

SC 6231
WASSCE 2025
INFORMATION
AND COMMUNICATIONS
TECHNOLOGY (ELECTIVE) 1
Objective Test
 1 hour

- ❖ TOPIC BASE, MOCK & PAST QUESTIONS
- ❖ NOTES
- ❖ SYLLABUS
- ❖ CHIEF EXAMINERS' REPORT
- ❖ LESSON NOTES
- ❖ COURSES
- ❖ CAREER/SCHOLARSHIP OPPORTUNITIES
- ❖ CAMPUS NEWS

Name

Index Number

THE WEST AFRICAN EXAMINATIONS COUNCIL

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

SC 2025 **INFORMATION AND COMMUNICATIONS TECHNOLOGY (ELECTIVE) 1** 1 hour
 [50 marks]

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 the spaces provided above.

1. Use **2B** pencil throughout.
2. On the pre-printed answer sheet, check that the following details are **correctly** printed:
 - (a) In the space marked **Name**, check your **surname** followed by your **other names**.
 - (b) In the spaces marked *Examination*, *Year*, *Subject* and *Paper*, check 'WASSCE', 'SC 2025', 'INFORMATION AND COMMUNICATIONS TECHNOLOGY (ELECTIVE)', and '1' respectively.
 - (c) In the box marked *Index Number*, your **index number** has been printed vertically in the spaces on the left-hand side, and **each** numbered space has been shaded in line with **each** digit. **Reshade** each of the shaded spaces.
 - (d) In the box marked *Subject Code*, the digits 623113 are printed vertically in the spaces on the left-hand side. **Reshade** the corresponding numbered spaces as you did for your index number.
3. An example is given below. This is for a male candidate whose name is Ben Abu TETTEH. His *index number* is 7102143958 and he is offering *Information and Communications Tech. (Elect.) 1*.

THE WEST AFRICAN EXAMINATIONS COUNCIL
ANSWER SHEET

PRINT IN BLOCK LETTERS		GHA
Name TETTEH BEN ABU		
Examination WASSCE	Year: SC 2025	
Subject INFO. AND COMM. TECH. (ELECT)	Paper: 1	
INSTRUCTIONS TO CANDIDATES 1 Use grade 2B pencil throughout 2 Answer each question by choosing one letter and shading like this: 3 Erase completely any answer you wish to change. 4 Leave extra spaces blank if the answer spaces provided are more than you need. 5 Do not make any markings across the heavy black marks at the right hand edge of your answer sheet.		
INDEX NUMBER	SUBJECT CODE	
7 0 1 2 3 4 5 6 7 8 9 1 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 2 0 1 2 3 4 5 6 7 8 9 1 0 1 2 3 4 5 6 7 8 9 4 0 1 2 3 4 5 6 7 8 9 3 0 1 2 3 4 5 6 7 8 9 9 0 1 2 3 4 5 6 7 8 9 5 0 1 2 3 4 5 6 7 8 9 8 0 1 2 3 4 5 6 7 8 9	6 0 1 2 3 4 5 6 7 8 9 2 0 1 2 3 4 5 6 7 8 9 3 0 1 2 3 4 5 6 7 8 9 1 0 1 2 3 4 5 6 7 8 9 1 0 1 2 3 4 5 6 7 8 9 3 0 1 2 3 4 5 6 7 8 9	
For Supervisors only		
If candidate is absent shade this space 		

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 options 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

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

Do all rough work in this question paper.

Now answer the following questions.

1. The computer-based tools used by an organization to support information processing needs is known as
 - A. information storage tools.
 - B. information retrieval tools.
 - C. information processing tools.
 - D. information technology tools.
2. A digital audio file that is downloaded from the Internet for playback on personal computers or mobile devices is referred to as
 - A. cookies.
 - B. google+.
 - C. podcast.
 - D. YouTube.
3. The process of removing a portion of a graphic in a design is termed
 - A. cutting.
 - B. resizing.
 - C. scaling.
 - D. cropping.
4. The feature in Spreadsheet application that displays only a specific data according to a given criteria is **best** known as
 - A. sort.
 - B. filter.
 - C. pivot.
 - D. query.
5. The part of the computer that temporarily stores data and programs for immediate processing is the
 - A. CMOS.
 - B. RAM.
 - C. ROM.
 - D. BIOS.
6. A software instructions intended to satisfy a user's specific computing needs are called
 - A. user software.
 - B. utility software.
 - C. system software.
 - D. application software.

