerful type of desktop, used for graphic design, etc.);

- **portable** (can be carried around, can operate with batteries);
- **laptop** (large portable, can be rested on user's lap);
- **notebook** (size of a sheet of notebook paper);
- **handheld** (can be held in one hand);
- **pen-based** (main input device is an electronic pen);
- **PDA** (personal digital assistant, has functions such as task lists, diary, address book).

Note that the term PC usually refers to an IBM compatible personal computer i.e. an Apple Mac personal computer is not referred to as a PC. A computer that provides a service on a network e.g. storing files, sharing a printer, is known as a **server** computer. Server computers usually have a **UPS** (uninterruptible power supply) attached to them. This is a battery that automatically provides an electricity supply to allow the server to shut itself down properly if the main supply fails.

The **processor** e.g. Pentium, is the most important part of the computer. It processes the data and controls the computer. Powerful computers used as servers often have more than one processor. There are two main types of **memory**:

- a) **RAM** (random access memory) holds the program instructions and the data that is being used by the processor;
- b) **ROM** (read only memory) holds the program instructions and settings required to start up the computer.

The combination of the processor and memory is sometimes referred to as the CPU (central processing unit), although sometimes the processor itself is referred to as the CPU. The other parts connected to the **CPU** are known as **peripherals**. These can include input devices, output devices, storage devices and communications devices. **Input devices** include: keyboards, scanners, barcode readers, digital cameras, microphones and video cameras e.g. webcams (small digital video cameras used on the Web). **Output devices** include: **monitors** (VDU display screens), printers, plotters, loudspeakers, headphones. **Storage devices** include: magnetic tape, **floppy disks** (diskettes), hard disks, CD-ROMs, CD-R disks, CD-RW disks, DVDs and MO disks. A common **communications device** is a **modem** (a

modulator/demodulator used for converting digital signals to analogue signals and vice versa to allow a computer to be connected to the ordinary telephone system).

A set of connectors used for carrying signals between the different parts of a computer is known as a **bus**. Data is transferred constantly between the processor and memory along the **system bus**. Each part of memory has its own **memory address** and the processor determines where processed data is stored by sending an address signal along an **address bus** and data along a **data bus**. This is synchronised by an electronic **clock** in the CPU that determines the operating speed of the processor. Transferring data between the processor and RAM can slow up the computer; therefore, some very expensive, extremely fast memory is usually used as a **cache** to hold the most frequently used data.

In a desktop computer, the CPU (central processing unit) and **storage devices** (pieces of equipment used for reading from and writing to a storage medium) are normally built inside a **system unit** which consists of a metal chassis enclosed in a flat desktop or a tower shaped case. Other peripherals are attached to the system unit by cables. Each peripheral uses its own **driver card** or **controller** (an expansion card that is plugged into special **expansion slots** in the system unit). **Expansion cards** contain the electronics required to communicate with and control the device e.g. **video** or **graphics cards** are used for monitors, **soundcards** are used for audio input/output and **NICs** (network interface cards) are used for connecting to other computers in a **network** (computing devices connected together). Extra memory can also be added to the computer using special **memory expansion slots** inside the computer. A portable computer that does not have enough space inside to fit expansion cards may use an external device called a **port replicator** to provide connections for peripherals.

Storage devices in the form of a **disk** or **tape** are used for store the programs and data that are not being used. Note that the American spelling of disk is commonly used, although the British spelling, disc, is sometimes used. Before a program or data can be used, it must be transferred from the Storage device to the main RAM

memory. **Hard disks** consist of a set of magnetic coated metal disks that are vacuum-sealed inside a case to keep out the dust. The magnetic surfaces of the disks are **formatted** using a **read/write head** to provide magnetic storage areas. These storage areas form concentric circles called **tracks** and each track is subdivided into sections called **sectors**. The disks are rotated at high speed and read from or written to by the read/write head that moves across the surface of the disks. In server computers, hard disks can be connected together and made to operate as one unit using **RAID** (a redundant array of inexpensive disks). This can speed up the system and provide a way of recovering data if the system crashes (fails suddenly and completely, usually referring to the failure of a hard disk). There is a variety of optical storage devices that use laser light to read or write to a disk, including: **CD-ROMs** (compact disk read only memory), **CD-R** (recordable compact disk), **CD-RW** (re-writable compact disk), **DVD** (digital versatile disk — previously known as digital video disk).

An input device called a **barcode reader** is a special type of **scanner** for reading **barcodes** (a set of printed bars of varying thickness that are used to identify a product e.g. used to price items in supermarkets).

When comparing computers, the **power** of the computer is important. This is mainly determined by the **speed** and **capacity** (size) of each part of the computer.

Speed is measured in **hertz** (Hz) i.e. cycles per second.

Capacity is measured in **bytes** (B) where 1 byte = 8 **bits** (binary digits) = 1 character.

When specifying a computer, the following are normally quoted:

- a) the speed of the processor (MHz – megahertz, GHz – gigahertz);
- b) the capacity (size) of the memory (MB – megabytes);
- c) the capacity (size) of the **magnetic storage devices** e.g. hard disk, floppy disk (MB — megabytes, GB – gigabytes);
- d) the speed of the **optical storage devices** e.g. CD-ROM, DVD (given as a multiple of the speed of the first devices produced e.g. 24x = 24 times, 12x = 12 times);
- e) the display monitor size (measured in inches diagonally across the screen surface);

f) the monitor image quality (**resolution**) given by the number of **pixels** (picture elements) that are used across and down the screen e.g. 800 x 600, or by the graphics standard used e.g. **VGA** (video graphics array), **SVGA** (super video graphics array);

g) the graphics card memory size (MB - megabytes);

h) the speed of the modem (measured in kbps – kilobits per second).

