



INFORMATION TECHNOLOGY IN A GLOBAL SOCIETY

Standard Level

Tuesday 18 May 1999 (afternoon)

Paper 1

1 hour

This examination paper consists of 40 questions.

Each question offers 4 suggested answers.

The maximum mark for this paper is 40.

INSTRUCTIONS TO CANDIDATES

Do NOT open this examination paper until instructed to do so.

Answer ALL questions.

For each question, choose the answer you consider to be the best from the 4 answers given. Indicate your choice on the answer sheet provided.

EXAMINATION MATERIALS

Required:
None

Allowed:
A simple translating dictionary for candidates not working in their own language

1. What concept correctly describes what is encoded in the diagram?



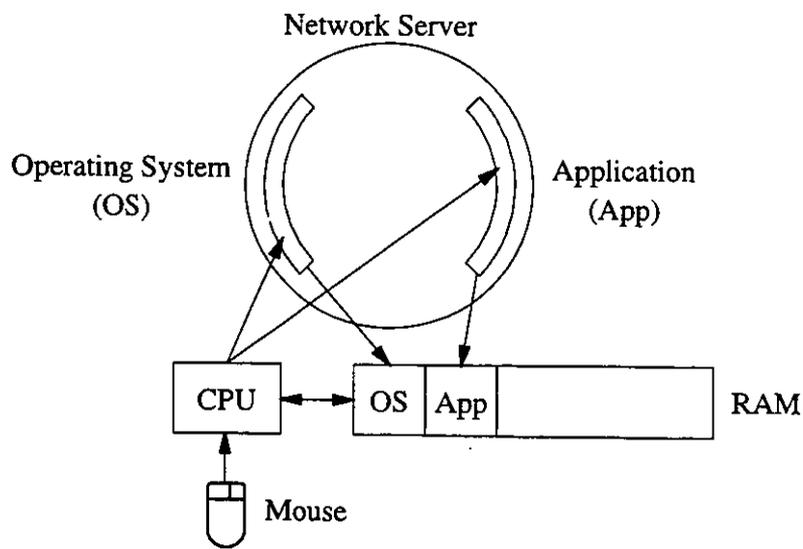
- A. Data
 - B. Information
 - C. Knowledge
 - D. Wisdom
2. Schools use computers in many different ways. Which situation(s) could be regarded as having ethical considerations?
- I. Using tutorial software to learn algebra
 - II. Using grading/marking software to mark examination papers
 - III. Using the Internet for background information
- A. II only
 - B. I and II
 - C. I and III
 - D. I, II and III
3. Which device does **not** use data in a digital format?
- A. A computer monitor
 - B. A light pen
 - C. A microphone
 - D. A CD-ROM

4. Which statement(s) describe(s) an advantage of using networks?
- I. They allow people to share computer hardware.
 - II. They allow people to share data and software programs.
 - III. They eliminate compatibility differences between different computer operating systems.
- A. II and III
 - B. I and III
 - C. I and II
 - D. II only
5. What makes computers so versatile?
- I. They take in data and give out information.
 - II. Their processors can perform millions of calculations a second.
 - III. They can use a variety of software to carry out several different processes.
- A. II only
 - B. III only
 - C. II and III
 - D. I and II
6. Which input device would be most useful to a person operating a computer who has a limited wrist movement?
- A. Keyboard
 - B. Joystick
 - C. Virtual reality glove
 - D. Touch screen

7. What is a major advantage of storing data on a hard disk compared with other forms of storage?
- A. More data can be stored on a hard disk than on a tape.
 - B. The time to store and access the data on a hard disk is faster than on a CD-ROM.
 - C. There is less need to back up data on a hard disk compared with a diskette.
 - D. It is easier to back up data from a hard disk than from a CD-ROM.
8. Human-user interfaces now allow many people to use computers in a more friendly way. Which statement describes the best reason why people prefer modern graphic user interfaces to earlier ones?
- A. Earlier interfaces were designed to be used only by specialists.
 - B. Earlier interfaces had very primitive icons that nobody could understand.
 - C. Earlier interfaces were not intuitive, forgiving, protective or flexible.
 - D. Earlier interfaces had pull-down menus that didn't work properly.
9. What is an essential item of software for a world wide travel booking service?
- A. An on-line database
 - B. Optical character recognition
 - C. A spreadsheet
 - D. A word processor
10. Which combination of software would best be used to process the same letter to a large number of different people using selection criteria?
- A. Word processor and spreadsheet
 - B. Spreadsheet and database manager
 - C. Spreadsheet and desktop publisher
 - D. Database manager and word processor

