

PC6232&1

WASSCE 2017

INFORMATION

AND COMMUNICATIONS

TECHNOLOGY (ELECTIVE) 2&1

Essay & Objective

2 hours

2&1

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THE WEST AFRICAN EXAMINATIONS COUNCIL

**West African Senior School Certificate Examination
for Private Candidates**

PC 2017

**INFORMATION AND COMMUNICATIONS
TECHNOLOGY (ELECTIVE) 2&1**

2 hours

Do not open this booklet until you are told to do so. While you are waiting, read and observe the following instructions carefully. Write your name and index number in ink in the spaces provided above.

This paper consists of two papers. Answer Paper 2 which comes first in your answer booklet and Paper 1 on your Objective Test answer sheet. Paper 2 will last 1 hour after which the answer booklet will be collected. Do not start Paper 1 until you are told to do so. Paper 1 will last 1 hour.

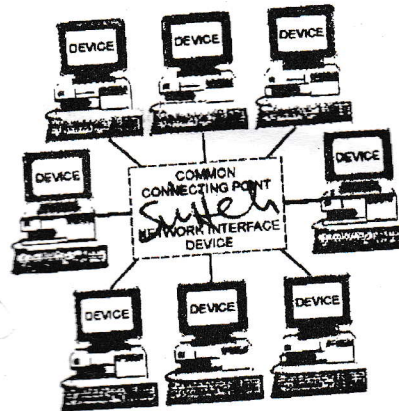
Answer three questions only. All questions carry equal marks.

1.

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

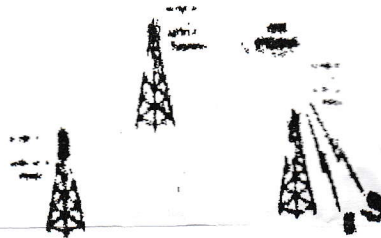
(b) Identify the following topologies:

(i)

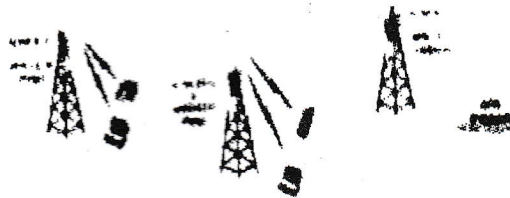


[1 mark]

(ii)



[1 mark]



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

2.

(a) What is:

- (i) cache memory;
- (ii) register?

[6 marks]

(b) State two functions of the Arithmetic Logic Unit of the Central Processing Unit. [4 marks]

3.

(a) Define:

- (i) foreign key;
- (ii) primary key;
- (iii) relational database.

[6 marks]

(b) Differentiate between *sorting* and *filtering* of data. [2 marks]

(c) List four examples of database programs. [2 marks]

45
30
15

4. (a) Using an IF function, write the formula that calculates the grades obtained by students in an examination using the information below, assuming cell A2 in a spreadsheet holds the mark 65.

<u>Mark</u>	<u>Grade</u>
Above 80	A
71 – 80	B
61 – 70	C
51 – 60	D
Less than 51	E

[6 marks]

- (b) What will the following functions return in a spreadsheet application:

(i) NOW ();

(ii) MAX ()? ✓

[4 marks]

5. (a) What is *computer crime*? ✓

[2 marks]

- (b) State **four examples** of computer crime. ✓

[4 marks]

- (c) State **one preventive measure** for **each** of the crimes stated in (b). ✓

[4 marks]

END OF ESSAY TEST

Turn over

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.


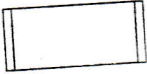
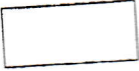


Do all rough work on this question paper.

Now answer the following questions.

1. The time between job submission and return of results in batch processing is known as the
 - A. elapsed time.
 - B. job around time.
 - C. return around time.
 - D. turn around time.
2. E-Health is defined as the
 - A. healing of people by medical professionals.
 - B. purchasing of health equipment using the internet.
 - C. printing of health information using electronic means.
 - D. transfer of health resources and health care by electronic means.
3. The **smallest** page size in ISO's A series is
 - A. A0.
 - B. A3.
 - C. A4.
 - D. A10.
4. Which of the following runs vertically in a table?
 - A. Border
 - B. Cell
 - C. Column
 - D. Row
5. On a hard disk, information is written to or read from the
 - A. actuators.
 - B. heads.
 - C. platters.
 - D. spindles.

