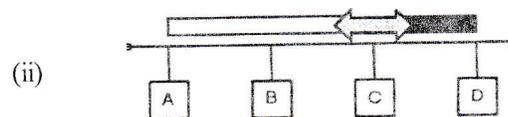
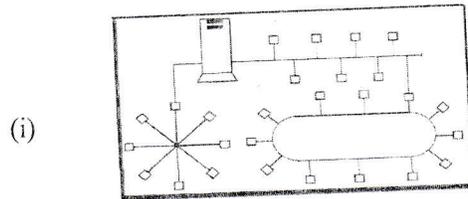


Answer **three** questions **only**. All questions carry equal marks.

1. (a) What is *physical topology* with respect to computer networking? [2 marks]

(b) Identify the following network topologies:



(c) Explain the topologies identified in 1(b). [6 marks]

2. (a) Explain *e-business*. [4 marks]

(b) State **three** benefits of e-business. [6 marks]

3. (a) What is:
(i) relationship, as used in database;
(ii) lookup field? [4 marks]

(b) Explain the following database relationship types:
(i) one-to-one;
(ii) one-to-many;
(iii) many-to-many. [6 marks]

4. (a) What is:
(i) computer port;
(ii) computer bus;
(iii) clock speed of a central processing unit (CPU)? [6 marks]

(b) State **one** difference between:
(i) data bus and address bus;
(ii) magnetic disk and optical disc. [4 marks]

5. (a) Explain *Internet chatting*. [3 marks]

(b) What is a *cookie*? [3 marks]

(c) List **four** examples of *browsers*. [4 marks]

END OF ESSAY TEST

Answer **all** the questions.

Each question is followed by four options lettered A to D. Find the **correct** option for **each** question and shade in **pencil** on your answer sheet, the answer space which bears the same letter as the option you have chosen.

Give only **one** answer to **each** question. An example is given below.

Which of the following is used to speed up data retrieval in database?

- A. Data file
- B. Key field
- C. Offline storage
- D. Program file

The correct answer is Key field, which is lettered B, and therefore answer space B would be shaded.

A

B

C

D

E

Think carefully before you shade the answer spaces; erase completely any answers you wish to change.

Do all rough work on this question paper.

Now answer the following questions.

1. A computer system is made up of:
 - I. hardware;
 - II. software;
 - III. liveware;
 - IV. electronic power.

Which of the following options are **correct**?

- A. I and II only
 - B. I and III only
 - C. I, II and III only
 - D. I, II, III and IV
2. To integrate multimedia in education, one needs appropriate
 - A. payments.
 - B. registration.
 - C. resources.
 - D. tutorials.
 3. Which of the following alignments generally gives a more formal appearance to a text in desktop publishing?
 - A. Centred
 - B. Fully Justified
 - C. Left Aligned
 - D. Ragged Right
 4. Which of the following operators is used for concatenation in spreadsheet application?
 - A. ‘
 - B. !
 - C. #
 - D. &

5. Which of the following depicts that a CMOS battery is going down? The computer
- A. fails to boot properly.
 - B. gives a long beep sound.
 - C. starts losing information in memory.
 - D. starts showing incorrect date and time.
6. The set of micro-instructions and programs in the Read Only Memory is referred to as
- A. firmware.
 - B. liveware.
 - C. malware.
 - D. software.
7. Examples of object oriented programming languages include:
- I. COBOL;
 - II. JAVA;
 - III. BASIC;
 - IV. C++.

Which of the following options are **correct**?

- A. I and III only
 - B. II and III only
 - C. II and IV only
 - D. III and IV only
8. The flowchart symbol  is known as
- A. Connector.
 - B. Decision.
 - C. Process.
 - D. Start.
9. A modem converts incoming analogue data to
- A. analogue signal.
 - B. digital signal.
 - C. parallel signal.
 - D. serial signal.
10. Which of the following fields in a database application can help speed up data retrieval?
- A. Data
 - B. Key
 - C. Program
 - D. Record
11. A single hexadecimal digit is represented by
- A. one bit.
 - B. two bits.
 - C. four bits.
 - D. eight bits.
12. Communications media such as copper wire, coaxial cables or wireless systems that are used to interconnect the other components of telecommunications network are referred to as
- A. channels.
 - B. modem.
 - C. processors.
 - D. servers.

