



INFORMATION TECHNOLOGY IN A GLOBAL SOCIETY

Standard Level

Tuesday 9 November 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 and indicate your choice on the answer sheet provided.

EXAMINATION MATERIALS

Required:

Optically Marked Read (OMR) answer sheet

Allowed:

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

889-140

16 pages

1. What is required for a complete information system?
 - A. Input, processing and output devices
 - B. Input, processing and output devices together with processing software
 - C. Input, processing, storage and output devices
 - D. Input and output devices with backing storage

2. Which task requires both high processor speed and a large amount of memory (RAM)?
 - A. Editing video clips interactively
 - B. Merging several large data files
 - C. Spell-checking and grammar-checking a document
 - D. Backing up a large capacity hard drive

3. Which statement explains why information can have considerable economic value?
 - A. People must pay to use the most efficient search engines.
 - B. Data can be processed and resold to many buyers.
 - C. Most data is kept in very complex databases.
 - D. Nearly all data is very expensive to collect.

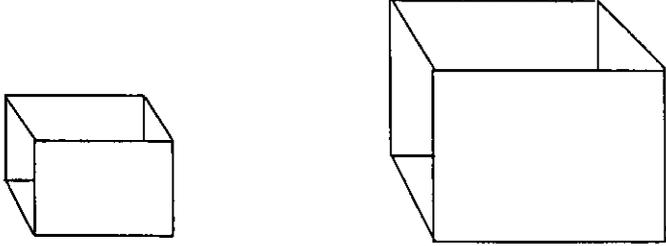
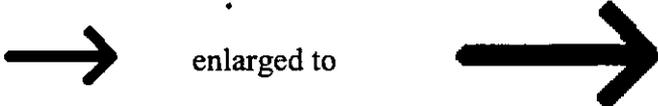
4. Networks are increasingly being used in businesses and other organisations. Which of the following involve ethical considerations?
- I. Accessing other people's personal files
 - II. Taking sensible precautions with log on names and passwords
 - III. Printing a poster on the shared laser printer in another person's office
- A. I only
- B. I and II
- C. II and III
- D. I, II and III
5. Ensuring computer security is very important in many situations. Which statement describes an **inadequate** security procedure?
- A. Each employee is given a password and told to write it down in a safe place.
- B. The company network server and the files on the central server are password protected.
- C. Regular backups are made of all networked data.
- D. Messages sent by e-mail between employees of a company are un-encrypted.
6. Students wish to make many copies of a poster for a school election. They wish to include a picture of one of their classmates on it. Which method ensures the best quality image?
- A. Take a picture with a film-camera, store it on a photo CD-ROM and use a laser printer.
- B. Scan the image from a photo with a scanner and use a laser printer.
- C. Paste a film-camera photo on the poster with glue and photocopy it.
- D. Take a picture with a digital camera, use a laser printer and photocopy it.

7. What is the potential effect of the increased use of personally owned CD-ROMs as learning resources?
- A. An increase in the importance of libraries as learning centres in schools
 - B. The creation of new job opportunities for educational writers and publishers
 - C. The reduction in the ability of students to carry out research independently
 - D. The decrease in plagiarism (presenting another person's work as one's own)
8. What is the correct order in terms of **initial** cost to the user (least expensive to most expensive)?
- A. Freeware – commercial software – shareware
 - B. Shareware – freeware – commercial software
 - C. Commercial software – shareware – freeware
 - D. Freeware – shareware – commercial software
9. What is the name of a user interface with a text entry area where instructions are input?
- A. Combination user interface
 - B. Command line user interface
 - C. Graphical user interface
 - D. Programming interface
10. Data on traffic intensity has been collected by a data logger. Which tools would be most useful for displaying the results graphically?
- A. A spreadsheet
 - B. A modelling package
 - C. A database
 - D. CAD/CAM

11. Which particular type of computer virus is described as something useful in order to get users to place it on their disks?
- A. A stoned virus
 - B. A Trojan horse
 - C. Worm
 - D. Logic bomb
12. Biometric security systems use human characteristics such as fingerprints to control security devices. Which features make such systems possible?
- I. Fingerprints do not change with age.
 - II. Security systems can read and analyse fingerprints.
 - III. Fingerprints are unique to each human.
- A. I only
 - B. I and II
 - C. II and III
 - D. I, II and III
13. What is a consequence of people copying software illegally?
- A. Software becomes cheaper.
 - B. Software authors write more software.
 - C. Software becomes more expensive.
 - D. Software companies make more money.