Two different number systems are used in computer specifications:

a) the **decimal system**, which consists of ten digits from 0 to 9, is used for measuring speed.

b) the **binary system**, which only has two digits (1 and 0), is used for measuring capacity.

Communication is provided between **applications programs** (word processors, drawing programs, etc.) and the computer **hardware** (the physical components of a computer system) by a set of programs collectively known as the **operating system** e.g. Microsoft Windows, MacOS.

Exercises

1. Explain the meaning of the words in bold.

2. Name types of computers and computer features.

3. What do these abbreviations mean?

CD-ROM, TFT, MB, GHz, AGP, SDRAM, SVGA.

4. Answer the following questions: What is it for? What does it do? What is it used for? What is its function?

a) ROM;

b) RAM;

c) cache.

5. Describe the function of these items:

RAM, the processor, the mouse, the clock, the 3,5 floppy drive, the monitor, the keyboard, the DVD-ROM drive, cache, ROM.

6. Fill in the gaps.

chips dual core megabytes megahertz
motherboard processor speed upgraded

Processors and memory

The “brain” of a computer is the _____. Most of these are made by Intel and AMD, and are

sometimes referred to as “_____”. The fastest processors are _____, which means that there are two processors working together. The _____ of a processor is measured in _____, which is usually written as MHz .

A computer’s memory is measured in _____. If a computer has 1,024 megabytes of memory, and the memory type is SDRAM, this is written as 1,024 MB SDRAM, and is pronounced “a thousand and twenty-four megabytes ess-dee-dram”.

The processor and memory modules are located on the _____. Changing a computer’s processor is not generally practical, but the memory can usually be _____.

UNIT 3

COMPUTER APPLICATIONS

As computer systems become more intelligent, they are used in a wider variety of work situations where previously it was necessary to employ people. Hospitals can increasingly use computers where highly trained people were required to deal with life-threatening situations. Computers can also be used in airports where highly

trained experts were previously required to ensure safety and the police can make more use of computers to detect and investigate increasingly sophisticated crimes.

One of the uses considered in this unit is police **speed traps** used to catch drivers that are breaking the official speed limit. In earlier systems, **radar** equipment was used to bounce radio waves off the moving car. A small processor, known as a **microprocessor**, calculated the speed of the car from the changes in the radio waves and triggered an ordinary camera with a flashgun to take a photograph of the car if it was speeding.

The details were stored on a smart card (a plastic card with a built-in computer system that can store large amounts of data). When the **smart card** was taken back to the police station, the driver's details were obtained from the **DVLC** (Driver and Vehicle Licensing Centre) **database** i.e. the central computerised records of all licensed drivers and vehicles.

Newer systems prevent '**surfing**' i.e. where the driver only slows down as they pass through the speed trap, by using two computerised units with digital cameras placed at a fixed distance apart. Each unit records the time that a vehicle passes it, as well as photographing and identifying the car licence number using **OCR software** (optical character recognition software that changes picture images of letters and numbers into digital form for use by a computer system).

The computer then uses the difference in recorded times to calculate the speed of the vehicle. The registration numbers of vehicles exceeding the speed limit are immediately **downloaded** (copied from the computer to a server computer) to the computer at police headquarters where each vehicle is matched with the DVLC database. Standard letters are then printed off addressed to the vehicle owners using **mail merge** (a word processing feature that produces a separate standard letter containing details obtained from each record in a database).

There are many ways in which computer systems can be used in large supermarkets, particularly for financial calculations and in stock control using **EPOS tills** (electronic point of sale cash tills). Each item on a supermarket shelf has a **barcode label** with a **barcode** (a standard set of vertical bars of varying thickness

used to identify products) printed on it. The barcode number system giving standard price and item code numbers used throughout Europe is known as **EAN** (European Article Number). The barcodes are read by scanner devices called **barcode readers** that are attached to the EPOS tills. When a checkout operator moves the barcode label across the scanner, the label is scanned and the barcode number for that item is read. The scanner signals are converted to a digital form (where the changing signal is either off or on) and sent to the supermarket branch computer. The branch computer checks the **digital** EAN code against a computer **database** (a type of applications program used for Storing information so that it can be easily searched and sorted) that holds a record of each type of item. In this way the item and the price of the item can be identified and the sale of the product can be recorded by the computer. The item and the price are shown on the EPOS till display and printed on a paper receipt.

Computers are also used to provide cash to users and to process bank cards such as Visa cards using an **ATM** (automatic teller machine — the type of machine used by banks for enabling customers to withdraw money from their bank accounts).

Exercises

1. Explain the meaning of the words in bold.

2. What do these abbreviations mean?

DVLC, OCR, EPOS, EAN, ATM.

3. In what way can we use computer applications in:

- a) supermarkets;
- b) hospitals;
- c) airports;
- d) police headquarters?

4. Describe the process of ATM working.

5. Cross out the incorrect word.

Electronic payments. EPOS and EFTPOS

EPOS (electronic point of sale) terminals are **cash / money** registers found in retail **openings / outlets** such as shops and restaurants. They are connected to a **central / centre** computer, and data about **objects / goods** and services sold is entered into the terminals via keyboards, barcode readers, **touch / finger** screens etc. They are useful for stock management, and can produce itemised bills and **receipts / recipes**.

EFTPOS (electronic funds transfer point of sale) can also transfer **cash / funds** directly from the customer's bank account via a **debit / paying** card. They are now more common than EPOS terminals.

