

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

1. (a) What is an *information system*? [2 marks]
- (b) Describe **two** factors that may influence the matching of an information system to the organisation information requirement. [8 marks]
2. (a) Describe the *motherboard* of a computer. [6 marks]
- (b) (i) What is a *computer port*? [2 marks]  
(ii) List **two** computer ports. [2 marks]
3. (a) What is  
(i) computer assisted learning (CAL);  
(ii) web based learning (WBL)? [4 marks]
- (b) State **three** advantages of computer assisted learning over internet based learning. [6 marks]
4. (a) Explain *system software*. [3 marks]
- (b) What is an *operating system*? [2 marks]
- (c) State **two** functions of an operating system. [2 marks]
- (d) List **three** examples of an operating system. [3 marks]
5. State, in order, **five** stages involved in the development of a computer program. [10 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 digital computer represents data in
  - A. compact form.
  - B. continuous form.
  - C. discrete form.
  - D. integrated form.
2. The binary number  $11.101_2$  converts to decimal as
  - A. 3.256
  - B. 3.625
  - C. 3.652
  - D. 4.652
3. The octal fraction 0.65 converts to binary as
  - A. 0.110011
  - B. 0.110101
  - C. 101101.0
  - D. 101110.0
4. In describing people whose jobs involve sponsoring and funding the project to develop, operate and maintain the information system, the term used is
  - A. systems owner.
  - B. systems builder.
  - C. information worker.
  - D. internal system user.
5. Management information systems (MIS) refers to
  - A. processing business transactions.
  - B. capturing and reproducing the knowledge of an expert programmer.
  - C. creating and sharing document that support day-to-day office activities.
  - D. using transaction data to produce information needed by managers to run a business.

6. In what aspect is a computer **not** smarter than a human being? Ability to
- make well-reasoned decisions.
  - store massive amounts of information.
  - solve complex mathematical problems in a second.
  - recall information stored in a split second.
7. A collection of linked documents or pages stored on millions of computers and distributed across the world is called
- browser.
  - hyperlink.
  - internet.
  - world wide web.
8. A non-dedicated office making use of interconnected computers and communications technologies is called
- extended office.
  - electronic office.
  - temporary office.
  - virtual office.
9. In desktop publishing, a design plan is also referred to as a
- balance.
  - grid.
  - margin.
  - row.
10. Desktop publishing rely on hardware support such as
- Microphone
  - Multimedia speakers
  - Monitors
  - Scanners

Which of the following options will give the **best** support?

- I and II only
- II and III only
- III and IV only
- I, II, III and IV

11. A **three** column grid can be used in publications such as
- Newsletter
  - Magazine
  - Newspaper

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

- I and II only
- I and III only
- II and III only
- I, II and III.

12. In spreadsheet, a user can create a relationship between **two** cells using
- A. Formula.
  - B. Numbers.
  - C. Parentheses.
  - D. Text.
13. The **most** appropriate form of graphics used for presenting facts and figures information is
- A. background.
  - B. chart.
  - C. flowchart.
  - D. legend.
14. To view headers and footers information in a spreadsheet application, use the
- A. web layout button.
  - B. print layout view.
  - C. normal view button.
  - D. outline layout button.
15. Which of the following formulas will spreadsheet **not** be able to compute?
- A. = SUM(Sales) – A3
  - B. = SUM(A1:A5)\*5
  - C. = SUM(A1:A5)/(10 – 10)
  - D. = SUM(A1:A5) – 10
16. Concatenation of text in a spreadsheet application can be done using
- A. ampersand.
  - B. apostrophe.
  - C. exclamation.
  - D. hash.
17. The part of the computer that temporarily stores data and programs for immediate processing is the
- A. hard disk.
  - B. system unit.
  - C. read only memory.
  - D. random access memory.
18. The following options are means of disk organisation **except**
- A. cylinders.
  - B. heads.
  - C. sectors.
  - D. tracks.
19. Which of the following voltage levels are used respectively by monitors and electronic components inside the system unit?
- A. –5 / –12
  - B. –12 / –5
  - C. +5 / +12
  - D. +12 / –5

20. A user is to install a second IDE hard drive in a PC that has only **one** IDE adapter. The first drive will still be the boot drive. The second drive should be configured as a
- A. master disk.
  - B. primary disk.
  - C. secondary disk.
  - D. slave disk.
21. The **three** major functions of computers are
- A. process data, supply data and produce output.
  - B. accept data, process data and display information.
  - C. accept data, produce data and produce information.
  - D. process data, produce data and display information.
22. The function of disk defragmenter is to
- A. optimize disk space.
  - B. increase space on disk.
  - C. report on status of tracks.
  - D. examine the surface of disk.
23. The first logical step required when installing a new hard drive is to
- A. copy the system files over.
  - B. partition the new hard drive.
  - C. low-level format the new hard drive.
  - D. high-level format the new hard drive.
24. Computer software can be divided into
- A. icons and folders.
  - B. software and utility.
  - C. algorithm and compiler.
  - D. system and application.
25. Which of the following options refers to the copyrighted software that is given away at no cost by its owner?
- A. Application
  - B. Firmware
  - C. Freeware
  - D. Liveware
26. A rectangle that appears on the screen and displays information from a particular application is called
- A. control box.
  - B. dialogue box.
  - C. menu bar.
  - D. taskbar.
27. Which of the following options contains computer instructions?
- A. Audio
  - B. Data
  - C. Program
  - D. Video
28. Which of the following software is used to accomplish specific task by a computer user?
- A. Application software
  - B. Driver software
  - C. System software
  - D. Utility software