14. Which list is the correct historical order of the information technology events? (DTP means Desk Top Publishing.)
- A. Word processing – spreadsheets – DTP – multimedia – World Wide Web
 - B. Word processing – DTP – spreadsheets – multimedia – World Wide Web
 - C. Word processing – spreadsheets – DTP – World Wide Web – multimedia
 - D. Spreadsheets – word processing – multimedia – DTP – World Wide Web
15. The ‘paperless’ office is difficult to achieve. Why is paper frequently wasted?
- I. Users print a lot of drafts before finalising a document.
 - II. There is a tendency to print extra copies ‘just in case’.
 - III. Users print documents without checking them properly beforehand.
- A. I only
 - B. I and II
 - C. II and III
 - D. I, II and III

16. Which of the following is an example of an enlargement using object-oriented (vector) graphics?

- A. 
- B. 
- C. **A** enlarged to **A**
- D. 

The spreadsheet below refers to questions 17 and 18.

	A	B	C	D	E	F
1	Name	Class 1	Class 2	Class 3	Mean	
2	Fred	53%	74%	65%		
3	Xenia	88%	96%	45%		
4	Myrtea	98%	87%	85%		
5	Yasin	96%	100%	94%		
6	Mariëtte	70%	35%	20%		

17. What is the correct formula to calculate the mean (average) class score for Fred?
- A. $= (B1 + C1 + D1) / 3$
 - B. $= B2 + C2 + D2 / 3$
 - C. $= (B + C + D) / 3$
 - D. $= (B2 + C2 + D2) / 3$
18. What is the most efficient way of putting the formula for calculating the mean (average) score for the other four students?
- A. Entering the same formula into cells E3, E4, E5 and E6
 - B. Copying the formula in cell E2 and paste it into cells E3, E4, E5 and E6
 - C. Entering Fred's formula modified for each row into cells E3, E4, E5 and E6
 - D. Copying row 2 to rows 3, 4, 5 and 6
19. Which situation would benefit from the use of a computer simulation?
- A. Predicting the effects of a decreasing fish population on the levels of other species
 - B. Drawing up a teaching schedule (timetable) for a high school
 - C. Creating artificial sounds from natural sounds
 - D. Determining the cost of building a bridge

20. What is the main reason for using a database?
- A. To store large quantities of data in cells
 - B. To manipulate pieces of data
 - C. To perform 'what if' scenarios
 - D. To store large quantities of data in records
21. Which software must be combined with a word processor to do a mail-merge process?
- A. E-mail
 - B. Database
 - C. Graphics
 - D. Communications
22. Databases are used by most organisations to keep and manage information. Which situation(s) could be regarded as having ethical considerations?
- I. Data contained in files is not validated.
 - II. Data contained in files has known errors.
 - III. Data files are given to third parties.
- A. I only
 - B. I and II
 - C. II and III
 - D. I, II and III

23. Which statement(s) could be considered a social consequence of posting creative musical works on web sites?
- I. More people will be able to hear the works.
 - II. Intellectual property rights are more at risk.
 - III. A reduction in number of recordings purchased.
- A. I only
 - B. I and II
 - C. II and III
 - D. I, II and III
24. A student downloads from the Internet the words to a song written by a living singer. She prints them out and makes three photocopies to give to the members of her band. What is required if she is to implement the 'fair use' policy of intellectual copyright?
- I. She must inform the author of the song.
 - II. She must include the document source in her printout.
 - III. She must charge the group members for the photocopying.
- A. I only
 - B. I and II
 - C. II and III
 - D. I, II and III

25. When is it ethically acceptable to copy an image from the Internet for your own use in a homework assignment?
- I. If you make changes to the image.
 - II. If you notify the creator.
 - III. If you give the appropriate credit.
- A. I only
 - B. I and II
 - C. II and III
 - D. I, II and III
26. Which statement(s) describe(s) how tutorial and training software can help developing countries to improve their education system?
- I. It helps teachers to give information to students.
 - II. It reduces the costs for networked computers.
 - III. It increases access to the latest information.
- A. I only
 - B. I and II
 - C. II and III
 - D. I, II and III
27. A robot is commanded to destroy a vacant building. Which 'law'(s) of robotics as stated by Asimov would apply in this case?
- A. Law 1
 - B. Laws 1, 2 and 3
 - C. Law 3
 - D. Law 2

28. In which field(s) does virtual reality have useful applications?

- I. Medical training
- II. Simulations of space flight
- III. Evaluating the design of recipes

