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INFORMATION TECHNOLOGY IN A GLOBAL SOCIETY
STANDARD LEVEL
PAPER 1

Monday 15 May 2000 (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 phase is concerned with manipulating and organising data to create information?

    A. Input

    B. Processing

    C. Output

    D. Storage

2. Mistakes or errors are often blamed on computers. Which human actions are used to reduce computer errors?

        I.   Accurate data entry

        II. Thorough testing to find bugs in software

        III. Defragmenting files stored on hard disks

    A. I only

    B. I and II

    C. II and III

    D. I, II and III

3. Which task is better done by a computer rather than a human?

    A. Welding automotive parts on an assembly line

    B. Interpreting the author's symbolism in a play

    C. Outlining the plot for a novel

    D. Making a rapid decision in a uniquely dangerous situation

4. Which ergonomic consideration would **not** be important in the design of a computer workstation?

    A. An adjustable chair with back and height variations

    B. Variable angles for the monitor's position

    C. A CPU tower positioned under the desk

    D. A height adjustable table for the keyboard

5. Which action demonstrates that the economic rights of a business have been invaded using information technology tools?

    A. Privacy of individuals

    B. Software Piracy

    C. Employee Monitoring

    D. Spamming

6. Which effect can be a positive result from using computer games?

    A. An improvement in problem-solving skills

    B. A decrease in hand-to-eye coordination

    C. The development of new antivirus software

    D. An increase in the use of analog technologies

7. Which action helps in maintaining the integrity of files?

    A.   Keeping diskettes labelled and indexed

    B.   Defragmenting a hard disk regularly

    C.   Verifying the accuracy of data on a regular basis

    D.   Using a complicated password

8. The New Frontier Company maintains large databases of business opportunities which may be accessed on the World Wide Web. What ethical consideration(s) should be considered when commercial business is available on the World Wide Web?

    I.   Whether the businesses offered are harmful to young people

    II.   Whether someone is responsible for the accuracy of the information provided

    III.   Whether a large profit can be expected from a small investment

    A.   I only

    B.   I and II

    C.   II and III

    D.   I, II and III

9. Which is a common practice associated with personal data stored in databases?

    A.   It is used only for the purposes for which it was collected.

    B.   It is bought, sold and traded by business.

    C.   It is stored on very secure computer networks.

    D.   It is encrypted to protect the individual's privacy.

10. Which effect(s) will be likely to result from technological improvements in speech and language software?

       I.   Friendlier human-computer interfaces

       II.   More people with physical handicaps using computer controlled devices

       III.   Faster and more accurate data entry

   A.   I only

   B.   I and II

   C.   II and III

   D.   I, II and III

11. Which statement applies to the legal copying of software?

   A.   It is allowed for making a backup.

   B.   It is an example of software piracy.

   C.   It is acceptable if you pay a nominal fee.

   D.   It is acceptable only if copied off a network.

12. With the availability of personal information stored in databases, ethical issues involving privacy are of great concern. Which situation(s) protect a person's right to privacy?

    I.   A company uses an unsecure database on its web site where visitors register.

    II.   A company encrypts its on-line credit card database.

    III.   A company informs customers that it will not permit other companies to use information from its customer database.

  A.   I only

  B.   I and II

  C.   II and III

  D.   I, II and III

13. Car manufacturers offer many standard features and options that are controlled by computer chips. These include air safety bags that open when the car impacts an object. Which is **not** an ethical consideration in providing these air safety bags?

  A.   The devices are tested to assure reliable operation upon impact.

  B.   The air bags may harm people if they explode when there is no impact.

  C.   The air bags may be made inactive by the users of the cars.

  D.   The air bags may be installed in different locations by car manufacturers.

14. Which actions would be examples of good ethical practice?

    I.   Copyrighting software

    II.   Acknowledging the author of duplicated images downloaded from the Internet

    III.   Using passwords to restrict access to medical databases containing patient data

  A.   I only

  B.   I and II

  C.   II and III

  D.   I, II and III

15. The operating system is necessary in order for a computer to function. Where is the operating system located?

       I.   It is stored on the hard disk.

       II.   It is stored in ROM.

       III.   It is part of an integrated application package.

    A.   I only

    B.   I and II

    C.   II and III

    D.   I, II and III

16. The quality of photographs produced from a digital camera and ink jet printer is poorer than the quality produced by using camera film and developing the film. What is the reason for this?

    A.   The number of dots per inch is less in the digital image than the developed photograph.

    B.   The person using the digital camera and ink jet printer is not as well trained.

    C.   The software in the digital camera is not as well designed as that used by professional developers.

    D.   Digital photography is much less expensive than using a camera to take the photographs and getting the film developed.

17. What is the name of the process which loads the operating system into the computer and stores it in the main memory?

    A.   Initialising

    B.   Formatting

    C.   Booting

    D.   Processing

18. Assume that a photographic image is originally stored in a TIFF format. Which file format will store the digital colour photographic image in a smaller file but may also lose some information from the original image files?

    A.   JPEG (JPG), "Joint Photographic Experts Group" format

    B.   BMP, "Bit Map" format

    C.   GIF, "Graphics Interchange Format"

    D.   PIC, "Picture" format

19. Which statement always applies to data to be processed?

    A.   It is input through a keyboard.

    B.   It is displayed on a monitor.

    C.   It is stored in RAM.

    D.   It is saved on a hard disk or diskette.

20. Which hardware allows input from a user into a virtual reality system?

    I.   Specialised headset

    II.   Body suit

    III.   Glove

    A.   I only

    B.   I and II

    C.   II and III

    D.   I, II and III

21. Which form of processing is used by an ATM (automatic teller machine) to keep accounts up to the moment?

    A.   Batch processing

    B.   Real-time processing

    C.   Group processing

    D.   Automatic processing

22. "Smart farming" is now possible with the use of moisture-sensitive probes in the ground linked to a computer. These probes take into account the type of crop and the stage of development, and then deliver the appropriate amount of water. What information technology is used in this system?

