

PC 6231
WASSCE (PC2) 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

THE WEST AFRICAN EXAMINATIONS COUNCIL

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

(PC2) 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', '(PC2) 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 female candidate whose name is Samuel Sule ADDO. Her *index number* is 7102143958 and she is offering *Information and Communications Tech. (Elect.) 1*.

THE WEST AFRICAN EXAMINATIONS COUNCIL
ANSWER SHEET

| | |
|---|--|
| PRINT IN BLOCK LETTERS | |
| Name: ADDO SAMUEL SULE | GHA |
| Examination: WASSCE(PC2) | Year: 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 c0 c1 c2 c3 c4 c5 c6 c7 c8 c9 | 6 c0 c1 c2 c3 c4 5 c6 c7 c8 c9 |
| 1 c0 c1 c2 c3 c4 c5 c6 c7 c8 c9 | 2 c0 1 c2 c3 c4 c5 c6 c7 c8 c9 |
| 0 c0 c1 c2 c3 c4 c5 c6 c7 c8 c9 | 3 c0 c1 c2 c3 c4 c5 c6 7 c8 c9 |
| 2 c0 c1 c2 c3 c4 c5 c6 c7 c8 c9 | 1 c0 c1 c2 c3 c4 c5 c6 c7 c8 c9 |
| 1 c0 c1 c2 c3 c4 c5 c6 c7 c8 c9 | 1 c0 c1 c2 c3 c4 c5 c6 c7 c8 c9 |
| 4 c0 c1 c2 c3 c4 c5 c6 c7 c8 c9 | 3 c0 c1 c2 c3 c4 c5 c6 c7 c8 c9 |
| 3 c0 c1 c2 c3 c4 c5 c6 c7 c8 c9 | |
| 9 c0 c1 c2 c3 c4 c5 c6 c7 c8 c9 | |
| 5 c0 c1 c2 c3 c4 c5 c6 c7 c8 c9 | |
| 8 c0 c1 c2 c3 c4 c5 c6 c7 c8 c9 | |
| For Supervisors only | |
| If candidate is absent shade this space <input style="width: 50px; height: 15px;" type="checkbox"/> | |

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. Program file
- D. Offline storage

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. A report which calls attention to out of the ordinary events is referred to as
 - A. ad-hoc report.
 - B. demand report.
 - C. periodic report.
 - D. exception report.
2. A fraudulent act designed to trick individuals into spending their time or money for **little** or **no** return is called
 - A. sniff.
 - B. scam.
 - C. spoof.
 - D. phish.
3. Which of the following tools in a Desktop publishing application is used to apply color, texture, or gradient to the background of an object?
 - A. Fill
 - B. Tint
 - C. Paint
 - D. Brush
4. In Spreadsheet applications, a user can create a relationship between two or more cells using
 - A. texts.
 - B. numbers.
 - C. formulas.
 - D. parenthesis.
5. The hard disk space that the CPU uses as RAM when there is **not** enough RAM is called
 - A. flash memory.
 - B. main memory.
 - C. cache memory.
 - D. virtual memory.
6. A program that assists in the maintenance of the computer system is referred to as
 - A. utility.
 - B. spooling.
 - C. malware.
 - D. application.

7. Computer programming languages such as C⁺⁺, BASIC, COBOL, and Java are classified as
- system programs.
 - low-level-languages.
 - high-level-languages.
 - application programs.
8. Which of the following QBASIC programming commands is **not** executable?
- LET
 - REM
 - PRINT
 - INPUT
9. Which of the following devices is used to extend the **maximum** reach of a computer network?
- Hub
 - Bridge
 - Switch
 - Repeater
10. The file organization technique that allows records to be accessed without using a unique key or can allow for immediate retrieval of specific records without needing a search through the entire file is
- serial file organization.
 - direct file organization.
 - indexed file organization.
 - sequential file organization.
11. In computing systems, a digital signal can be represented using
- octal digits.
 - dinary digits.
 - binary digits.
 - hexadecimal digits.
12. Which of the following phases of the system development process does a technical blueprint and specifications for a business solution fulfill?
- System design
 - System analysis
 - Feasibility analysis
 - System implementation
13. One of the qualities of a good information is that, the information must be
- accurate.
 - ambiguous.
 - redundant.
 - versatile.
14. Cybersecurity uses terminologies such as
- Hacking,
 - Flaming,
 - Scamming,
 - Spamming.