6. Rearrange the letters to make things which can be part of a workstation.

- | | |
|--------------|------------------|
| Tucmepor: | ___ computer ___ |
| 1) trirpen | _____ |
| 2) nasecnr | _____ |
| 3) kesd | _____ |
| 4) hacir | _____ |
| 5) nopelethe | _____ |

UNIT 4

PERIPHERALS

EPOS (electronic point of sale) tills used in supermarkets form part of a computer system with various input and output **peripheral devices** attached to the till, including: **electronic scales** for weighing produce, **barcode reader** for looking up prices using **barcodes**, **swipe card reader** for reading bank cards, **numeric keypad** for inputting prices manually, **LCD** (liquid crystal display) screen for outputting purchase details.

Digital cameras are gradually being developed that are as good as conventional cameras. They have various electronic devices inside, including:

a) **LCD** (Liquid Crystal Display) screen used as a view-finder and for viewing the pictures after they have been taken;

b) **CCD** (Charge-Coupled Device) consisting of thousands of **photo-transistors** (light-sensitive transistors – a transistor is an electronic switch). It creates the pictures as a set of dots or **pixels** (picture elements);

c) Memory cards e.g. **flash cards** – **solid state memory** (electronic integrated circuits, i.e. chips, used for storing the pictures).

There is no delay in getting pictures from digital cameras because there is no film requiring chemical processing. They can be attached to a computer to directly transfer pictures for editing using special software and unwanted pictures can be deleted. However, they cost more than conventional cameras and the quality is not quite as good. You also need to buy rechargeable batteries and a photo-quality colour printer with high printing costs for paper, ink, etc. Two important features when buying a digital camera are:

a) picture quality or **resolution**. The resolution of a camera is measured in pixels and given as two numbers, indicating how many pixels there are across the image and how many going down the image e.g. 1280 by 960 (or $1\ 280 \times 960$);

b) the number of pictures the camera can store. The higher the resolution, i.e. the more pixels, the more memory is required to store the pictures. Data can be compressed to allow more pictures to be stored.

Storage devices are used to store data and programs that are not being used by the processor. They usually consist of:

a) **storage media** in the form of a circular disk or a tape where the data is stored;

b) a **disk** or **tape drive** that moves the media past a **read/write head** that reads the data from and writes data to the storage media.

Types of storage devices include:

magnetic devices (that use magnetism)	floppy disks (diskettes) and magnetic tape made of a magnetic coated flexible plastic; hard disks made of magnetic coated aluminium disks
optical devices (that use laser light)	CD-ROM – compact disk read only memory; CD-R – recordable compact disk; CD-RW – re-writable compact disk; DVD-ROM – digital versatile disk read only memory; DVD-RAM – digital versatile disk random access memory
magneto-optical devices (that use a combination of magnetism and laser light)	CD-MO – magneto optical compact disk

Read only media enable the user to both read data from and write data to the media. **Read and write media** can only be used for reading data i.e. the stored data cannot be changed in any way.

Removable storage enables the user to change the media and transfer it to another computer.

Fixed storage does not allow the media to be changed or transferred to another computer.

Other factors that vary between storage devices include:

- a) the speed at which the drive moves the media past the read/write head and reads or writes data to the storage media;
- b) the capacity of the media i.e. how much data can be stored on each disk or tape;
- c) the cost of the drive and the media.

There are various types of **printers** for out-putting text and graphics to paper.

Some types of printers are **mono** (print in black and white only) and others can print in colour. The speed, quality and cost of printing varies between different types

of printer. Some are designed for printing text and are not really suited to printing graphics.

Data can take many forms and there is a wide variety of input, output, storage and communication **peripherals**.

Exercises

1. Explain the meaning of the words in bold.

2. What do these abbreviations mean?

LCD, CCD, CD-MO, CD-R, CD-ROM, DVD-ROM, DVD-RAM, CD-RW.

3. Name input devices, output devices, peripherals.

4. Describe the peripherals which can be connected with EPOS till.

Explain the functions of each peripheral.

5. Are these sentences True or False?

1. Greyscale images take up more disk space than colour images.

2. It's often preferable to scan line drawings as black and white images rather than greyscale images. This takes up less disk space, and produces sharper lines. This type of image is also known as line art.

3. On most computers, you can view photos as a slideshow – each photo is shown for a few seconds.

4. You can also view photos as fingernails – small versions of the photos, with lots shown on the screen at the same time.

5. A vector image (for example, a clipart image) can be expanded to any size without loss of resolution. A bitmap image (for example, a photo) is made of pixels, so it loses resolution when it is expanded.

6. Fill in the gaps.

Adjust all-in-one at preview (or prescan)
brightness connected contrast file format
image editing software original click
text dpi (stands for dots per inch (1 inch = 2,4 cm)).

OCR (stands for Optical Character Recognition)

How to scan a text

1. Make sure the scanner is _____ to the computer.
2. Lift the lid and put the _____ on the scanner glass.
3. For high image quality, scan _____ 300 _____ or higher.
4. The scanning software will automatically do a _____.
5. If the image is too dark or too light, you can _____ the _____ and _____.
6. _____ “scan”.
7. If you scanned _____, it can be “read” by _____.
8. If you want to save the image, choose a _____. JPEG is a good choice for photos.
9. The scanned image can be manipulated using _____ software.
10. An _____ printer/scanner can print, scan and copy.

UNIT 5

OPERATING SYSTEM

The **OS (operating system)** is the set of computer programs that allow the user to perform basic tasks like copying, moving, saving and printing files. It also provides an **interface** between (i.e. provides communication between) **applications programs** (e.g. word processors or spreadsheets) and the computer hardware. As a user interacts with an applications program on the screen, the applications program communicates with the operating system and the operating system communicates with the computer hardware. The work of the operating system takes place in the background and is not always obvious to the user.