7. The finite and ordered sequence of steps which must be taken in order to solve a given problem in computer programming is
- iteration.
 - recursion.
 - algorithm.
 - pseudocode.
8. The extension name for saving a QBASIC file is
- .bas.
 - .jpg.
 - .cmd.
 - .qbas.
9. The act of gaining unauthorized access to a restricted computer facility is called
- hacking.
 - phishing.
 - stalking.
 - flaming.
10. A database file that contains historical records is called a
- data file.
 - master file.
 - reference file.
 - transaction file.
11. The technology used by computer systems to display information is termed
- data recovery.
 - data structures.
 - data presentation.
 - data representation.
12. A person who ensures that systems are developed on time, within budget, and with acceptable quality in an organization is called
- system owner.
 - system designer.
 - project designer.
 - project manager.
13. Consider the following information system applications:
- Decision Support System;
 - Executive Support System;
 - Transaction Processing System;
 - Management Information System.
- Which of the following options contains analysis tools?
- I and II only
 - I and III only
 - I and IV only
 - II and III only
14. Which of the following factors will hinder full adoption and utilization of computer usage in an organization?
- Resistance to change
 - Adequate infrastructure
 - Good technical expertise
 - Adequate knowledge of computer usage

15. The feature in Desktop Publishing application that allows text to flow to the next available text box when necessary is known as
- excess.
 - surplus.
 - overflow.
 - autoflow.
16. Which of the following data types is invalid in Spreadsheet application?
- Date
 - Text
 - Number
 - Character
17. The size of the virtual memory of a computer depends on the size of the
- data bus.
 - control bus.
 - address bus.
 - main memory.
18. Which of the following devices can be used to input printed text directly into the computer?
- Bar Code Reader
 - Optical Mark Reader
 - Quick Response Code Reader
 - Optical Character Recognition Reader
19. When the time slot given to a process in a time-sharing operating system is completed, the process goes from running state to
- ready state.
 - blocked state.
 - suspended state.
 - terminated state.
20. The absolute path to a system file on a computer starts from the
- hard disk.
 - flash drive.
 - floppy disk.
 - compact disc.
21. Which of the following options is **not** a language translator?
- Compiler
 - Interpreter
 - Assembler
 - Multiplexer
22. Which of the following HTML tags creates the **biggest** headings in a browser?
- `<h1>.....</h1>`
 - `<h2>.....</h2>`
 - `<h4>.....</h4>`
 - `<h6>.....</h6>`
23. The following network media are used for guided communication **except**
- fiber-optic.
 - twisted pair.
 - coaxial cable.
 - wireless fidelity.
24. A network topology in which the nodes connects to a common medium to form a closed loop is called
- bus.
 - star.
 - ring.
 - mesh.
25. In a datasheet of a database application, each column represents a
- field.
 - table.
 - record.
 - database.

26. Which of the following database keys uniquely identifies a record?
- A. Foreign key
 - B. Indexing key
 - C. Primary key
 - D. Duplicate key
27. The method of studying where lectures are broadcast or lessons are conducted through correspondence without the student needing to attend a school **best** describes
- A. satellite campus.
 - B. part-time school.
 - C. distance learning.
 - D. collaborative school.
28. The binary number 11.101_2 converts to decimal as
- A. 3.256_{10} .
 - B. 3.265_{10} .
 - C. 3.652_{10} .
 - D. 3.625_{10} .
29. A hexadecimal number $A0_{16}$ has the decimal value of
- A. 80_{10} .
 - B. 120_{10} .
 - C. 160_{10} .
 - D. 254_{10} .
30. Text composition in Desktop Publishing does **not** include
- A. embedding fonts.
 - B. creating drop caps.
 - C. adjusting line heights.
 - D. boldening and italicizing font types.
31. Which of the following methods **cannot** be used to enter data in a Spreadsheet cell?
- A. Pressing the Esc key
 - B. Pressing the Tab key
 - C. Pressing an arrow key
 - D. Clicking in the formula bar
32. Pressing the function key F12 in a Spreadsheet application opens the
- A. font dialogue box.
 - B. open dialogue box.
 - C. close dialogue box.
 - D. save as dialogue box.
33. If 2 is in cell A1, 4 is in cell C1 and 8 is in cell E1, the function to compute the average of the numbers is
- A. = AVERAGE (A1:B1).
 - B. = AVERAGE (A1:C1).
 - C. = AVERAGE (A1:D1).
 - D. = AVERAGE (A1:E1).
34. Which of the following components of a computer retains its information when power in the system unit is turned off?
- A. RAM
 - B. ROM
 - C. BIOS
 - D. DRAM
35. The **best** way to prevent damaging a personal computer with static electricity is to
- A. wear a rubber shoe.
 - B. place the computer on a rubber mat.
 - C. wear an electrostatic discharge wrist strap.
 - D. periodically touch the computer to discharge electrons.