Which of the cybersecurity terminologies are classified under cybercrimes?

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

15. In Desktop publishing, the term used to describe⁴ the action when a designer raises an item into a higher hierarchy in an outline is called
- A. demoting.
 - B. expanding.
 - C. promoting.
 - D. contracting.

16. In Spreadsheet applications, the **most** appropriate form of graphics used for presenting information is
- A. chart.
 - B. legend.
 - C. flowchart.
 - D. background.

17. Computer systems use memories such as
- I. DRAM,
 - II. SRAM,
 - III. PROM,
 - IV. EEPROM.

Which of the listed memory types are classified as non-volatile?

- A. I and II only
 - B. I and IV only
 - C. II and III only
 - D. III and IV only
18. In computing environment, a dumb terminal refers to a terminal
- A. with a processor and a digital camera.
 - B. without a processor and a digital camera.
 - C. with a processing and programming capabilities.
 - D. without a processing and programming capabilities.
19. Which of the following software co-ordinates the interactions of a computer and its devices?
- A. System software
 - B. Application software
 - C. Off-the-shelf software
 - D. Custom-made software
20. A set of instructions that determines how hardware and operating system will communicate with an application software is referred to as
- A. malware.
 - B. firmware.
 - C. test-ware.
 - D. groupware.
21. Which of the following geometric symbol names is used to represent a sequence in a program flowchart?
- A. Arrow
 - B. Circle
 - C. Diamond
 - D. Oval

22. The ASCII character set that represents alphabetical and control characters using numeric codes ranges from
- A. 0 to 124.
 - B. 0 to 125.
 - C. 0 to 126.
 - D. 0 to 127.
23. The following networking connections are examples of wireless technology **except**
- A. infrared.
 - B. bluetooth.
 - C. fibre-optic.
 - D. wireless fidelity.
24. Which of the following cabling techniques is immune to electromagnetic signals?
- A. Coaxial cabling
 - B. Fibre-Optic cabling
 - C. Shielded Twisted Pair cabling
 - D. Unshielded Twisted Pair cabling
25. In a one-to-many relationships, the table in *one* side and that on the *many* side are respectively referred to as
- A. son, father.
 - B. father, son.
 - C. child, parent.
 - D. parent, child.
26. The database model that uses tables with columns and rows is called
- A. linear database.
 - B. network database.
 - C. relational database.
 - D. hierarchical database.
27. Which of the following devices may **not** be needed to form multimedia systems for teaching and learning in schools?
- A. Television
 - B. Microcomputer
 - C. Digital camera
 - D. Electronic book
28. The octal representation of the binary number 100110_2 is
- A. 26.
 - B. 38.
 - C. 42.
 - D. 46.
29. A kilobyte of data is equal to
- A. 128 bytes.
 - B. 256 bytes.
 - C. 512 bytes.
 - D. 1024 bytes.
30. Wide and narrow grids of layout in Desktop publishing is **most** suitable for creating
- A. letters.
 - B. manuals.
 - C. billboards.
 - D. textbooks.

31. To view headers and footers information in a Spreadsheet application, use the
- normal view.
 - outline view.
 - web layout view.
 - print layout view.
32. Rounding errors in a Spreadsheet application can occur when
- hidden decimal place values of computation occurs.
 - addition and subtraction operators are used in a formula.
 - showing the results of formulae with different decimal place values.
 - multiplication, division, and exponentiation operators are used in a formula.
33. The Spreadsheet function to compute the average of numbers in the cell range of A1 to A50 is
- =AVG(A1:A50).
 - =AVG(A1:A50)/50.
 - =AVERAGE(A1:A50).
 - =AVERAGE(A1:A50)/50.
34. A user is to install a second IDE hard drive in a PC that has only one IDE adapter. The first hard drive will still be the boot drive. The second hard drive should be configured as a
- slave drive.
 - master drive.
 - primary drive.
 - secondary drive.
35. The function of disk defragmenter utility software is to
- optimize disk space.
 - increase space on disk.
 - examine the surface of disks.
 - report on the status of the tracks.
36. The process of copying data from a memory location in a computer system describes
- writing.
 - reading.
 - uploading.
 - downloading.
37. The **best** way to protect computer hard disk data is to
- defragment it regularly.
 - regularly backup the data.
 - run chkdisk at least twice a week.
 - run scandisk at least twice a week.
38. Upon booting a computer, the operating system gets loaded into the
- RAM.
 - ROM.
 - BIOS.
 - CMOS.
39. A feature of an application that allows a user to have fast and flexible access to information in large documents from a different location is referred to as
- hyperlink.
 - bookmark.
 - attachment.
 - multimedia.