The most important program in an OS is the **supervisor program**. It remains in memory all the time that the computer is operating, and manages the OS. It loads other parts of the OS into memory when they are needed. Programs that remain in memory while the computer is in use are known as **resident programs**. Programs that only stay in memory while they are being used are known as **non-resident programs**.

Some operating systems are **command driven** (i.e. the user runs a program by typing a command). The screen is usually blank except for a symbol (e.g. \$) which acts as a **command prompt**. When the command is typed at the prompt and the Enter key is pressed, the command is processed and the output is displayed on the screen. OS commands are usually short words or abbreviations (e.g., date, logout, passwd, ls).

Unix is a command driven operating system used on all sizes of computers, but mostly large multi-user, multi-tasking mainframe computers. It is available in many versions, such as Linux, Minix, HP-UX, Xenix, Venix, Ultrix, A/UX, AIX, Solaris, and Power Open. Other command driven operating systems mentioned in this unit include: VAX/VMS, MVS VM 0S/390, NetWare, MS-DOS and PC-DOS.

Some operating systems have a GUI (pronounced like ‘goo-ey’ — **graphical user interface**) that allows the user to use a mouse to click on icons on the screen or choose commands from a list of choices known as a **menu**. Operating systems with graphical interfaces mentioned in this unit include: MacOS, OS/2, Pen point, Windows NT, Windows 3.x, Windows 9X and Windows 2000.

Exercises

1. **Explain the meaning of the words in bold.**
2. **Name all operating systems you know. Which are the most popular?**
3. **Compare Windows XP and Windows 11.**

4. Fill in the gaps:

adding	background	customising	
default	digital	displayed	
format	image	performance	
properties	screen	saver	
setting up	tasks	wallpaper	wireless

The control panel

The control panel provides options for **customising** the appearance of your computer screen, _____ or removing programs and _____ network connections.

When you get a new computer, perhaps the first thing you will want to do is set the date and time. You can also choose the _____ for dates and times. For example, November 4th 2007 can be _____ as 04–11–007, _____ 2007–11–04 or in various other formats.

You may wish to change the desktop _____ to a picture, for example a personal photo taken on a _____ camera. A picture on the desktop background is also known as _____.

If a computer screen shows the same _____ for a very long time, it can leave a permanent impression. To avoid this, you can choose a _____. This is usually a simple moving pattern which activates if the computer is not used for a set amount of time (for example, five minutes).

You can also use the control panel to set up or change internet and other network connections, including _____ network connections.

In fact, you can change most aspects of your computer's _____ through the control panel, such as the system _____, modem settings, scheduled _____, although most users prefer to leave on the _____ settings rather than changing them.

5. Match each word from Column A with its partner from Column B to make a computing term.

Column A	Column B
1) barcode	a) tray
2) mainframe	b) program
3) laser	c) bus
4) expansion	d) pane
5) search	e) computer
6) control	f) reader
7) supervisor	g) bar
8) task	h) card
9) system	i) engine
10) explorer	j) printer

6. Match the type of software with the definition:

1) trial version	a) A simplified version which is cheaper to buy
2) shareware	b) Software which is in the public domain . Anybody can use it without paying
3) freeware	c) The full version with all the features
4) home-use version	d) You can try it for a while for free. Then if you want to keep using it, you are expected to pay a small fee to the writer
5) professional version	e) You can use it for free for a while (often a month). When the trial period finishes, you have to pay, or the program will de-activate

UNIT 6

GRAPHICAL USER INTERFACES

A **user interface** allows a user to interact with searches for a word, filename, or a computer. In particular, a GUI (graphical user interface) allows the user to use a **mouse** to interact with the computer. **Microsoft Windows** (commonly referred to as Windows) is a common GUI used on **PCs** (IBM compatible personal computers). The main Windows background screen is called the **desktop**. Programs, files and folders are represented on the desktop by small images called **icons**. Using a mouse,

the user can move a pointer (**cursor**) across the screen. An icon can be **selected** by **clicking** the left mouse button (i.e. quickly pressing and releasing the button). By holding the pointer over an icon (**hovering**), a text box can be made to appear that explains what the icon represents. This text box is known as a **tooltip**. **Double-clicking** the mouse (pressing and releasing the button twice in quick succession) causes the program, file or folder represented by the icon to open in a rectangular box on the screen called a **window**. More than one window can be open at a time but the one with the focus is known as the **active window**. Windows can have a vertical **scroll bar** and a horizontal scroll bar to allow the user to move a document up and down or across the screen respectively. A user can **drag** a selected item from one part of the screen to another by holding down the left mouse button while moving the pointer. The user can then **drop** the item at the new location by releasing the mouse button.

Commands are displayed in a **menu bar** along the top of the window. Clicking on a command opens a list of choices known as a **menu**. Clicking on a menu item sometimes opens another related menu called a **submenu**. Common commands include:

Find	searches for a word, filename, or folder name
Undo	reverses the last action of the user
Cut	deletes the selected text, file or folder and copies it to a special area of memory called the clipboard
Paste	inserts the text, file or folder stored in the clipboard, at the location of the cursor

A bar, known as a **taskbar**, is displayed along the bottom of the desktop showing what programs, files and folders are currently open. At the far right of the taskbar is a special area called the **system tray** where icons are displayed showing what resident programs are continuously running in the background e.g. the system clock or a sound volume control. There is a **Start button** at the far left of the taskbar. When the Start button is clicked, the **Start menu** opens on the screen. The user can close down the operating system by choosing the **Shut Down** option on the Start Menu. A **touchscreen** allows the user to select icons and commands by touching the display screen with their finger instead of using a mouse. Graphical user interfaces

were first introduced with the Apple Mac OS. Other GUIs with desktops, icons, pointers, windows, menus and submenus are also available.