36. One **major** difference between *a register* and *a main memory* in computers is that, the register is
- removable while the main memory is not.
 - bigger in terms of capacity than the main memory.
 - faster during data access by the CPU than the main memory.
 - auxiliary memory while the main memory is primary memory.
37. When a document is modified, which of the following hardware components stores the changes until they are saved?
- RAM
 - ROM
 - Hard disk
 - Compact disc
38. The fundamental purpose of BIOS during the boot process of a computer system is to
- test the system software performance.
 - update the system software performance.
 - save the operating system from crashing.
 - initialize and test hardware components.
39. Which of the following software acts like a translator between a device and the programs that access the device?
- Device driver
 - Utility software
 - Device manager
 - Disc defragmenter
40. The HTML tag `<tr Valign = "left">` means that the content of the
- row is align to the top of the row border.
 - row is align to the left of the row border.
 - table is align to the top of the table border.
 - table is align to the left of the table border.
41. The HTML tag `<h1 align = "centre"> This is ICT Elective exams</h>` will produce the statement
- This is ICT Elective exams in the centre of the page.
 - This is ICT Elective exams in the centre of a vertical alignment of a page.
 - This is ICT Elective exams in the centre of a horizontal alignment of a page.
 - This is ICT Elective exams in the centre of the intersection of a horizontal and vertical alignment.
42. The expression $5+3*4/2-3^2$ in QBASIC evaluates to
- 1.
 - 2.
 - 4.
 - 7.
43. Study the QBASIC code snippet carefully
- ```
LET X = 3.14159
LET F$ = "#.##"
PRINT USING F$; X
```
- Which of the following outputs is **correct** for the QBASIC code snippet?
- 3.00.
  - 3.10.
  - 3.14.
  - 3.15.
44. Communication facilities owned and operated by a common carrier that serves a large number of subscribers is called
- private network.
  - public network.
  - hybrid network.
  - public-private network.

45. Which of the following transmission modes will receive data only or send data only?
- A. One way
  - B. Half duplex
  - C. Full duplex
  - D. Simple duplex
46. Computer networks that use different communications architecture are interconnected using
- A. hub.
  - B. bridge.
  - C. protocol.
  - D. gateway.
47. In a database design, forms are **best** used to
- A. create new tables.
  - B. add information to tables.
  - C. restrict information entered into tables.
  - D. restrict information displayed in query tables.
48. In order to sort or arrange rows in a database table based on one or more columns in SQL, use the statement
- A. SORT BY.
  - B. ORDER BY.
  - C. GROUP BY.
  - D. ARRANGE BY.
49. Which of the following options creates a drop down list of values in a database programming environment?
- A. Memo
  - B. Hyperlink
  - C. OLE Object
  - D. Lookup Wizard
50. Integration of ICT in education can **best** assist in the teaching of the operation of critical devices through
- A. trials.
  - B. rehearsals.
  - C. simulations.
  - D. demonstrations.

***END OF PAPER***

SC 6232  
 WASSCE 2025  
 INFORMATION  
 AND COMMUNICATIONS  
 TECHNOLOGY (ELECTIVE) 2  
 Essay  
 1 hour

2

|                  |           |
|------------------|-----------|
| CANDIDATE'S NAME |           |
| INDEX NUMBER     | SIGNATURE |
| DATE:            |           |

**THE WEST AFRICAN EXAMINATIONS COUNCIL**  
 West African Senior School Certificate Examination  
 for School Candidates

SC 2025      **INFORMATION AND COMMUNICATIONS TECHNOLOGY (ELECTIVE) 2**      1 hour  
 [Essay]  
 [30 marks]

Do **not** open this booklet until you are told to do so. While you are waiting, read and observe the following instructions carefully.

**INSTRUCTIONS TO CANDIDATES**

1. Write your **name, full index number, normal Signature and the date** of examination in the spaces provided at the top of this paper.
2. Please note that your **name** should be written in the order in which they were captured during registration.
3. In addition to writing your name on the front page of your booklet, write your **index number and question number at the top of each page.**
4. This booklet contains **five** questions. You are required to answer **three** questions **only**. All questions carry equal marks. Paper 2 will last 1 hour after which the booklet will be collected.
5. Write **boldly and legibly in ink** and state your answers precisely.
6. Write your answers within the spaces provided.
7. Do **not** write your answer(s) beyond the spaces provided.
8. Do **not** tear off **any** part of this booklet. It is an examination malpractice if you do so.
9. Write in the space provided below, the **question numbers of the questions you have answered, in the order in which you have written them.**

| For Examiner's Use Only |      |
|-------------------------|------|
| Question Number         | Mark |
|                         |      |
|                         |      |
|                         |      |
|                         |      |
|                         |      |
|                         |      |
|                         |      |
| <b>TOTAL</b>            |      |

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

1. (a) Convert the following hexadecimal numbers to their decimal equivalent:

(i) BACE;

.....  
.....  
.....  
.....  
.....

