



**INFORMATION TECHNOLOGY IN A GLOBAL SOCIETY
STANDARD LEVEL
PAPER 1**

Wednesday 19 November 2003 (afternoon)

1 hour

INSTRUCTIONS TO CANDIDATES

- Do not open this examination paper until instructed to do so.
- Answer all the questions.
- For each question, choose the answer you consider to be the best and indicate your choice on the answer sheet provided.

1. Which **one** of the following is **not** used to help computer users to overcome physical handicaps?
 - A. Braille keyboards
 - B. Voice recognition software
 - C. Image compression software
 - D. Scanners with voice synthesis

2. Which situation is an example of “computer abuse”?
 - A. Failing to identify a computer bug in a program
 - B. Installing a password protection system
 - C. Failure to maintain the personal information in a database
 - D. Spamming

3. From 2004 this ITGS Paper 1 is being changed from a multiple choice paper marked by a computer to a written paper marked by an examiner. Which **one** of the following could be a reason for this change?
 - A. Computers are more accurate than human examiners.
 - B. Some ITGS concepts cannot easily be tested by multiple-choice questions.
 - C. Multiple-choice questions cannot test the ability to reason.
 - D. Written answers are quicker to mark than multiple-choice answers.

4. In which situation does information have economic value?
 - A. Scanning the bar code on a library circulation system
 - B. Installing a biometric security system
 - C. Storing customer information in a database
 - D. Formatting a desktop publishing document

5. The following documents occupy varying amounts of hard disk space:

1. 10 minutes of video
2. A4 page of text
3. 4 minutes of a song in MP3 format

Which order indicates the size of these documents from smallest to largest?

- A. 1 – 2 – 3
 - B. 2 – 1 – 3
 - C. 2 – 3 – 1
 - D. 3 – 2 – 1
6. Where is a working document created in a computer?
- A. Hard disk
 - B. RAM
 - C. ROM
 - D. Monitor
7. Which employee is likely to suffer from repetitive strain injury (RSI)?
- A. A graphic artist repetitively using a graphics program
 - B. A teacher searching for plagiarized text
 - C. A technician suffering back injury due to the moving of heavy hardware
 - D. A clerk entering data into a company database

8. Which device will help a person who is both blind and deaf to “read” text?
- A. A speech synthesizer to read the text
 - B. A braille printer to output text in braille characters
 - C. An OCR device combined with a speech synthesizer to read the text
 - D. A voice-operated system to input text into the computer
9. Which security measure could be applied to ensure privacy of personal folders on a LAN?
- A. Firewall
 - B. Passwords
 - C. PPP
 - D. TCP/IP
10. Which statement concerning commercial software is false ?
- A. It is bought by the user but owned by the company.
 - B. It may be loaned through public libraries.
 - C. It can be upgraded from the Internet.
 - D. It can be legally downloaded from the Internet.
11. Some computer hardware and software companies encourage their customers to replace perfectly adequate systems with a newer model. Which of the following social consequences might result from such a strategy?
- A. A detrimental effect on the earth’s environment
 - B. An increased need for more sophisticated training
 - C. An increase in the divide between rich and poor countries
 - D. All of the above

12. Which program copies itself repeatedly across a network in order to fill the memory of the host computer?
- A. A Trojan horse
 - B. A virus
 - C. A worm
 - D. A logic bomb
13. How can a digital message be secured during transmission?
- A. Using a firewall
 - B. Using audit-control software to monitor and record computer transactions
 - C. Converting the signal to analogue before transmission
 - D. Using encryption software
14. Why do companies insist that employees create documents from company templates?
- A. To increase company security
 - B. To prevent data loss
 - C. To ensure uniformity
 - D. To prevent surfing
15. Which **one** of the following is used to create editable text from scanned newspaper articles?
- A. OCR
 - B. File conversion
 - C. GIS
 - D. AI

16. The following graphic can be created as bit-mapped graphic or as an object-oriented (vector) graphic. What is the difference between creating the following as a bit-mapped graphic or as an object-oriented (vector) graphic image?



- A. An object-oriented (vector) graphic cannot be edited.
 - B. Only a bit-mapped graphic can be created in colour.
 - C. A bit-mapped graphic occupies more hard disk space.
 - D. The letters of the object-oriented version will have a “jagged” outline.
17. Which **one** of the following is an ethical consideration that arises from downloading an image from the Web and using it in a multimedia presentation without acknowledging the source?
- A. You are not giving credit to the author.
 - B. The author is deprived of an income.
 - C. The copied file may be of poorer quality than the original.
 - D. Image downloaded from the Web increase the amount of memory needed to store the presentation on disk.
18. Which **one** of the following is an example of a simulation?
- A. Using a spreadsheet to calculate company profit under various conditions
 - B. Using a database and word processor to produce personalized form letters
 - C. Using a database to produce a report on overdue library books
 - D. Using a computer to design a new car