Common icons on the Microsoft Windows desktop include:

Microsoft Outlook	a messaging program
My Briefcase	a program that allows the user to exchange files with a portable computer and to synchronise the files on each computer
Network Neighbourhood or My Network Places	a feature that displays the names of other computers networked with yours
My Computer	a feature that lets you see the resources on your computer
Internet Explorer	a browser program that allows the user to view webpages on the Internet
Recycle Bin	a feature that stores deleted files and allows the user to restore them to their original location i.e. the equivalent to the trashcan on an Apple Mac system.

A + sign used between the names of keyboard keys means that the user should press both keys simultaneously e.g. ALT + TAB. Keyboard keys and combination of keys mentioned in the text include:

Shift key	allows you to type in upper case (capital letters)
MouseKeys feature	enables you to use the numeric keypad to move the mouse pointer
ALT + TAB	allows you to switch between open programs
Sticky Keys feature	helps disabled people to operate two keys simultaneously
PRINT SCREEN key	let's you copy an image of the whole screen to the Clipboard
ALT + PRINT SCREEN	let's you copy an image of the active window to the Clipboard

Exercises

1. Explain the meaning of the words in bold.

2. What keys combinations do you know? What do they mean?

3. Discuss the questions.

Can we use a computer without knowing any GUI? Does a GUI allow you to use a computer without knowing any operating system commands?

4. Describe GUI. What is GUI? What does it do? What is special about a GUI? Why were GUIs developed?

5. Choose the best words from each pair in bold.

Graphic design

1. It's usually possible to **import** / **introduce** Adobe PageMaker files into Adobe InDesign. The majority of graphic design applications can **export** / **send off** documents as PDF files, or as HTML web pages.

2. This box has a black **frame** / **outside**, also known as a "stroke". Inside the frame, the fill is a **fade** / **gradient** from dark grey to light grey. The difference between the two versions of "wave", is that **curling** / **kerning** has been applied to the top version.

3. A frame, graphic or block of text is known as **an object** / **a thing**. These are arranged in **levels** / **layers** – the top layer **overlaps** / **overruns** the layer below.

4. This image is **blurred** / **soft** at the edges (see unit 1.6 for the original). These 10 result / effects are also known as **feathering** / **birding**.

5. **Full bleed** / **total bleed** means that the page is printed right up to the edges – there are no white margins. The **snail** / **slug** area is the area outside the area to be printed where instructions for the printer are written.

6. This image has been **pulled** / **stretched** (see unit 2,8 for the original).

7. Before a document goes **to press / for printing**, it's essential to check the **examples / proofs** for errors.

8. Like desktop printers, most colour printing **machines / presses** print in four colours: cyan (light blue), magenta (dark pink), yellow and black. Before printing, a document must be divided into the four colours. this process is called colour **separation / division**. These separations are then turned into **plates / stamps** – one for each of the inks that will be used.

9. Prior to colour separation, coloured images, graphics and text have to be **transformed / converted** from RGB (Red Green Blue), the colour format of computer displays, to CMYK (Cyan Magenta Yellow Black) the colour format of printing presses.

10. The process of preparing documents from a graphic designer for the printing press is called **reprographics / reproduction**.

6. Which do you think is the best solution for each problem (more than one solution is possible for some of problems)?

1. I want to make a copy of a music CD.	a) You need an external hard drive.
2. I want to store some files. I may need to update them in the future.	b) Use a CD-R.
3. I want to back up data from my computer. I want to update it every day.	c) Try a USB flash drive.
4. My computer's having problems with reading and writing CDs.	d) Perhaps you need a new internal CD drive.
5. I want to add 100 MB of extra storage to my computer.	e) Put them on a CD-RW.
6. I want to send a copy of a small file to a friend. He has an old computer.	f) Perhaps you need to defragment the hard drive.
7. My computer's running slowly.	g) You could put it on floppy disk.

UNIT 7

APPLICATIONS PROGRAMS

Software is the word used to refer to **programs** (sets of computer instructions written in a computer language) and **data** that is input, processed and output by a computer system. **Applications programs** are programs that allow the user to do various types of work on a computer e.g. word processors, databases. A set of related applications programs is referred to as a **package** (or **suite**). Common applications programs include:

word processors	for creating and editing texts
spreadsheets	for performing calculations using formulas
databases	for storing data so that it can be easily searched and sorted
graphics	for drawing
games	for playing fast action games
accounts	for keeping business accounts
payroll	for calculating salaries
presentation program	for creating multimedia slide shows
email	for sending electronic mail messages
PIM (personal information manager)	for keeping track of appointments, address book, task list, etc.
DTP (desktop publishing program)	for creating publications to be printed by a professional printer
small business tools	for performing various business tasks
website editor	for creating and editing webpages
image editor	for editing graphic images
developer tools	for writing programs to add features to existing applications and creating integrated program systems

Some **applications programs**, such as word processors, spreadsheets and databases, are commonly referred to as **office programs** because they are commonly used in a typical office. **Office packages** (or **suites**) such as **Microsoft Office** are sets

of inter-related office programs. Different versions of office suites are usually available containing different combinations of programs. **Mail merging** is a useful feature found in most office suites that combines a database with a word processor document to automatically produce a copy of a standard letter for each record in the database.

A variety of computer **hardware** is used in the doctors' practice in this unit including:

PC	common name for an IBM compatible personal computer
network	computers connected together
file server	a powerful computer that stores and allows users access to data files on a network
laser printer	a very high-quality text and graphics printer that has a photosensitive drum that deposits toner powder on the paper
dot-matrix printer	a low-quality printer that prints by hammering pins on the paper to print an image made up of dots. The hammering action means that it can print on special multipart paper where a number of copies are produced at the same time.
CD-ROM	a compact disk read only memory storage device that is cheap to produce and suitable for storing large amounts of data

The **Patient Browser program (GPASS)** discussed in this unit is a type of **database** for sorting and searching patient records. To search, you select different option screens by clicking on a **tab** with a mouse and inputting the **search criteria** (details of what you are looking for) in text boxes known as **criteria boxes**. Different **button icons** can be clicked to perform different operations e.g. the Find button. The **default button** is the option that is selected automatically.

