

***Operating System**

1.What is OS?

An OS is a master control program which controls the functions of the computer system as a whole and the running of application programs

2. The most popular OS are: The Windows family, Mac OS, Macintosh computers, Unix, Linux, Windows Mobile, Palm OS, RIM, The Symbian OS

***Computer**

1.What is computer?

Computers are electronic machines which can accept data in a certain form, process the data and give the results of the processing in a specified format as information

2. How many type of computer do you know? What are they?

4 -> Supercomputer, mainframe computer, mini computer, micro computer

3.How many parts of computer? What are they?

8 -> hard disk drive, motherboard, memory chip, powerful supply, processor, speaker, expansion cards, floppy drive

4. How many main parts does a computer have? 2

-Computer hardware

-Computer software

5. What is a computer hardware?

Is the physical part of a computer, as distinguished from the computer software which executes or runs on the hardware.

6.What is a computer software?

Is a set of instructions for a computer to perform specific operations

7. What types of hardware do u know? 3

-Output

-Input

-Storage

8. Storage devices : is a piece of computer hardware used for saving, carrying and pulling out data

Input devices : is a piece of equipment used to provide data and control signals to an information processing system such as a computer or information appliance

Output devices: is any piece of computer hardware equipment which converts information into human-readable form

9. How many input devices do you know? What are they? Vietnamese meaning?

8 -> - Joystick: tay cầm

Lightpen: bút quang

Scanner: máy quét

Digital camera: máy ảnh kỹ thuật số

Mouse: chuột

Keyboard: bàn phím

Microphone: mic

Barcode scanner: máy quét mã vạch

10. How many output devices do you know?

monitor, printer, headphones, computer speaker, projector, sound card

11. How many storage devices do you know?

USB, CD-ROM, floppy disk, fixed hard disk, removable hard disk, magneto-optical disk, magnetic tape

12. What is CPU (Central Processing Unit) ?

CPU is the electronic circuitry within a computer that executes instructions that make up a computer program

13. What principle components does a CPU include? What are their function?

ALU (arithmetic logic unit) : performs arithmetic and logic operations

CU (control unit) : directs the operation of the processor, tell the computer's memory, arithmetic and logic unit and input and output devices how to respond to the instructions that have been sent to the processor

Register: supply operand to the ALU and store the results of ALU operations

14. What are CPU's fundamental operation?

Fetch

Decode

Execute

15. What does SIMM- ROM- RAM stand for? What are they?

SIMM (Single in-line memory modules): is a type of memory module containing random-access memory used in computers

ROM (Read only memory): is a type of storage medium that permanently stores data on PCs and other electronic devices

RAM (Random access memory): is a form of computer data storage that stores data and machine code currently being used

16. What types of RAM, ROM?

RAM: - SRAM (Static RAM) : RAM tĩnh

- DRAM (Dynamic RAM): RAM động

ROM: - PROM (Programmable Read-Only Memory): Bộ nhớ chỉ đọc có thể lập trình được

- EPROM (Erasable Programmable Read-Only Memory): Bộ nhớ chỉ đọc có thể lập trình xóa

- EAPROM (Electrically Alterable Programmable Read-Only Memory) : Bộ nhớ chỉ đọc có thể lập trình thay thế bằng điện

- EEPROM (Electronically Erasable Programmable Read-Only Memory): Bộ nhớ chỉ đọc có thể lập trình xóa bằng điện

17. What is firmware?

Is a specific class of computer software that provides the low-level control for the device's specific hardware

*Programming languages

1.What is Programming languages?

is a formal language comprising a set of instructions that produce various kind of output. Used in computer program to create program that implement specific algorithms

2. WHat types of Programming languages?

Procedural Programming Language

Functional Programming Language

Object-oriented Programming Language

Scripting Programming Language

Logic Programming Language

3.

Languages	Developed	Function	Characteristic
FORTRAN	1954	Scientific and mathematical problems	Algebratic formuler and English phrases
COBOL	1959	Commercial purpose	English statements
ALGOL	1960	Mathematical and scientific purposes	Originally called International Algebratic languages
PL/I	1964	Data processing and scientific applications	Combines features of COBOL and ALGOL
BASIC	1965	General-purpose language	Simple, developed for students
C	1970	To support Unix operating system	Highly portable
APL	1962	Uses a large set of special	The syntax is extremely

		graphic symbols to describe most functions and operators	simple, clear, and used in applied math
PASCAL	1971	Used in universities to teach the fundamentals of programming	Simple grammar and semantics, with logic. - The structure of the program is clear and easy to understand - Easy to repair, improve

4.

C, C++, C# : for computer independent applications programming

Java- javascript : the software programming for websites

Python: easy, common, for programming beginners

PHP: for writing web, very good for server programming

***Network**

1.What is network?

Is a system which connects up a number of computer and communications devices to enable message and data to be passed between those devices

2. How many types of network do u know?

LAN, WAN, MAN

3. What is different between LAN and WAN?

LAN (Local Area Network): operates in small/limited area/location/place

WAN (Wide Area Network): operates in wide/large area/location/place

4. What are advantages of LAN?

High bandwidth

Easy to management

Low cost

Suitable for use in home, school,...