40. The QBASIC code given below contains a bug:
FOR C = 1 to 3
READ N
PRINT N
NEXT C
DATA 11, TWELVE, 13

Select the line of instruction in the following options that will **correct** the bug.

- A. READ C
B. PRINT N\$
C. FOR N = 1 TO 3
D. DATA 11, 12, 13
41. The expression $2a(b+c)^2$ is written in QBASIC programming environment as
A. $2*a(b+c)^2$.
B. $2*a(b+c)*2$.
C. $2*a*(b+c)^2$.
D. $2*a*(b+c)*2$.
42. The HTML tag `<tr Valign = "top">` means that the content of the
A. row is align to the top of the row border.
B. table is align to the top of the table border.
C. row is align to the bottom of the row border.
D. table is align to the bottom of the table border.
43. Consider the QBASIC code below:
LET C = 0
DO WHILE C < 12
INPUT P
PRINT P
LET C = C + 1
LOOP
- How many values will be printed from the code snippet above?
A. One string value
B. One integer value
C. Twelve string values
D. Twelve integer values
44. The maximum recommended segment length for UTP cabling is
A. 100 meters.
B. 200 meters.
C. 300 meters.
D. 400 meters.

45. Unguided network communication media include
- I. Radio,
 - II. Bluetooth,
 - III. Microwave,
 - IV. Fiber-optic.

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

- A. I, II, and III only
 - B. I, II, and IV only
 - C. I, III, and IV only
 - D. II, III, and IV only
46. Which of the following reasons does **not** justify the use of a layered approach to networking?
- A. Allows for large networking
 - B. Makes creation of networks easy
 - C. Allow many programmers to implement a network
 - D. Permits computers on different platforms to communicate
47. Which of the following database commands is used to display data as # # # #?
- A. Indexed
 - B. IME Mode
 - C. Input Mask
 - D. Validation Rule
48. Which of the following options give the specifications that determine the record displayed in a database program?
- A. Form
 - B. Object
 - C. Criteria
 - D. Condition
49. The **correct** order of keywords used in an SQL SELECT statement is
- A. FROM, WHERE, SELECT
 - B. FROM, SELECT, WHERE
 - C. SELECT, WHEPE, FROM
 - D. SELECT, FROM, WHERE
50. The following statements are importance of Online learning as a result of integration of ICT in education **except**?
- A. Self pace learning
 - B. Self grading and assessment
 - C. Fostering shared learning community
 - D. Flexibility in terms of Internet connectivity everywhere

END OF PAPER

PC 6232
 WASSCE (PC2) 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 Private Candidates

(PC2) 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 |
| | |
| | |
| | |
| | |
| | |
| | |
| TOTAL | |

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

1. (a) Explain *data representation*.

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[4 marks]

(b) State **two** differences between *binary number system* and *decimal number system*.

(i)

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(ii)

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[4 marks]

(c) What is *Decision Support System*?

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[2 marks]

2. (a) What is *digital culture*?

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[2 marks]

(b) Explain **two** roles of the Internet in everyday life and its impact on information sharing.

(i)

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(ii)

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[4 marks]

(c) State **two** benefits of ICT tools in education.

(i)

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(ii)

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[4 marks]

3. (a) Describe the following ports on the computer's system unit:

(i) parallel port;

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(ii) video adapter port.

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[6 marks]

(b) State two negative factors that affect the performance of a computer network.