19. Which format is commonly used for photographs on a Web page?
- A. sylk
 - B. rtf
 - C. jpeg (jpg)
 - D. tiff
20. Which **one** of the following is true about a date field in a database?
- A. Format varies around the world.
 - B. It is not possible to add or subtract date fields.
 - C. The day, month and year are always shown.
 - D. Leap year variation can cause an accuracy problem.
21. What does the acronym MIDI stand for?
- A. Musical Input for Digital Instruments
 - B. Musical Instrument Digital Interface
 - C. Musical Input Device Interface
 - D. Musical Interface for Digital Input
22. Digitized sound is often used commercially. Which **one** of the following is ethically acceptable?
- A. Recording a political speech to use in an advertisement, without the speaker's permission
 - B. Recording a person's voice in order to use it as a security control for sensitive areas
 - C. Editing the records of an artist who is now dead in order to produce a new CD on a computer
 - D. Recording a live performance to use as background in a video clip

23. Which of the following is a **legal** consideration an art collector should make when transferring images from his art collection onto a computer for insurance and security purposes?
- A. He is in breach of copyright.
 - B. His physical security systems are adequate to prevent theft of the computer images.
 - C. He is protected from intrusion into his computer system (*e.g.* from hackers).
 - D. The resolution on his system is good enough for him to enjoy his collection.
24. What is a disadvantage of web pages created with a text editor?
- A. The web pages can only be edited in the original text editor.
 - B. The web pages cannot display graphics.
 - C. The web pages require vast amounts of hard disk space.
 - D. The web pages require a special knowledge of HTML commands.
25. Which **one** of the following statements describes an expert system?
- A. Expert systems model human knowledge in specific areas.
 - B. Expert systems have an understanding of the larger world beyond their expertise.
 - C. Expert systems have an ability to reason.
 - D. Expert systems always use virtual reality.
26. In which **one** of the following situations is virtual reality useful?
- A. Helping workers to learn how to react to dangerous events
 - B. Helping doctors to diagnose a disease
 - C. Forecasting dangerous weather patterns, *e.g.* hurricanes
 - D. Teleconferencing

27. In which **one** of the following would the knowledge base contain fuzzy logic?
- A. A company payroll system where overtime is paid at different rates
 - B. A supermarket scanning system which automatically calculates staff discounts
 - C. A consultant doctor's diagnostic system available to help doctors in other hospitals online
 - D. An online credit card system to authorise the use of credit cards world-wide
28. What is a social consequence of the increasing use of computers to manipulate and store video?
- A. Data compression software allows the storage of movies in smaller places.
 - B. As technology continues to improve, digital movies will become longer.
 - C. Professionals in the motion picture, television and video industries must be retrained.
 - D. Video editing software makes it easy to create special effects.
29. Which situation involves an ethical consideration in digital film making?
- A. Editing your own film material
 - B. Inserting a transitional effect
 - C. Recording birdsong
 - D. Inserting songs from a commercial CD
30. What causes the video and sound to be out of synchronization at times during a video conference?
- A. There is insufficient bandwidth.
 - B. The companies are running different operating systems.
 - C. The computers' hard disks are too small to store the image files.
 - D. The resolution on the monitor is too low.

31. Which statement about voice mail is false?
- A. The receiver can access messages when the time is convenient.
 - B. Received messages can be edited.
 - C. Copies of voice mail can be forwarded to other people.
 - D. Voice mail can be password protected.
32. Which **one** of the following is **not** a social consequence of the use of cellular phones?
- A. Cellular phones can be cloned.
 - B. Cellular phones may cause severe back pain.
 - C. Cellular phones can help people on the move feel more secure.
 - D. Cellular phones can be dangerous if used when driving.
33. How can private individuals ensure the privacy of their e-mail messages?
- A. Use an encryption key
 - B. Make sure they don't give their e-mail address to anybody they don't know.
 - C. Register with a data protection agency in their country.
 - D. Individuals cannot ensure the privacy of their e-mail messages.
34. Which **one** of the following describes text information which can be found by using a search engine?
- A. Plagiarized text
 - B. Text stored in closed group databases
 - C. Text information encrypted into online photographs
 - D. Private e-mail correspondence

35. Which **one** of the following allows for greater security when transmitting documents over the Internet?
- A. PPP
 - B. HTML
 - C. PGP
 - D. TCP/IP
36. Which **one** of the following is needed to access the Web but is not needed for the Internet?
- A. Browser
 - B. E-mail address
 - C. Modem
 - D. Encryption software
37. A company monitors intranet traffic and stores the information. Which **one** of the following uses has ethical implications?
- A. Assessing the efficiency of the intranet server
 - B. Assessing the time an employee spends online outside working hours
 - C. Assessing a fixed limit to each employee's e-mail storage area
 - D. Introducing a hierarchical password system on a need-to-use basis
38. Which **one** of the following is a disadvantage of teleconferencing compared with personal meetings?
- A. Teleconferencing allows people in different time zones to communicate more easily.
 - B. Teleconferencing reduces the importance of factors like appearance, race or gender.
 - C. Teleconferencing filters out eye contact.
 - D. Teleconferencing allows decisions to evolve over time.

- 39.** Which of the following would improve the security of a company's network yet still allow employees to access the Internet?
- A. A firewall
 - B. A modem
 - C. Daily back up of data
 - D. A virus scanner
- 40.** Which person created the foundations for robotics?
- A. Alan Turing
 - B. Bill Gates
 - C. Isaac Asimov
 - D. Dan Bricklin
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