11. What is the reason for backing-up data regularly?
- A. To ensure that sufficient numbers of personnel are employed
 - B. To allow work to continue if data is unexpectedly lost
 - C. To provide security from unauthorised trespassers
 - D. To support the network infrastructure

12. The diagram below represents parts of a networked computer.



Several simplified steps in the process of starting up the computer and loading an application are represented by the numbers below:

- 1 CPU requests the application from the network.
- 2 User selects an application using a mouse.
- 3 Application loads into RAM.
- 4 CPU code loads into RAM

What is the correct order for the steps?

- A. 1 - 2 - 3 - 4
- B. 4 - 3 - 2 - 1
- C. 4 - 2 - 1 - 3
- D. 2 - 1 - 4 - 3

13. Which feature is most important when choosing a monitor for use in Desktop Publishing?
- A. Digital controls
 - B. Refresh rate
 - C. Screen size
 - D. Automatic degaussing
14. Computers, scanners, and digital cameras make it very easy to create copies of images and to extract information from printed materials. Which situation(s) could be regarded as having ethical considerations?
- I. Using public domain clip art collections
 - II. Extracting information from printed materials citing the source of information
 - III. Scanning copyrighted images
- A. I and III
 - B. II and III
 - C. II only
 - D. III only
15. Which statement refers to ethical considerations and a social implication related to the use of Desktop Publishing (DTP) technology?
- A. The development of DTP puts powerful design tools in the hands of more people.
 - B. Many experts fear that DTP will result in people qualified in word processing losing their job.
 - C. DTP allows the production of better looking documents with less effort than a word processor.
 - D. DTP tools encourage people to write hurriedly and carelessly.

16. Modern technology, with the use of high resolution scanners, monitors, and colour printers, allows original art work to be reproduced and edited. What use of this development can be ethically defended?
- A. Reproducing a copy of an original from a photograph because the original was damaged
 - B. Modifying a digital image of the original to produce variations of another's work as your own
 - C. Producing a copy with your own name as the artist
 - D. Making an unauthorised number of copies of a new painting by a contemporary artist
17. Which statement about graphics software is true?
- A. Painting software creates vector graphics.
 - B. Drawing software stores pictures as collections of dots.
 - C. Drawing software stores pictures as collections of lines and shapes.
 - D. Painting software does not allow text to be edited.
18. What was the main contribution of VisiCalc to software development?
- A. It was the first easy-to-use "what if" program.
 - B. It was the first spreadsheet program to use icons and a mouse.
 - C. It could import graphics to enhance the spreadsheet.
 - D. It was capable of mail merge with a word processing program.
19. Which statement correctly defines a model?
- A. It can be put to work in a computer simulation to analyse its results.
 - B. It describes an event, behaviour, or condition in the real world.
 - C. It is used to develop animations.
 - D. It must explain the real condition that it describes.

20. Which list outlines the data hierarchy of the elements in a relational database, from the largest to the smallest?
- A. File Record Table Field
 - B. Record File Field Table
 - C. Field Record Table File
 - D. File Table Record Field
21. An employee database is set up which includes a field for the date of birth. The format of the field is entered as yy-mm-dd (*e.g.* 65-08-14). What is an example of this field type in which the data is stored?
- A. Primary key
 - B. Numeric
 - C. Text
 - D. Computed
22. Which risks are most likely to result from an increased use of networked databases?
- I. Depersonalisation of employees
 - II. Invasions of privacy
 - III. Increased infection by viruses
- A. I only
 - B. I and II only
 - C. II and III only
 - D. I, II, and III