Tomb Raider is a popular adventure game that has appeared in various versions. The main character is represented by a female animated image, known as **Lara Croft**. The user follows a storyline in which they have to solve puzzles and

control the movements of the main character, sometimes having to react quickly to avoid dangerous obstacles. It is available on well-known **games consoles** (specialised games computers) called **PlayStation** and **Dreamcast** manufactured by a company called Sega.

SimCity is a **simulation program** (a program that simulates real life) in which the user has to develop a city by building roads and **3D** (three-dimensional) buildings, setting taxes, etc. They also have to control objects such as simulated cars and people. The user can **download** (copy from a server computer) additional objects and swap items with other users using a special website. The game is run on a computer called a **Commodore 64** (an early British type of personal computer particularly suited to games because of its excellent graphics facilities).

An **ASP (application service provider)** rents applications to users i.e. instead of buying software, the user pays for using applications as and when they need them.

The ASP provides the software, manages the hardware and provides storage space, security controls and the physical links to customers. The ASP normally leases storage space for programs and data from **data centres** (facilities for storing large amounts of information) owned by data storage specialists. The user is provided with **remote access** (access across a communications network) to a wide variety of programs including: generic applications such as email (electronic mail) and office suites, **high-end** (advanced) packages including large, complex business applications such as enterprise resource planning tools (e.g. **SAP**), business services, such as payroll and accounting systems, expensive specialist tools and **e-commerce** resources (electronic commerce — buying and selling on the internet).

This gives the user more flexibility and saves them having to install and maintain programs, **upgrade** (install newer versions of programs), deal with **viruses** (programs that can reproduce themselves and are written with the purpose of causing damage or causing a computer to behave in an unusual way) and manage **email systems** (electronic mail systems).

Disadvantages of this system include: the need for a **broadband** (high bandwidth i.e. a connection with a high signal capacity) network connection or a

leased line (a cable connection that is rented for use in a communications system) and dependence on the ASP to provide a secure, reliable, readily available service.

Exercises

1. Explain the meaning of the words in bold.

2. What do these abbreviations mean?

ASP, GPASS, PIM, DTP, 3D.

3. Recommend your friend a program. Explain your choice:

- a game;
- program for making presentations;
- program for sending electronic mail messages;
- program for keeping personal information.

4. Match the operations with the application types.

operation	Word processor	Spreadsheet	Image editor	Media player
1) select text	×	×		
2) save as JPEG				
3) insert table				
4) play				
5) touch up				
6) import photo				
7) exit				
8) copy from CD				
9) check internet for updates				
10) copy a block of cells				
11) insert text box				

12) page set-up				
13) optimise for internet				
14) uninstall				
15) add border				
16) insert bullet points				
17) convert to MP3				
18) paste into new document				
19) check spelling				
20) change text direction				
21) flip, crop and rotate				
22) sort				
23) alter formula values				
24) create playlist				
25) print				
26) clear all cells				
27) maximise window				
28) insert column break				
29) convert to greyscale				
30) open				

5. Match the actions in Column A with appropriate effects from column B.

Then join each action and effect using an *if*-sentence.

Column A	Column B
1) you press Print Screen	a) you can drag it across the screen
2) you press Ctrl+Alt+Del in Windows	b) it would speed up the computer
3) you added more money	c) you may lose data
4) you installed a modem	d) you would have more space at your desk
5) you used a better search engine	e) you would be able to connect to a telephone line

6) you forget to save regularly	f) you can make a copy of the screen
7) you hold down the mouse button over an icon	g) you would find more relevant results
8) you used an LCD display	h) it displays the Windows security dialog box

6. Match the words with the punctuation marks and symbols:

1) full stop	a) !
2) comma	b) @
3) exclamation mark	c) ,
4) question mark	d) &
5) single quotes	e) .
6) double quotes	f) =
7) dollar sign	g) 'Hello'
8) percentage sign	h) →
9) ampersand	i) *
10) asterisk	j) "Hello"
11) hash	k) _
12) brackets	l) -
13. left bracket	m) ?
14) square brackets	n) /
15) underscore	o) ()
16) hyphen	p) \$
17) plus sign	q) \
18) equals sign	r) []
19) colon	s) %
20) semicolon	t) (
21) "at" sign	u) #
22. forward slash	v) :

23) backward slash	w) +
24) arrow	x) ;

UNIT 8

MULTIMEDIA

Multimedia is the term used to refer to a combination of text, graphics, animation, sound and video.

MP3 (MPEG Audio Layer 3) is a standard way of storing compressed, digital audio files (usually music). **Digital audio** is created by sampling sound 44,000 times a second and storing a code number to represent each sound sample. The files are compressed by removing any sounds that are inaudible to the human ear, making them much smaller than files created using other digital audio storage standards, such as **WAV**. The size of an audio file is commonly measured in **megabytes** (MB) (millions of bytes). The frequency of a sound is measured in **kilohertz** (kHz) (thousands of cycles per second). MP3 files have extra code added, called **tags**, that give the user information about the file e.g. the performer's name, a **URL** (uniform resource locator i.e. a web address) or a graphic such as an album cover.