(ii) DEAF;

.....  
.....  
.....  
.....  
.....

(iii) 1D4C8.

.....  
.....  
.....  
.....  
.....

[6 marks]

(b) Describe how the following business application areas has adversely been affected by e-business:

(i) letter delivery;

.....  
.....  
.....  
.....

(ii) financial services.

.....  
.....  
.....  
.....

[4 marks]

2. (a) Explain **three** ways digital technology has impacted traditional Ghanaian culture.

(i) .....  
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(ii) .....  
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(iii) .....  
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.....

[6 marks]

(b) Outline **two** advantages of multimedia in education.

(i) .....  
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(ii) .....  
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[4 marks]

3. (a) State **one** function **each** of the following Open Systems Interconnection (OSI) reference models:

(i) network layer;

.....  
.....  
.....  
.....  
.....

(ii) physical layer.

.....  
.....  
.....  
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.....

[4 marks]

(b) List **four** signs that suggest that a Random Access Memory (RAM) in a computer is faulty.

(i) .....  
.....  
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(ii) .....  
.....  
.....

(iii) .....  
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(iv) .....  
.....  
.....

[4 marks]

(c) List **two** examples of a network hardware.

(i) .....  
.....

(ii) .....  
.....

[2 marks]

4. (a) Outline **four** benefits of using integrated software packages.

(i) .....  
.....  
.....

(ii) .....  
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(iii) .....  
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(iv) .....  
.....  
.....

[4 marks]

(b) Explain **two** types of data protection methods in Spreadsheet applications.

(i) .....  
.....  
.....  
.....

(ii) .....  
.....  
.....  
.....

[4 marks]

(c) Explain the term *leading* as used in Desktop publishing applications.

.....  
.....  
.....  
.....

[2 marks]

5. Study the QBASIC code carefully and use it to answer question 5(a).

```
10 CLS
15 LET SUM = 0
20 FOR K = 1 TO 5
25 LET SUM = SUM + NUM(K)
30 NEXT K
35 PRINT "THE SUM IS" SUM
40 END
```

(a) Represent the QBASIC code in a flowchart diagram in the space provided below.

[6 marks]

(b) List four input elements that can be used to design a form in HTML.

(i) .....

(ii) .....

(iii) .....

(iv) .....

[4 marks]

**END OF PAPER**



Answer **all** the questions.

1. Using an appropriate Spreadsheet application:

- (a) create a table of five columns and six rows;
- (b) set the first three columns to contain text of three repeated items;
- (c) the remaining columns should be populated with numeric data entries;
- (d) assign arbitrary names to **each** of the columns as headings;
- (e) save the workbook as **ITEMS** in the folder created on the desktop.
- (f) Use a PivotTable to compute the:
  - (i) number of occurrence of the items in the first column based on the second column;
  - (ii) average of items occurrences in the first column based on the third column;
  - (iii) product of the occurrences in the first column based on the fourth column.
- (g) save the workbook as **ITEMPIVOT** in the folder created on the desktop.

[15 marks]

2. Study the given information and use it to answer questions 2(a) to 2(g).

A rainfall pattern was recorded for a certain region from January to April as follows:  
 West District recorded 25, 45, 12, 03;  
 East District recorded 33, 45, 32, 10;  
 North District recorded 85, 23, 12, 10;  
 South District recorded 52, 54, 21, 30.

Using Microsoft Publisher application:

- (a) create a poster with tables for the various districts;
- (b) format the tables with List 3 style;
- (c) change the paper size to A5 and layout guides to 0.3 inches all sides;
- (d) set **both** header and footer to your full name and index number respectively;
- (e) caption the poster as RAINFALL PATTERN and centre align;
- (f) set background colour to texture fill (parchment);
- (g) save the design as RAINFALL in **both** *publisher* and *pdf* formats in the folder created on the desktop.

[15 marks]

3. Write a QBASIC source code to:

- (a) display your index number;
- (b) generate twenty random numbers **greater** than the last three digits of your index number;
- (c) display the random numbers generated on-screen;
- (d) sort out the numbers in descending order;
- (e) save the result as **RANDTXT** in a text file format in the folder created on the desktop;
- (f) save the QBASIC source code as **INDEXRAND** in the folder created on the desktop.

[15 marks]

***END OF PAPER***