- A. I only
- B. I and II
- C. II and III
- D. I, II and III

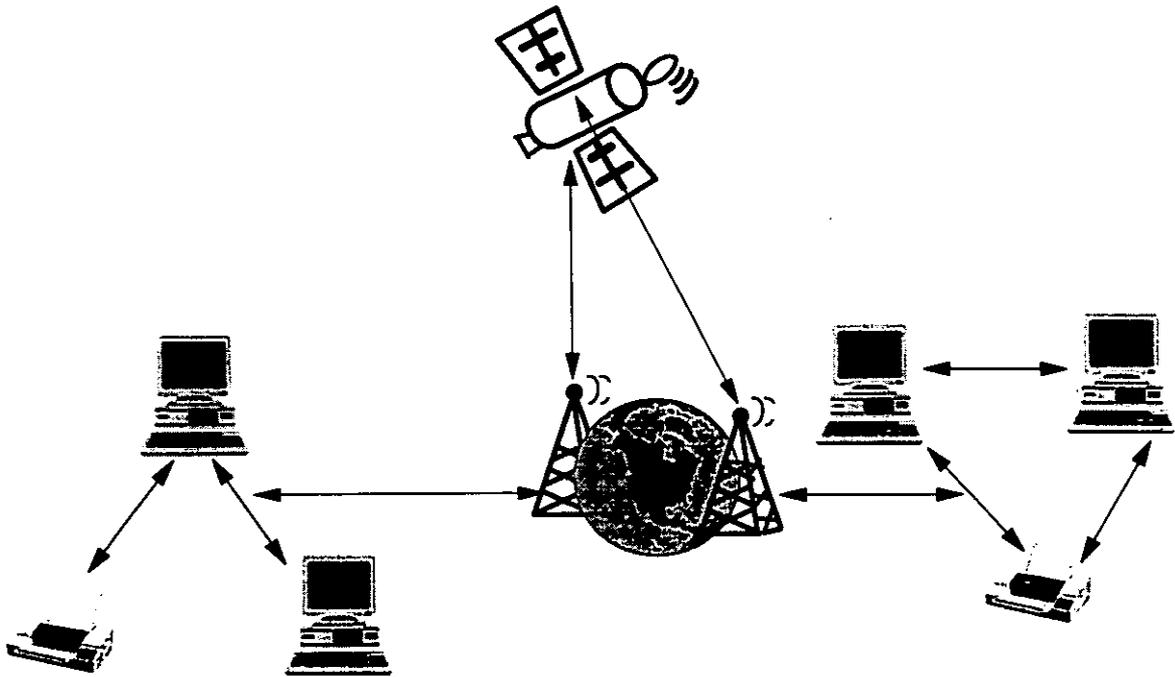
29. Which situation(s) demonstrate(s) the converging of television and computer technologies?

- I. TV cards in a computer which allow the reception of TV programmes
- II. Interface devices which allow surfing the Internet through the television
- III. The display of digitised images and video

- A. I only
- B. I and II
- C. II and III
- D. I, II and III

30. Which effects have the developments in Desktop Publishing (DTP) software and hardware had on publishing?
- I. There is a reduction in the demand for paper.
 - II. People working in the publishing industry have to develop new skills.
 - III. More individuals now have the ability to publish their own work.
- A. I only
 - B. I and II
 - C. II and III
 - D. I, II and III
31. Which statement concerning the transmission of large text documents from one country to another is true?
- A. E-mail is faster than fax.
 - B. E-mail is more personal than fax.
 - C. E-mail costs less than fax.
 - D. E-mail is more secure than fax.
32. Which information technology needs the highest speed of data transmission?
- A. Fax
 - B. E-mail
 - C. Telephone
 - D. Video-conferencing

The diagram below refers to question 33.



33. Which sort of network does the diagram represent?
- A. Local area
 - B. Remote area
 - C. Wide area
 - D. Satellite
34. Which activity would be considered poor etiquette when sending an e-mail request to a university researcher whom you have never met?
- A. Using uppercase letters for the whole text
 - B. Using slightly formal language
 - C. Restricting the message to a few short sentences
 - D. Not spell-checking the message

35. Which descriptions are benefits of reading a database of a customer on a LAN compared to using several stand-alone machines?
- I. Different types of computer can more easily share the data
 - II. Improved consistency of the data
 - III. Improved security of customer data
- A. I only
- B. I and II
- C. II and III
- D. I, II and III
36. What is the reason why many companies are now setting up intranets?
- A. Internet access for all their employees
- B. Better communication within their organisation
- C. World-wide advertising of their organisation
- D. World-wide advertising of their products
37. Which services on the Internet allow individuals to download the latest software upgrades and shareware programs?
- A. E-mail
- B. Gopher and ftp
- C. News Groups
- D. Search engines

38. The World Wide Web (WWW) is a dynamic resource for information. Which statement indicates an acceptable use of information obtained from the WWW?
- A. The information on the WWW is public domain, so that no reference to Web sites is necessary.
 - B. The information on the WWW is constantly changing, so it is available for everyone to use.
 - C. Citing information found only on the WWW must include the Uniform Resource Locator (URL), the date, the author and title, if possible.
 - D. Citing information taken from the WWW that is also found elsewhere must include the Uniform Resource Locator (URL), the date, the author and title, if possible.
39. Which type of software would be most useful in a situation where a message needs to be securely sent between two government agencies?
- A. Communications program
 - B. Encryption program
 - C. Virus checking software
 - D. Decompression program
40. Which **one** of the following is an example of a Uniform Resource Locator (URL)?
- A. `http://html`
 - B. `http://www.ibo.org`
 - C. `info@altavista.com`
 - D. `c:\www.ibo`
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