

NATIONAL UNIVERSITY OF IRELAND, GALWAY
OLLSCOIL NA hÉIREANN

SUMMER EXAMINATIONS 2001

First University Examination in Arts

INFORMATION TECHNOLOGY (CT100)

Second Paper

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Time allowed: THREE hours

Candidates are required to answer Question One in SECTION A and three other questions from SECTION B

All questions carry equal marks

Answers to Multiple choice to be written on the sheet provided.

SECTION A

Question 1

(The question consists of 25 multiple choice questions, all of which should ideally be attempted. However as incorrect answers score a negative mark, you may choose not to attempt any question. Unanswered questions score a mark of zero). Answers to be written on the sheet provided not on the examination paper.

1. A smart card:
 - A) contains a microprocessor.
 - B) contains a memory chip.
 - C) contains magnetically encoded data on it's back.
 - D) both A and B.
2. Organizations follow a step by step process during systems analysis and design called:
 - A) structured problem solving.
 - B) systems analysis and design framework.
 - C) systems development life cycle.
 - D) all of the above.
3. What is required to convert a high-level language into machine language so as to execute it later.
 - A) interpreter.
 - B) converter.
 - C) translator.
 - D) compiler.
4. Which of the following describes system software?
 - A) it enables the application software to interact with the computer.
 - B) it manages the computer's internal resources.
 - C) it consists of several programs.
 - D) all of the above.
5. RAM or working storage is also known by _____.
 - A) main memory.
 - B) primary storage.
 - C) internal memory.
 - D) all of the above.
6. The _____ refers to the amount of space between pixels.
 - A) resolution.
 - B) refresh rate.
 - C) dot pitch.
 - D) justification.
7. Linking together of computers and other devices confined to the same building, or limited to users near each other, is called a(n):
 - A) local area network.
 - B) local Net.
 - C) wide area network.
 - D) internet.
8. A technology that presents information in more than one medium, including text, graphics, animation, video, music, and voice, is called:
 - A) Connectivity.
 - B) Telecommuting.
 - C) Multimedia.
 - D) all of the above.
9. An operating system designed to support large networks is called Windows NT. The NT stands for:
 - A) Network Topology.
 - B) Network Technology.
 - C) New Topology.
 - D) New Technology.

10. What type of software usually contains virus protection?
- A) GUI.
 - B) application.
 - C) utility.
 - D) specially programmed.
11. The central component of the operating system is called the:
- A) supervisor.
 - B) system software.
 - C) user interface.
 - D) GUI.
12. Which of the following is NOT a task conducted by the operating system.
- A) booting.
 - B) managing storage media.
 - C) virus protection.
 - D) managing computer resources.
13. The hidden program instructions that are buried within an application or systems program and that replicate themselves to other programs, causing damage, is called a(n):
- A) worm.
 - B) havoc software.
 - C) virus.
 - D) infection.
14. Which of the following describes the primary user interface available with DOS.
- A) command-driven.
 - B) GUI.
 - C) icon driven.
 - D) user driven.
15. Fragmentation describes:
- A) lost files on a floppy disk.
 - B) uneven distribution of data on a hard disk.
 - C) breaking programs into smaller modules to speed up processing.
 - D) destruction of the hard disk.
16. _____ are special systems programs, that rapidly convert the instructions into machine language.
- A) central processing units.
 - B) editors.
 - C) language translators.
 - D) SCSI.
17. _____ is the special high-speed memory area that the CPU can quickly access.
- A) RAM.
 - B) Cache memory.
 - C) Virtual memory
 - D) Flash memory.
18. Which of the following is NOT an expression of capacity?
- A) Bit.
 - B) Gigabyte.
 - C) Millabyte.
 - D) Kilobyte.

19. Source data entry devices include the following:
- A) pointing devices, keyboard, scanning devices, audio-input devices.
 - B) touch-tone devices, pointing devices, keyboard, scanning devices.
 - C) pointing devices, scanning devices, audio input devices, video input devices.
 - D) all of the above are correct.
20. Which of the following is NOT a type of scanning technology?
- A) MICR.
 - B) POS.
 - C) OMR.
 - D) OCR.
21. Hard disks and other type of disks use a method of access called:
- A) serial access.
 - B) write-only access.
 - C) extended density (ED) access.
 - D) direct access.
22. Data on a diskette is stored as:
- A) machine language.
 - B) pits and lands.
 - C) electromagnetic charges on a metal oxide film that coats the mylar plastic disk.
 - D) none of the above.
23. Users can use a(n) _____ to retrieve information from a database.
- A) query language.
 - B) data dictionary.
 - C) programming language.
 - D) data mining language.
24. The acronym TCP/IP stands for:
- A) Transfer Computer Personnel/Internet Personnel.
 - B) To Communications Protocol & Interested Parties.
 - C) Transmission Control Protocol/Internet Protocol.
 - D) Telecommuting Control Protocol/Intranet Protocol.
25. GUI means:
- A) good user interface.
 - B) graphical user instructions.
 - C) good user instructions.
 - D) none of the above.

SECTION B

- Q2.** (i) Describe the major categories of PC applications software, giving examples of each category.
- (ii) Define each of the following terms and explain the relationship between them:
- bit; byte; character; field; record; file; database
- (iii) What is a DBMS? Outline the principal features of this software.
- (iv) The characteristics of the human body are interpreted into input using human - biology input devices. Describe two of these devices and how they might be used.

- Q3.** (i) Explain the difference between the terms: Internet, Intranet and Extranet.
- (ii) List the main types of LAN network topologies and, with the aid of sketches, briefly explain their operation.
- (iii) Explain what is meant by each of the following and explain their importance in a communication system:
- (a) Modem
- (b) Communication Channel

- Q4.** (i) Describe the role and major components of the CPU. Use a diagram to illustrate your answer.
- (ii) Describe the Instruction Execution cycle. Illustrate your answer with an example.
- (iii) Write short notes (with examples) on each of the following terms:
- (a) ROM versus RAM
- (b) Data Compression
- (iv) Outline the main types of data-storage devices available for computers today. Highlight the advantages and disadvantages of each storage media and give examples of computer applications that use them.

- Q5.** (i) In relation to the internet discuss the problems associated with search engines.
- (ii) Briefly explain the following terms:
protocol; HTTP; HTML; Web Browser; URL; Cookie; Spamming.
- (iii) What are the most common types of computer viruses? Give examples of some viruses and the effect they have.
- (iv) What is TCP/IP? Explain the use of packets in the context of TCP/IP.