23. In which way(s) can sound be inputted into a computer?
- I. Midi interface
 - II. Files from the Internet
 - III. Digital camera
- A. II only
 - B. I and II
 - C. I and III
 - D. I, II and III
24. Non-cable TV programmes are multimedia products and modern computers run multimedia software. Which statement describes the main difference between TV programmes and computer multimedia software?
- A. TV programmes do not allow the user to have control over the information flow.
 - B. TV programmes can display animated sequences, display titles, and play music.
 - C. Multimedia software can deliver information as text.
 - D. Multimedia software can display video and images and play sound and voice.
25. Which statement(s) outline(s) good design principles for multimedia learning programs for a multilingual international school?
- I. All commands in clear, simple English
 - II. Simple, non-GUI interface
 - III. Intuitive navigation (tools)
- A. I, II and III
 - B. II and III
 - C. I and II
 - D. III only

26. Which sentence best states the most significant advantage of using training software to teach a pilot to fly?
- A. All possible situations can be presented to the student pilot.
 - B. Student pilots can gain experience without endangering lives.
 - C. Interactions with other people are not necessary.
 - D. The software can track the student's progress.
27. Which applications would make appropriate use of fuzzy logic?
- I. Controlling the barrier at an automated car park
 - II. Controlling the fuel/air mixture in an internal combustion engine
 - III. Controlling the speed of a metro subway train
- A. I only
 - B. I and II only
 - C. II and III only
 - D. I, II, and III
28. Which social effect(s) arising from the widespread use of virtual reality is (are) true today (May 1999)?
- I. Children only believe those things that exist in the computer.
 - II. Virtual Reality technology has reached such a degree of development that illusions are better than reality.
 - III. Virtual Reality models are used for education and simulation purposes with no physical harm on individuals or societies.
- A. I and II only
 - B. II only
 - C. I and III only
 - D. III only

29. Which statement describes a teletext system?
- A. An Internet standard communications package
 - B. A broadcast of text information by a television signal
 - C. A television based web surf device
 - D. A text-based discussion group which allows real time exchange of messages
30. Which action(s) can cause an increase in unsolicited e-mail messages?
- I. Spamming
 - II. Viruses
 - III. Posting a message to a newsgroup
- A. I only
 - B. I and II
 - C. II and III
 - D. I and III
31. What is the greatest benefit a special effects technician would gain by using computer animation?
- A. More creativity
 - B. Improved accuracy
 - C. Less money spent
 - D. Increased productivity

32. What will be the effects of increasing the number and distribution of communication satellites in orbit around the earth?
- I. Improved global mobile telephone communication
 - II. Increased hazards related to pollution in space
 - III. Decreased gap between information-rich and information-poor countries
- A. I, II and III
 - B. I and II
 - C. II and III
 - D. I and III
33. How can multinational companies whose branches are networked improve productivity in the workplace?
- A. Installing terminals with floppy drives
 - B. Ensuring that anti-virus software is up-to-date
 - C. Only using local area networks (LANs) to communicate
 - D. Allowing employees in distant geographical locations to work on the same project
34. What is the network-based distribution of correspondence called?
- A. File transfer
 - B. Electronic mail
 - C. Distributed computing
 - D. The Internet

35. Which statement is an example of groupware?
- A. A multi-user appointment calendar on a LAN
 - B. A standalone computer that is shared by several users
 - C. Software on a diskette that is shared by several users
 - D. A printer that is connected to several standalone computers
36. Which factor most affects the speed at which files can be transferred across a network?
- A. The version of the program/application used
 - B. The amount of computer memory
 - C. The hard drive space available
 - D. The size of the bandwidth
37. Which sentence defines a Web search engine?
- A. A program that searches for information in a database
 - B. A program that only locates documents on the WWW that contain in their title the key words that you typed
 - C. A program that searches for information on the WWW using key words
 - D. A program that only locates URLs on the WWW

38. Which method(s) can block access to 'objectionable' material on the Internet?

- I. Using filtering programs
 - II. Limiting the amount of access time
 - III. Reading material off-line
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- A. I, II and III
 - B. I and II
 - C. I only
 - D. II only

39. Which of the following definitions best describes an *intranet*?

- A. A client/server network
- B. A host/terminal network
- C. A secure network
- D. An open network

40. Which statement(s) help(s) describe the effects of "a worm"?

- I. It disrupts straight lines on a draw package.
 - II. It wastes company time.
 - III. It propagates itself over a network.
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- A. I only
 - B. I and II only
 - C. II and III only
 - D. I, II, and III