C
C
B
D
D

Turn over

13. The following are examples of wireless technology **except**
- A. bluetooth.
 - B. infra-red.
 - C. fibre optics.
 - D. communication satellites.
14. The following are computer crimes **except**
- A. hacking.
 - B. kidnapping.
 - C. cyber terrorism.
 - D. child pornography.
15. In order to add a new row to an existing table, the SQL statement to use is
- A. CREATE.
 - B. INSERT.
 - C. UPDATE.
 - D. WHERE.
16. A grid of rows and columns is called
- A. cell.
 - B. column.
 - C. row.
 - D. table.
17. The following are means of disk organisation **except**
- A. cylinders.
 - B. heads.
 - C. sectors.
 - D. tracks.
18. The device that converts **AC** to **DC** to run the computer is called
- A. motherboard.
 - B. power converter.
 - C. power supply unit.
 - D. uninterruptible power supply.
19. Tasks undertaken by system software include:
- I. peripheral control
 - II. multiprogramming
 - III. input output control
 - IV. project management
 - V. memory management

Which of the following options is **correct**?

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

20. Which type of operating system (OS) is run by the Palm OS for palm held computers?
- Single-user, single programming OS
 - Single-user, multiprogramming OS
 - Multi-user, single programming OS
 - Multi-user, multiprogramming OS

21. Some keywords used to represent loops in pseudocode include:
- ENTRANCE;
 - DO WHILE;
 - DO UNTIL;
 - END DO.

Which of the following options are **correct**?

- I, II and III only
 - I, III and IV only
 - II, III and IV only
 - I, II, III and IV
22. The following are network resources **except**
- applications.
 - cache.
 - files.
 - printers.
23. BNC-T connector is associated with which type of cable?
- Coaxial
 - Ethernet
 - Fibre-optic
 - Twisted-pair
24. Which of the following is **not** an example of an information technology crime? Theft of
- ebook.
 - hardware.
 - information.
 - software.

25. The binary number 101.0110_2 converts to decimal as
- 1.357
 - 1.375
 - 5.357
 - 5.375

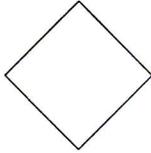
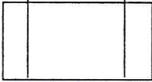
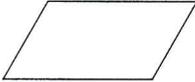
$$\begin{array}{r}
 (0 \times 2^0) + (1 \times 2^{-1}) + (0 \times 2^{-2}) + (1 \times 2^{-3}) + (0 \times 2^{-4}) \\
 0 + \frac{1}{2} + \frac{1}{8} + 0 + 0 \\
 0.5 + 0.125 = 0.625
 \end{array}$$

26. The octal fraction 0.65 converts to binary as
- 0.110011
 - 0.110101
 - 101101
 - 101110

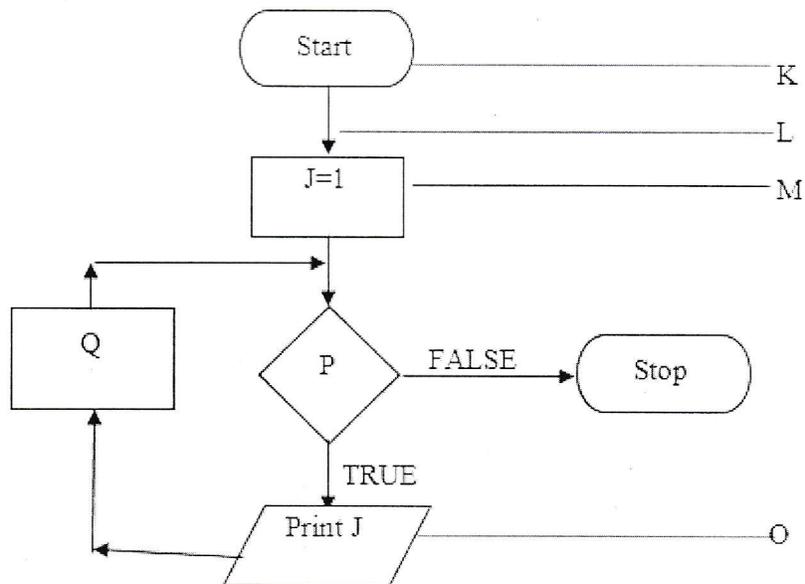
$$\begin{array}{r}
 (0 \times 8^0) + (6 \times 8^{-1}) + (5 \times 8^{-2}) \\
 0 + 6 + 0.625 = 6.625
 \end{array}$$