6. A collection of interrelated files stored on a computer system is called
- A. database.
 - B. presentation.
 - C. spreadsheet.
 - D. workbook.
7. Which of the following statements are **true**?
- I. The interpreter converts source code into object code statement by statement.
 - II. The compiler reads the entire source code before converting it into object code.
 - III. Both the compiler and interpreter are language translators.
- A. I and II only
 - B. I and III only
 - C. II and III only
 - D. I, II and III
8. The HTML tag that creates structured data is
- A. td.
 - B. th.
 - C. table.
 - D. hl.
9. A peer-to-peer network is also called a
- A. class.
 - B. cluster.
 - C. stand-alone.
 - D. workgroup.
10. A search value in a database application can be an exact value or a
- A. relationship.
 - B. logical operator.
 - C. wild card character.
 - D. comparison operator.
11. The **smallest** unit of data which is **addressable** on the computer memory is
- A. bit.
 - B. byte.
 - C. nibble.
 - D. word.
12. A source program is
- A. executable.
 - B. obtained from an expensive source.
 - C. not in the language of the computer.
 - D. one that must be correctly translated before execution.
13. Which of the following **attributes** is **not** associated to useful information?
- A. Accurate
 - B. Neat
 - C. Precise
 - D. Reliable

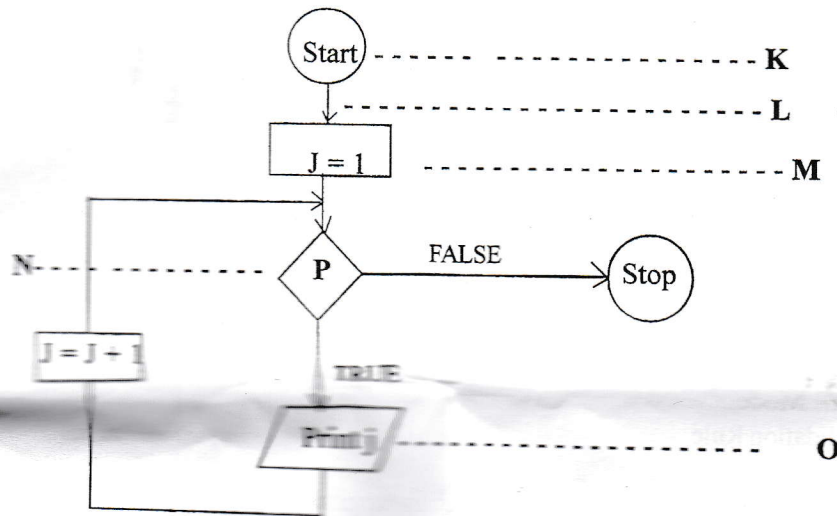
14. Learning that employs content on compact disc is called
- A. e-commerce.
 - B. distance learning.
 - C. virtual learning.
 - D. computer assisted learning.
15. Text composition in desktop publishing does **not** include
- A. embedding fonts.
 - B. creating drop caps.
 - C. adjusting line lengths.
 - D. adding bold and italic type.
16. Which of the following commands is used to view or edit configuration files?
- A. Autoedit
 - B. Cfgedit
 - C. Regedit
 - D. Sysedit
17. The <i> tag must be closed with
- A. <end i>.
 - B. </i>.
 - C. <i>.
 - D. <i/>.
18. The hard disk space that the CPU uses as additional RAM when there is not enough RAM is called
- A. cache memory.
 - B. electronic memory.
 - C. flash memory.
 - D. virtual memory.
19. Which of the following software is a system software?
- A. Application software
 - B. Anti-virus software
 - C. Operating system
 - D. Package system
20. Low-leveling a hard disk refers to
- A. organizing the disk into sectors and tracks.
 - B. installing the disk at the bottom of the computer.
 - C. organizing the disk into clusters and files allocation tables.
 - D. getting a disk ready for the installation of an operating system.
21. Arrange in ascending order the age of the following programming languages:
- I. BASIC
 - II. C++
 - III. COBOL
 - IV. FORTRAN
- A. IV, I, II and III
 - B. IV, II, I and III
 - C. IV, III, II and I
 - D. IV, II, III and I