(i)

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(ii)

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[4 marks]

4. (a) Explain the following terminologies as used in Desktop publishing:

(i) frame;

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(ii) handles.

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[4 marks]

(b) Outline the reason for the display of the error message #NAME? in a Spreadsheet application.

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[2 marks]

(c) State **one** function of **each** of the following software:

(i) utility program;

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(ii) diagnostic program.

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[4 marks]

5. The home network of a family has Internet access. A server is configured to control user access to the network. To have access to the network, each user logs in with a username and password.

The sequence of activities to log into the network are as follows:

- i. Check user credentials in the database;
- ii. Enter username and password to log in;
- iii. Grant user access to the network.

(a) Rearrange the sequence of activities in the **correct** order and use it to draw a flowchart in the space provided.

[6 marks]

(b) State **one** function of **each** of the following network terminologies:

(i) firewall;

(ii) access control.

[4 marks]

END OF PAPER

PC 6233
WASSCE (PC2) 2025
INFORMATION
AND COMMUNICATIONS
TECHNOLOGY (ELECTIVE) 3
Practical
2 hours

3

Name

Index Number

THE WEST AFRICAN EXAMINATIONS COUNCIL

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

(PC2) 2025 INFORMATION AND COMMUNICATIONS TECHNOLOGY 2 hours
(ELECTIVE) 3
PRACTICAL

*Write your **name and index number** in ink in the spaces provided above.*

*You have **ten** minutes to read through the question paper before the start of the examination.*

*During this same period, you are expected to use your **index number and initials** to create a folder on the desktop of your computer. An example is given below:*

*This is for a candidate whose name is RAYMOND, Akushika Mawusi and 7102143958 is the **index number** of the candidate.*

*The folder name is **7102143958RAM**
where **RAM** are the initials of RAYMOND, Akushika Mawusi and **7102143958** is the **index number** of the candidate.*

*Answer **all** the questions.*

***Save** all your solutions to **each** question in the folder you created with your index number and initials on the desktop of your computer.*

Copy the folder created on the computer desktop onto the pendrive provided under the supervision of the invigilator and technician.

*Remember to write your **index number and name** on the **Candidates' Verification Form** and **sign** to confirm that you have copied the folder containing your solutions onto the pendrive before leaving the examination hall.*

Answer **all** the questions.

1. Assorted Company Ltd deals in maize, beans, and rice. The sales prices are differentiated according to the age of customers.

- (a) Write a QBASIC code for selling the product to **three** different age groups.
- (b) At the end of the day's sales:
 - (i) display your **name** and **index number** at the top of the screen;
 - (ii) list the sales details on the screen.
- (c) Save the program as **ASSORTED_SALES** in the folder created on the desktop.

[15 marks]

2. Your group have been inspired by the developments in the Information Technology (IT) industry. This has led to the setup of an IT school to offer training for short courses.

A brochure is an effective way to give potential students all the information they need about the training and courses offered by the school.

Using Microsoft Publisher application:

- (a) create a six-panel tri-fold brochure;
- (b) use two separate pages with three panel on each;
- (c) set the pages to allow front-and-back printing;
- (d) provide the school name, location, and contact information;
- (e) include information about courses offered and a slogan of your choice that will attract hopeful students to the school;
- (f) apply landscape page orientation to the brochure designed;
- (g) adjust the margins to 0.5 inches for all sizes;
- (h) apply text boxes, graphics, horizontal lines, bullets, and a drop caps to the columns and texts;
- (i) vary font style and size but maintain consistency; (The font sizes of headings should be higher than the body)
- (j) save the file as **BROCHURE** in both *publisher* and *pdf* formats in the folder created on the desktop.

[15 marks]

3. Using an **appropriate** database application and an appropriate spreadsheet application, create a database with a table which is updated anytime records in the spreadsheet table changes.

The records of the spreadsheet table should consist of **five** columns of which the first **two** accepts numeric data and the last **three** accepts textual data.

- (a) Insert your **full name** and **index number** as header and footer respectively in the spreadsheet table.
- (b) Save the spreadsheet table as **SPRD** in the folder created on the desktop.
- (c) Save the database as **DBPRD** in the folder created on the desktop.

[15 marks]

END OF PAPER