    A.   Fuzzy logic

    B.   Robotics

    C.   Computer modelling

    D.   Training software

23. Which unethical practice is an example of a computer crime?

    I.   Changing a software programme in a bank in order to steal money from the bank

    II.   Selling pirate software

    III.   Breaking into a computer shop and stealing computer hardware

    A.   I only

    B.   I and II

    C.   II and III

    D.   I, II and III

24. Which characteristic(s) is/are found in a good password?

       I.   It is written down and stored for easy reference.

       II.   It contains many characters.

       III.   It contains one or more non-alphabetic characters.

    A.   I only

    B.   I and II

    C.   II and III

    D.   I, II and III

25. Many computer applications are accompanied by wizards or assistants. What is/are the reasons these programmes were developed?

       I.   To provide guidance about how to use the programme

       II.   To provide a systematic method for producing a document using an application

       III.   To demonstrate the capabilities of the programme

    A.   I only

    B.   I and II

    C.   II and III

    D.   I, II and III

26. What features does an expert system require?

       I.   A user interface

       II.   A knowledge base

       III.   Search and sorting capabilities

    A.   I only

    B.   I and II

    C.   II and III

    D.   I, II and III

27. What makes file compression important for the storage of music?

    A.   Music files must be compressed before they can be sent by e-mail.

    B.   Storage space is limited on many computer systems.

    C.   The quality of compressed music files is higher.

    D.   Compressing music files converts them to a standard format.

28. Which trend does **not** describe the current development of new information technologies?

    A.   The increased availability of paper documentation for users

    B.   Faster, cheaper, more powerful hardware

    C.   The merging of existing technologies to create new technologies

    D.   More user-friendly software

29. Modern business communication systems allow some people to telecommute. Which groups of people does it help?

    I.   People in wheelchairs

    II.   People living in isolated areas

    III.   People with language difficulties

    A.   I only

    B.   I and II

    C.   II and III

    D.   I, II and III

30. Volumes of junk mail are received in a variety of ways. Which method is capable of sending large quantities of junk information very inexpensively and quickly to a large number of people?

    A.   Facsimile (fax messages)

    B.   Mail merged letters with the post

    C.   E-mail

    D.   Cellular phone

31. Which configuration is most appropriate for a computer which will be used for video conferencing?

	MHz	RAM	Hard Disk	Monitor	Sound Card
A.	100	64 MB	500 MB	17 inch high resolution	No
B.	60	32 MB	500 MB	17 inch high resolution	Yes
C.	400	96 MB	4 GB	21 inch high resolution	Yes
D.	500	64 MB	4 GB	21 inch high resolution	No

32. Which problem can be solved by using encryption software?

    A.   Receiving junk mail from advertisers

    B.   Preventing access to company files stored on a server

    C.   Avoiding e-mail spamming

    D.   Controlling employee work habits

33. The advertising industry has benefited greatly from a variety of current technologies which allow the use of animation and sound. Which type of software supports both of these features?

    I.   Desktop Publishing software

    II.   Multimedia software

    III.   Presentation software

    A.   I only

    B.   I and II

    C.   II and III

    D.   I, II and III

34. Which description(s) is/are characteristic of a multimedia presentation?

      I.   It uses text, sound, graphics and/or animations.

      II.   It uses a mouse or touch screen as a navigational device.

      III.   It must be accessible on the World Wide Web.

  A.   I only

  B.   I and II

  C.   II and III

  D.   I, II and III

35. Which statement(s) is/are true about newsgroups?

      I.   Any message posted to the group is sent to all subscribers.

      II.   Nearly all newsgroups are moderated.

      III.   No ethical consideration arises from the use of newsgroups.

  A.   I only

  B.   I and II

  C.   II and III

  D.   I, II and III

36. What social implications may arise from using sample essays provided on the Internet?

      I.   Students could use false information assuming it is valid.

      II.   Teachers may be forced to check the Internet for sources, increasing their marking load.

      III.   Students will improve their skills in looking for information on the Internet.

  A.   I only

  B.   I and II

  C.   II and III

  D.   I, II and III

37. Which Internet activities have an ethical implication?

      I.   Incorrect or inaccurate financial, legal or medical advice given on the Internet

      II.   E-mail spamming

      III.   Monitoring online gambling

    A.   I only

    B.   I and II

    C.   II and III

    D.   I, II and III

38. Which type of software would **not** be an example of groupware?

    A.   Database Management System

    B.   Multi-user appointment calendar

    C.   Project Management

    D.   Photo-editing programme

39. Many companies now sell items over the World Wide Web. What action(s) is/are considered unethical in selling items on the World Wide Web?

      I.   Making financial records of clients easily available to Web users

      II.   Encrypting credit card numbers before transfer over the network

      III.   Advertising books promoting a specific religious belief

    A.   I only

    B.   I and II

    C.   II and III

    D.   I, II and III

40. Which statement(s) describe(s) ethical considerations involving the implementation of an employee computer monitoring system?

      I.   The invasion of employees' privacy

      II.   The possible decrease in employees' morale

      III.   The significant cost in installation and maintenance of the system

  A.   I only

  B.   I and II

  C.   II and III

  D.   I, II and III