Because of their small size, MP3 files are more suitable for transferring across the **Internet** (the connection of computer networks across the world). Some Internet **websites** (sets of related pages stored on a Web server on the World Wide Web) are devoted to providing MP3 files for **downloading** (copying from a server computer to a client computer). The user can create their own music compilations (combinations of files) by listening to each file using a computer program, such as **Windows Media Player**, and choosing what files to download. They can then use a computer program called an **MP3 player** to listen to the files and control the sound. MP3 players let the user group songs into play lists and randomise the selections. They also have sound control features such as spectrum analysers, graphic equalisers, and frequency displays. A **track info button** allows the user to see the information stored in the MP3 file tag. The appearance of MP3 players can be changed using programs called **skins** (or **themes**). MP3 players often include a program, called a **ripper**, that lets the

user rip (extract) a song from a **CD** (compact disk) and convert it to a standard WAV file. Another program called an **encoder** is used to convert WAV files into MP3 files or vice versa. **Recorder programs** are also available that enable the user to create audio CDs using a writable CD-ROM drive. Special **MP3 player devices** are also available that enable the user to listen to MP3 files without a computer.

MIDI (Musical Instrument Digital Interface) is a standard way of connecting musical instruments, music synthesisers, and computers. A piece of electronics called a **MIDI interface board** is installed on each device to enable the device to communicate using MIDI standards. As music is being played, it can be displayed on a monitor screen as a musical score, then edited using a computer program that uses all the features of a **mixing desk** (an electronic device for mixing sounds together), stored and printed. MIDI systems do not store the actual sound. Instead, the sound is **encoded** (stored as **MIDI messages**) in the form of **8-bit bytes** (units of capacity equal to eight binary digits i.e. 1s and 0s) of digital information. A bit is a binary digit i.e. a 1 or a 0, and a byte is a group of 8 bits. The MIDI messages commonly consist of instructions that tell the receiving instrument what note to play, how long and how loud it should be played, including a number that indicates which instrument to play. Each instrument is represented by a different number e.g. 67 is a Saxophone.

A **DVD-ROM**, commonly referred to as a **DVD** (digital versatile disk — previously known as digital video disk), is a development of **CD-ROM** (compact disk read only memory). It is an **optical storage media** (a storage media that uses laser light to store data) that provides large amounts of storage space for multimedia files. A **DVD-ROM drive** (a storage device for reading DVD disks) uses blue laser light (rather than the red laser light used by CD-ROM drives) to read information from the disk. Both sides of the disk can be used for storing files and each side can have two separate storage layers. The **data transfer rate** of a DVD (the speed that data can be read from a DVD) is also faster than that of a CD-ROM. The capacity of a DVD is commonly measured in **gigabytes** (GB) (thousands of millions of bytes).

MPEG (pronounced em-peg) is a method of compressing and decompressing video signals. MPEG stands for Motion Picture Experts Group, an organisation that develops standards for audio and video compression.

Exercises

1. Explain the meaning of the words in bold.

2. What do these abbreviations mean?

MIDI, MP3, GB, MPEG, WAV, URL, MB.

3. Explain the meaning of each set of initials: MIDI, DVD, MPEG and MP3.

4. Complete the following sentences:

1. If you don't virus-check floppies, you could _____.

2. If there was a power cut while you were using your computer, you might _____.

3. If you install a faster processor, your computer can _____.

4. If you forgot your password, you would not be able to _____.

5. If you press the delete key, it will delete _____.

6. If you use a search engine, you might _____.

7. If you double-click on an icon, you will _____.

8. If you use power-saving options, you can _____.

5. Fill in the gaps:

data

developed

devices

enabled

signals

wireless

telecommunications

Bluetooth®

Bluetooth® technology enables _____ communication between _____ such as laptop computers, mobile phones and PDAs. Bluetooth®

_____ devices use short-range radio _____ to exchange _____ quickly and easily. The technology was _____ by a group of computers and _____ companies including IBM, Intel, Nokia and Ericsson.

6. Match the devices with the places you would find them:

1) cash dispenser / cash machine / ATM	a) at a supermarket checkout
2) barcode reader	b) connected to a pair of headphones
3) magnetic strip	c) in an office in 1975
4) MP3 player	d) in an office, school or copy shop
5) photocopier	e) in the hands of a tourist
6) telex machine	f) in the headquarters of a large company
7) video camera	g) on the back of a credit card
8) mainframe computer	h) outside a bank

UNIT 9

NETWORKS

Computers and **peripherals** (pieces of equipment that are connected to the central processing unit of a computer system) connected together form a **network**. Networks allow communication between computers and the sharing of **hardware** (such as printers) and **software** (programs and data). A network that covers a small area e.g. an office or building is known as a **LAN** (local area network). The main computers that provide services on the network are called **servers** e.g. a **file server** provides a central storage area for data files. The computers that use the services are known as clients. The computers can be connected using various types of cabling, including the ordinary telephone system wiring. A main data communications cable connecting LANs together is referred to as a **backbone**. Various electronic devices are also used to amplify, filter and determine the best path for the signals. These include **bridges** for dividing a LAN into separate parts or connecting similar networks together, **gateways** for connecting different types of networks and **routers**

for connecting different networks together and determining the best path (or **route**) for the signals. Routers are used to connect networks to form the Internet. A **modem** (modulator/demodulator) is used to convert signals from **analogue** (having a variety of levels) to **digital** (having only two levels, representing on and off) for connection to the ordinary telephone system. Alternatively, an **ISDN** (integrated services digital network) **adapter** or a **DSL** (digital subscriber line) **modem** can be used to allow digital signals to be used without being converted to analogue signals.