27. Which of the following computer keystrokes will take a user to the last line of a typed document?
- A. Ctrl + Home
 - B. Ctrl + End
 - C. Shift + Home
 - D. Shift + End
28. When a user creates **two** or **more** separate windows containing part of the spreadsheet that can be viewed, such a user has created
- A. panes.
 - B. sections.
 - C. subsets.
 - D. views.
29. The function key F12 in a spreadsheet application opens the
- A. Close dialogue box.
 - B. Font dialogue box.
 - C. Open dialogue box.
 - D. Save As dialogue box.
30. To view headers and footers information in a spreadsheet application, use the
- A. web layout button.
 - B. normal view button.
 - C. print preview button.
 - D. outline layout button.
31. The **first** step involved in installing a new device is
- A. installing software.
 - B. booting the computer.
 - C. reading the instructions manual.
 - D. disassembling the computer.
32. The **first** logical step required when installing a new hard disk is to
- A. copy the system files.
 - B. partition the new hard disk.
 - C. low-level format the new hard disk.
 - D. high-level format the new hard disk.
33. Which DOS configuration should a user check if a device is **not** loading properly?
- A. AUTOEXEM.BAT
 - B. BOOT.INI
 - C. CONFIG.SYS
 - D. SYSTEM.INI
34. The following information are stored on a computer's CMOS chip **except**
- A. date and time.
 - B. memory information.
 - C. printer configuration.
 - D. hard drive configuration.

35. Which of the following utility programs is used in freeing space on hard disk?
- A. Backup
 - B. Check disk
 - C. Disk cleanup
 - D. Encryption
36. Computation in a flowchart is effected using which of the following symbols?

- A. 
- B. 
- C. 
- D. 

The flowchart below shows an algorithm for printing the numbers 1 to 10 **inclusive**. Certain statements of the algorithm have been represented with the letters **P** and **Q**. Use the flowchart below to answer questions 37 to 40.



37. The name of the symbol labelled **K** is
- A. Data.
 - B. Decision.
 - C. Flow line.
 - D. Terminator.

38. The name of the symbol labelled **O** is
- A. Decision.
 - B. Flow line.
 - C. Input/Output.
 - D. Process.
39. Which condition should be placed in **P** in order for the algorithm to function **correctly**?
- A. $J < 10$
 - B. $J \leq 10$
 - C. $J > 10$
 - D. $J \geq 10$
40. The **correct** statement to be placed in **Q** in order to update the value of the variable **J** to enable the algorithm to function **correctly** is
- A. $J = 1 - J$.
 - B. $J = 1 + J$.
 - C. $J = J - 2$.
 - D. $J = J + 2$.
41. Which of the following reasons justifies the use of a layered approach to networking?
- A. Allows for large networking
 - B. Makes creation of networks easy
 - C. Allows many programmers to implement a network
 - D. Permits computers on different platforms to communicate
42. The internet service that allows users to connect to remote computers and run applications is referred to as
- A. gopher.
 - B. hypertext.
 - C. switching.
 - D. telnet.
43. The medium in a network that prepares data for transmission is the
- A. hard disk.
 - B. microprocessor.
 - C. twisted pair cable.
 - D. network interface card.
44. A system of connected computers, telephones or other communications devices that can communicate with one another is called a
- A. closed network.
 - B. circuit switching.
 - C. packet switching.
 - D. communications network.

45. One-to-many relationship between student and class tables means
- A. one class may have many students.
 - B. one student may have many classes.
 - C. many classes may have many students.
 - D. many students may have many classes.
46. A database language that informs database management system about the whole data structure is called
- A. data control language.
 - B. dynamic link library.
 - C. data definition language.
 - D. data manipulation language.
47. Presenting information in a particular order based on numeric or alphabetic value is called
- A. arranging.
 - B. ordering.
 - C. searching.
 - D. sorting.
48. Which of the following operators selects a record when only **one** condition is satisfied?
- A. AND
 - B. IF
 - C. NOT
 - D. OR
49. E-commerce is an integral part of
- A. e-business.
 - B. e-governance.
 - C. e-learning.
 - D. e-mail.
50. As a webpage developer, which of the following elements should be used to present an unordered list of items?
- I. ol
 - II. ul
 - III. li
 - IV. table
- A. IV only
 - B. I and II only
 - C. II and III only
 - D. I, II and III only

END OF PAPER