29. The computer programming language specifically developed for business solutions is
- A. ADA.
  - B. BASIC.
  - C. COBOL.
  - D. JAVA.
30. Arrange in ascending order, the ages of the following programming languages:
- I. BASIC
  - II. C<sup>++</sup>
  - III. COBOL
  - IV. FORTRAN
- A. IV, II, III and I
  - B. IV, III, I and II
  - C. IV, I, III and II
  - D. IV, III, II and I
31. Finite number of sequential instructions is called
- A. algorithm.
  - B. control flow.
  - C. flowchart.
  - D. program flow.
32. Which of the following tags surrounds a group of form control in HTML?
- A. Fieldset
  - B. Input
  - C. Label
  - D. Legend
33. Which of the following tags creates the **biggest** headings in a browser?
- A. <h1>...</h1>
  - B. <h2>...</h2>
  - C. <h4>...</h4>
  - D. <h6>...</h6>
34. The term *class* in object oriented programming refers to
- A. a constant.
  - B. a variable.
  - C. a collection.
  - D. an instance of an object.
35. What will be the output of the following code?
- ```
10 REM Example of how a comma
20 REM affects the output
30 REM print statement
40 PRINT "4+7 = ",
50 PRINT 4+7
60 END
```
- A. 4 + 7
  - B. 4 + 7 =
  - C. 11
  - D. 4 + 7 = 11

36. The tag `<tr valign="top">` means that the content of the
- row is aligned to the bottom of the border.
  - cell is aligned to the top of the cell border.
  - row is aligned to the top of the row border.
  - table is aligned to the bottom of the table border.
37. Which of the following operators selects a record when even **one** condition is satisfied?
- AND
  - IF
  - NOT
  - OR
38. Intra-page link in HTML is identified with the symbol
- #
  - \$
  - %
  - !
39. The layer responsible for dialogue control in the OSI model is the
- data link layer.
  - network layer.
  - physical layer.
  - session layer.
40. Figure 1 represents which type of network architecture?

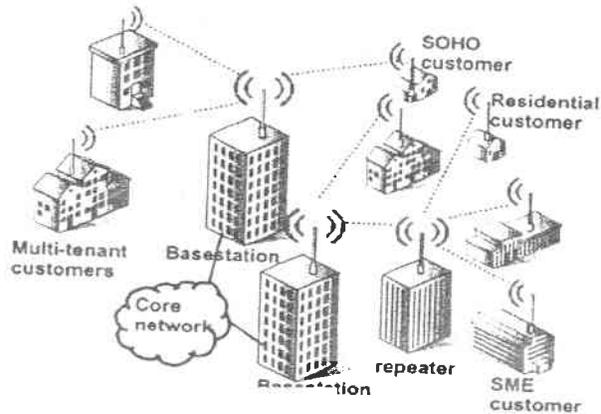


Figure 1

- Local Area Network
  - Metropolitan Area Network
  - Personal Area Network
  - Storage Area Network
41. Networks that use different communications architecture are interconnected by using
- bridge.
  - gateway.
  - hub.
  - protocol.
42. To prevent intruders from tapping into a network, it is advisable to use
- coaxial cable.
  - twisted pair cable.
  - optical fibre cable.
  - untwisted pair cable.

Turn over

43. Which of the following protocols uploads files to a host machine?
- A. FTP
  - B. PGP
  - C. POP
  - D. TCP
44. The object that stores commands to retrieve data from a created database is called a
- A. Form.
  - B. Query.
  - C. Report.
  - D. Table.
45. In a datasheet, **each** column represents a
- A. database.
  - B. field.
  - C. record.
  - D. table.
46. Checking input data against specified criteria is referred to as data
- A. check.
  - B. control.
  - C. validation.
  - D. verification.
47. Which of the following features creates a drop down list of values in a database programming environment?
- A. Hyperlink
  - B. Lookup Wizard
  - C. Macro
  - D. Memo
48. Which of the following options is **not** a data type in a database application?
- A. Date/Time
  - B. Number
  - C. Picture
  - D. Text
49. Which of the following fields has 8 bytes width?
- A. Date/Time
  - B. Hyperlink
  - C. Memo
  - D. Number
50. Which of the following arrangements **best** describe the file structure?
- I. File
  - II. Field
  - III. Character
  - IV. Record
- A. III, I, IV and II
  - B. II, III, I, and IV
  - C. III, II, IV and I
  - D. II, III, IV and I

**END OF PAPER**

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WASSCE 2018

INFORMATION

AND COMMUNICATIONS

TECHNOLOGY (ELECTIVE) 2&1

Essay & Objective

2 hours

**2&1**

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Index Number... 0050106639

THE WEST AFRICAN EXAMINATIONS COUNCIL

West African Senior School Certificate Examination  
for School Candidates

SC2018

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.*