There are different standard methods of connecting computers in a LAN. One of the most common is known as **Ethernet**. Each computer must have a network adapter (special electronics to control the network connection). This is usually in the form of an expansion card known as a **network interface card** (NIC). All the computers are connected through another electronic device known as a **hub**. The electronics in the hub are used to amplify the signals to prevent them from becoming too weak before they reach the desired computer. The cable normally used to connect the computers to the hub is known as **twisted-pair cabling**. It contains two cables twisted together to eliminate interference from external signals. In a home network, the mains power cables built into the house can be used instead if electronic devices called **isolation adapters** are used to isolate the computer from the mains electricity running through the cable. In future, **wireless** networks will use a radio transmitter and receiver tuned to use the same radio frequency, instead of cabling.

In a **client/server network**, the main server computer provides the **services** (sharing of printers, programs or data, etc.) and the attached **client** computers can be normal computers or simple **terminals**. Terminals require the server to do most or all of the processing. A **thin client** (or thin terminal), such as a **Net PC**, has a processor that does some of the processing but a **dumb terminal** does not have a processor and all the processing must be done by the server computer.

One character of data is referred to in computing as a **byte**. In the **binary system** (a number system that only uses two digits i.e. 1 and 0) used in computers, a byte is made up of 8 **bits** where a bit is a 1 or a 0. When data is transmitted through a network system, it can be transmitted in different ways. **Asynchronous transmission**

(or stop-start transmission) sends the data one byte (or character) at a time. A **start bit** (called a **control bit**) is added to indicate the beginning of each byte and another control bit called a **stop bit** is added to indicate the end of each byte. **Synchronous transmission** sends the data in blocks. Extra bytes of data called **synch bytes** are added at the beginning and end of each block. They are used to synchronise the sending and receiving devices.

When a message is transmitted through a network, it is processed in various ways by the software and the hardware. It is first processed by the applications program e.g. an email program, and then it is processed by the operating system. It is then processed by the hardware such as the network interface card and finally by the network electronics e.g. a router, as it passes through the network system. When it arrives at its destination, it is similarly processed in reverse order to display the message on the display screen of the receiving computer.

Exercises

1. Explain the meaning of the words in bold.

2. What do these abbreviations mean?

LAN, NIC, DSL, ISDN.

3. Speak about advantages and disadvantages of the wireless networks.

Give an advice how to minimize disadvantages.

4. Fill in the gaps:

intranet

Local

log onto

network card

satellite

server

terminals

WAN (Wide Area Network)

LAN

LAN is pronounced “Lan”, and stands for _____ Area Network. In a typical LAN, there is a central network _____ which supports a number of _____. Users have to _____ the network server. Pages of information that can be viewed within a LAN are called an _____. A number of LANs connected to each other via _____ or other form of _____ communication are called a _____. To be used as network terminals, each computer needs to have a _____ installed.

5. Choose the correct preposition. Then match the problem with the solution.

Problems with software:

1. The operating system in / on my computer doesn't support the latest version of / from this application.	a) You can download one for free to / from the internet.
2. These files are too big.	b) Perhaps you could get an older version – or buy a new computer!
3. My computer says it hasn't got enough memory for / to run this program.	c) What about uninstalling the driver for your old printer?
4. I can't understand this program. It's too complicated.	d) Have you checked to see if there are any updates available in / on the internet?
5. I think there's a bug in / inside this software.	e) Why don't you close off / down all those other applications you've got open?
6. There doesn't seem to be an icon for the program in / on the desktop.	f) You can get a manual. I've seen one in the local bookshop.
7. I can't use this program. It's all in / with French!	g) How about compressing them with / by WinZip?

8. I can't get the driver for my new printer to / at work.	h) Go to / on the "start" menu, and click at / on "All Programs".
9. I haven't got a media player in / on my computer.	i) Change the language setting.

6. Fill in the gaps:

contract

installed

networks

operators

pay-as-you-go

SIM card

roaming

tariffs

top up

users

Mobile Phone networks

In Britain there are several mobile phones _____ including Vodaphone, O2, T-Mobile and Orange. There are also _____ like Virgin Mobile who use the network of another company.

When you buy a cell phone, you have a choice of _____. The most popular is "_____";

with customers paying for their calls in advance. They can _____ their accounts in shops, over the internet, and at cash machines. Heavy _____ may prefer a _____. They pay a fixed amount every month, but the calls are much cheaper than they are for pay-as-you-go customers.

Mobile phones usually come with a _____ already _____. If you take the phone abroad, you may be able to use it on a local network. This is called "_____".

It can be expensive, and it may be cheaper to buy a foreign SIM card.

Електронне навчальне видання

Методичні рекомендації
до проведення практичних занять
із навчальної дисципліни

«ІНОЗЕМНА МОВА ЗА ПРОФЕСІЙНИМ СПРЯМУВАННЯМ»

*(для здобувачів першого курсу денної форми навчання першого (бакалаврського)
рівня вищої освіти зі спеціальностей 122 – Комп'ютерні науки,
126 – Інформаційні системи та технології, 174 – Автоматизація,
комп'ютерно-інтегровані технології та робототехніка)*

(Англ. мовою)

Укладачі: **ГАВРИЛОВА** Олена Валентинівна,
ГНАТИШЕВА Ольга Олександрівна,
ІЛЬЄНКО Олена Львівна

Відповідальний за випуск *О. А. Попова*
За авторською редакцією
Комп'ютерне верстання *Є. Г. Панова*

План 2023, поз. 494М

Підп. до друку 31.01.2024. Формат 60 × 84/16.
Ум. друк. арк. 2,4.

Видавець і виготовлювач:
Харківський національний університет
міського господарства імені О. М. Бекетова,
вул. Маршала Бажанова, 17, Харків, 61002.
Електронна адреса: office@kname.edu.ua
Свідоцтво суб'єкта видавничої справи:
ДК № 5328 від 11.04.2017.