22. Which of the following software is **not** an example of a network operating system?
- Visual Basic
 - Windows server
 - Netware
 - Unix
23. In a flowchart where a user is expected to provide a value to be used by the program, the action must be depicted by the symbol
- 
 - 
 - 
 - 
24. The flowchart symbol  is known as
- connector symbol.
 - delay symbol.
 - off-page connector symbol.
 - terminator symbol.
25. Query can be used to do the following activities **except**
- create tables.
 - delete records.
 - modify records.
 - normalize field names.
26. The data unit that contains information related to layer 2 of the OSI reference model is called a
- frame.
 - protocol.
 - link unit.
 - translation unit.
27. Which of the following programs **copies itself** into memory or onto a disk until no more space is left?
- Anti-viral agent
 - Trojan
 - Virus
 - Worm
28. Which of the following numbers is **not** a binary number?
- 101
 - 110
 - 111
 - 121

29. One kilobyte (KB) is expressed as
- A. 1,024 bytes.
 - B. 1,250 bytes.
 - C. 10,000 bytes.
 - D. 1,000,000 bytes.
30. Which of the following terms has the same concept as WYSIWYG?
- A. On-line formatting
 - B. Off-line formatting
 - C. Off-screen formatting
 - D. On-screen formatting
31. To move to a specific cell in a worksheet, enter data in the
- A. formula box.
 - B. name box.
 - C. search box.
 - D. zoom box.
32. The concatenated operator symbol used in a spreadsheet is
- A. ;
 - B. !
 - C. #
 - D. &
33. To view headers and footers information in a spreadsheet application, use the
- A. normal view button.
 - B. print layout button.
 - C. web layout button.
 - D. outline layout button.
34. The function of disk defragmenter is to
- A. free space on disk.
 - B. increase space on disk.
 - C. report on status of tracks.
 - D. examine the surface of disk.
35. A signal weakness as it travels along a transmission medium is referred to as
- A. attenuation.
 - B. crosstalk.
 - C. sneaking.
 - D. transmission delay.
36. When connecting an electrostatic discharge strap to an extension cord, it must be connected to the
- A. hot pin.
 - B. ground.
 - C. negative pin.
 - D. positive pin.
37. Which of the following signals degrades the **most** over long distance transmission?
- A. Analogue transmission
 - B. Digital transmission
 - C. Parallel transmission
 - D. Serial transmission

38. The bus that bypasses the random access memory and connects the expansion slots to the central processing unit is the
- address bus.
 - control bus.
 - data bus.
 - local bus.
39. Utility software include the following **except**
- data recovery.
 - device drivers.
 - disk defragmenter.
 - office suite.

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 to answer questions 40 to 43.



40. The name of the symbol labelled **L** is
- Data.
 - Decision.
 - Flow line.
 - Process.
41. The name of the symbol labelled **N** is
- Decision.
 - Connector.
 - Flow line.
 - Process.
42. The condition to be placed in **P** in order for the algorithm to function correctly is
- $J < 10$.
 - $J \leq 10$.
 - $J > 10$.
 - $J \geq 10$.
43. The name of the symbol labelled **M** is
- Data.
 - Flow line.
 - Process.
 - Predefined process.

44. A computer that is shared by several users on a network is called
- mainframe computer.
 - mini-computer.
 - server.
 - workstation.
45. Which of the following bus signal lines allows a device to request the processor's attention?
- Clock address
 - DMA address
 - I/O address
 - IRQ address
46. The presence of start stop bit is a characteristic of
- asynchronous transmission.
 - duplex transmission.
 - simplex transmission.
 - synchronous transmission.
47. Which of the following query commands will a user use to answer the question: "Which student is below 15 years?"
- Cross tab query
 - Select query
 - Search query
 - Update query
48. To enter a field to display **** instead of the actual characters in a database, use the command
- Index.
 - Input Mask.
 - IME Mode.
 - Validation Rule.
49. Which of the following data types are in database application?
- Text
 - Integer
 - Currency
 - Memo
- I, III and IV only
 - II, III and IV only
 - I, II and III only
 - I, II, III and IV
50. The following are computer crimes except
- phishing.
 - identity theft.
 - online shopping.
 - software piracy.

END OF PAPER