5. What are advantages of WAN?

Unlimited area connection range

High data transfer rate

Suitable for use in enterprise or an organization

6. Network devices: server, hub, router, switch, modem, cable, bridge, PC, printer, accesspoints

7. What is a network topology?

Network topology refers to how various nodes, devices, and connections on your network are physically or logically arranged in relation to each other

8. How many types of network topology? What are they?

4 -> (ring, bus, star, mesh) topology

9. What is a ring, bus, star topology?

Ring topology: each computer is connected to its neighbour in a circle. The data flows in one direction round the ring

Bus topology: has all the computers connected to a common cable, the data travels in both directions along the cable

Star topology: has a server computer at the centre and separate cable connecting the server to each of the other computers in the network. The central server controls the flow of data in the network

10. What are the most common topologies? Why?

->Star ring, bus topology

Because, in fact, they usually use mix of 3 types together

***Computer Virus**

1.What is computer virus?

Is a form of malicious software that piggybacks onto legitimate application code in order to spread and reproduce itself

2. What can a computer do?

A virus can damage programs, delete files and reformat or erase your hard drive, which results in reduced performance or even crashing your system entirely

3. How does computer virus work?

Infection mechanism

Trigger

Pay-load

4. How many types of viruses do u know? What are they?

Resident vs non-resident viruses

Macro viruses

Boot sector viruses

Email viruses

Polymorphic viruses

5. Has it got a life cycle? If yes, what phases ?

-Yes :

Dormant phase

Propagation phase

Triggering phase

Execution phase

6. What do u do to protect computer from viruses?

INSTALL AN ANTI-VIRUS PROGRAM
INSTALL ANTI-SPYWARE AND ANTI-MALWARE PROGRAMS
AVOID SUSPICIOUS WEBSITES
NEVER OPEN EMAIL ATTACHMENTS WITHOUT SCREENING THEM
SET UP AUTOMATIC SCANS
AVOID CRACKED SOFTWARE
USE A FIREWALL, Use a strong password
Keep your software up to date

7. What is malware?

Is a short form of malicious software

Is any software used to disrupt computer or mobile operations, gather sensitive information, gain access to private computer systems, or display unwanted advertising

8. What does malware do?

Viruses

Worms

Rootkits

Spyware

Crimeware

Trojans

Adware

***DBMS**

1.What is database?

is an organized collection of data, generally is stored and accessed electronically from a computer system

2. What is DBMS stand for? What is it?

DBMS (Database management system) : is the software that interacts with end-user, applications, and the database itself to capture/collect and analyze the data

3.What are DBMS's fundamental function?

The storage, retrieval and update of data

4. What types of DBMS?

- Hierarchical database
- Network database
- Relational database
- Object-Oriented database

5. Advantages and Disadvantages of DBMS ?

-Advantages:

- DBMS offers a variety of techniques to store & retrieve data
- DBMS serves as an efficient handler to balance the needs of multiple applications using the same data
- Uniform administration procedures for data
- Application programmers never exposed to details of data representation and storage.
- A DBMS uses various powerful functions to store and retrieve data efficiently.
- Offers Data Integrity and Security
- The DBMS implies integrity constraints to get a high level of protection against prohibited access to data.
- A DBMS schedules concurrent access to the data in such a manner that only one user can access the same data at a time
- Reduced Application Development Time

-Disadvantages:

- Cost of Hardware and Software of a DBMS is quite high which increases the budget of your organization.
- Most database management systems are often complex systems, so the training for users to use the DBMS is required.
- In some organizations, all data is integrated into a single database which can be damaged because of electric failure or database is corrupted on the storage media
- Use of the same program at a time by many users sometimes lead to the loss of some data.
- DBMS can't perform sophisticated calculations

(câu 4 và 5 là t tự thêm, ko có trong vở =)))

***Mobile app**

1.What is mobile app?

Is a software application designed to run on mobile devices such as a phone/tabet or watch

2.What was it born? Who operated it ?

It born in 2008

Operated by the owner of the mobile operating system such as the Apple App Store, Google Play, Windows Phone Store, and BlackBerry App World.

3.What field was mobile appused?

In mobile games, factory automation, and location-based services, GPS, order-tracking, mobile banking, and ticket purchases

4. How many types of mobile app ? What are they?

Native apps

Hybrid apps

Web-Based apps

5. What is appstore? When was it born?

is a digital distribution platform, developed and maintained by Apple Inc, for mobile apps on its IOS operating system

The App Store was opened on **July 10, 2008**

6. Where can apps be downloaded?

On iPhone smartphone, the iPad Touch handheld computer, or the iPad tablet computer and some can be transferred to the Apple watch smartwatch or 4th-generation iPad or Apple TVS

7. How many apps are there in the App store?

With an inital 500 application available

As of 2017, the store features over 2.1 millions

8. What is Google Play? When open? Where did it originate?

- is a digital distribution service operated and developed by google LLC
- Opened on March 6, 2012
- Google Play originated from 3 distinct products: Android Market, google Music and google eBook Store

9. Has it got any other names before? Why is it called Google Play?

Yes. It is Android Market

Because the Android Market and google music unify

10. What services does it include of ?

The service included in the google play are:

- Google play Books
- Google play Game
- Google Play Music
- Google Play Movie & TV

***Development of software mobile devices**

1.WHat does SDLC stand for? What is it?

SDLC: Software Development Lifecycle

SDLC is a process used to develop software, is a step by step procedure need to be followed by the organization to design and develop a high quality product

2.How many phases does SDLC have? 6

Analysis

Design

Implementation

Testing

Development

Maintenance

3. Lifecycle of mobile development:

Inception

Design

Development

Stabilization

Deployment

Distribution

4. How many types of models? 6

Waterfall Model

Spiral Model

Prototype Model

V-Model

Iterative Model

Agile Model

