FINALPREPS ASSESSMENTS AND EVALUATIONS

THE WEST AFRICAN EXAMINATIONS COUNCIL, GHANA

BASIC EDUCATION CERTIFICATE EXAMINATION

COMPUTING 2 & 1

(ESSAY AND OBJECTIVE TEST)

B.E.C.E. 2026 — FINALPREPS MOCK II

Name:	Index Number:	School:
....	....	....

INSTRUCTIONS

- Do not open this booklet until you are told to do so.
- Paper 2 (Essay): Answer Question 1 in Section A and any THREE questions in Section B. Time: 75 minutes.
- Paper 1 (Objective): Answer ALL 40 questions. Shade answers in PENCIL on the answer sheet. Time: 45 minutes.
- Credit is given for clarity, accuracy, and orderly presentation.

PAPER 2 — ESSAY

[60 marks] 1¼ hours

*This paper is in two sections: **A** and **B**. Answer Question 1 in Section A and any other three questions in Section B. Write all answers in the spaces provided.*

SECTION A [24 marks]

Answer Question 1. (Compulsory)

1. *[]*

SCENARIO

Esi Ansah is a JHS 3 student and an aspiring tech entrepreneur. She has launched a small online business called **"Esi Styles"** that sells handmade kente accessories from her home in Kumasi. She uses a laptop running Windows to manage product records, communicate with customers via email, and promote her products through a website. Esi recently attended a digital skills workshop and wants to upgrade her business operations using modern computing practices. Study the scenario and answer questions (a) to (f).

(a) *[6 marks]*

Esi wants to store her product information in a database. The details she records for each product are: a unique product code, the product name, the material used, the quantity in stock, and the selling price.

(i) Name the database object that would be used to store Esi's product information.

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(ii) In database terminology, what is each column in the table called, and what is each row called?

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(iii) Complete the table below by filling in an appropriate data type for each field.

Field Name	Description	Data Type
ProductCode	Unique identifier for each product	.....
ProductName	Name of the kente accessory	.....
Material	Type of cloth or material used	.....
QuantityInStock	Number of items available	.....
SellingPrice	Price of the product in GH₵	.....

(iv) Identify the field that would serve as the PRIMARY KEY in this table. Give ONE reason for your choice.

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.....

[6 marks]

(b) *[5 marks]*

Esi sells her products directly to individual customers through her website.

(i) State the type of e-commerce Esi is engaged in and explain what it means.

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(ii) State TWO benefits Esi gains by selling her products online rather than from a physical shop.

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(iii) State ONE challenge Esi might face when conducting e-commerce in Ghana.

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[5 marks]

(c) *[4 marks]*

Esi's laptop runs the Windows operating system.

(i) State THREE functions of an operating system.

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(ii) The Windows operating system uses icons, menus, and a mouse pointer for interaction. State the name of this type of user interface.

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[4 marks]

(d) *[5 marks]*

Esi tags one of her products with a price of GH₵ 45. A customer notices the price is stored inside the computer as a code.

(i) Convert the decimal number 45 to its binary equivalent. Show your working clearly.

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(ii) Convert the decimal number 45 to its hexadecimal equivalent. Show your working.

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(iii) How many bits make up one byte?

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[5 marks]

(e) *[2 marks]*

Esi runs her laptop and printer for many hours each day and sometimes discards old equipment carelessly.

Suggest TWO ways Esi can manage her computing equipment in an environmentally responsible manner.

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.....

[2 marks]

(f) *[2 marks]*

Esi wants to download and use high-quality product photographs from a competitor's website to display on her own website.

(i) Explain the copyright issue with what Esi intends to do.

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(ii) Suggest ONE legal alternative Esi could use to get product images for her website.

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[2 marks]

SECTION B [36 marks]

Answer any THREE questions only. All questions carry 12 marks each.

Question 2 — Boolean Logic and Advanced Programming Constructs

(a) *[5 marks]*

In computing, Boolean logic uses three basic operators: AND, OR, and NOT.

(i) Explain what the AND operator does in a logical expression. Give one example of a condition that uses AND.

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(ii) Explain what the OR operator does. Give one example.

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(iii) Explain what the NOT operator does. Give one example.

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[5 marks]

(b) *[3 marks]*

A school library system only allows a student to borrow a book if they are a registered member AND they have no overdue books. Complete the truth table below for this condition. Let P = 'is a registered member' and Q = 'has no overdue books'.

P (Registered)	Q (No Overdue Books)	P AND Q (Can Borrow?)
TRUE	TRUE	……
TRUE	FALSE	……
FALSE	TRUE	……
FALSE	FALSE	……

[3 marks]

(c) *[3 marks]*

Esi's website needs to keep checking whether a product is in stock and display a message. Write a pseudocode using a WHILE loop that keeps displaying 'Product available' as long as the quantity is greater than zero. When quantity reaches zero, it should display 'Out of stock'.

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[3 marks]

(d) *[1 mark]*

State what is meant by abstraction in programming.

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[1 mark]

Question 3 — Internet Infrastructure and Web Technologies

(a) *[3 marks]*

Many people confuse the Internet with the World Wide Web (WWW).

(i) Explain what the Internet is.

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(ii) Explain what the World Wide Web is.

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.....

(iii) State ONE key difference between the two.

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[3 marks]

(b) *[4 marks]*

When Esi types www.esistyles.com into her browser and a website loads, two key technologies are involved behind the scenes.

(i) Explain what an IP address is and what it does in a network.

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(ii) Explain what a Domain Name System (DNS) is and what role it plays when Esi types a website address.

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[4 marks]

(c) *[3 marks]*

Esi uses the internet at home. Describe THREE different types of internet connections available in Ghana, stating ONE feature of each.

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[3 marks]

(d) *[2 marks]*

Esi's IT advisor told her she needs web hosting for her website.

(i) Explain what web hosting is.

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(ii) Give ONE reason why Esi's business website needs web hosting.

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[2 marks]

Question 4 — Advanced Spreadsheet Concepts (Microsoft Excel)

(a) *[4 marks]*

A student wrote the formula =B2*C2 in cell D2 and copied it down to D3, D4, and D5. The formula automatically changed to =B3*C3, =B4*C4, and =B5*C5 in each row.

(i) What term describes the type of cell reference used in this formula? Explain what it means.

.....

.....

(ii) Esi wants to apply a fixed 10% tax rate stored in cell B1 to every product price. She wants cell B1 to remain constant when the formula is copied. Write the formula for cell D2 that multiplies the price in C2 by the tax rate in B1, using the correct cell reference type for B1.

.....

.....

(iii) What is the name given to a cell reference that does not change when a formula is copied? Give one example.

.....

.....

[4 marks]

(b) *[4 marks]*

Study the Excel worksheet below which records Esi's daily sales for one week.

	A	B	C
1	Day	Item Sold	Amount (GH₵)
2	Monday	Kente Bag	120
3	Tuesday	Kente Bracelet	45
4	Wednesday	Kente Bag	120
5	Thursday	Kente Earring	60
6	Friday	Kente Bag	120
7	Saturday	Kente Bracelet	45

(i) Write an Excel function in cell C9 to find the total amount of sales ONLY for days when the amount was exactly GH₵ 120.

.....

.....

(ii) Write an Excel function to count how many times 'Kente Bag' was sold in the range B2:B7.

.....

.....

(iii) What do the functions in (i) and (ii) have in common? Name the category they both belong to.

.....

.....

[4 marks]

(c) *[2 marks]*

Esi wants to highlight all cells in column C where the sales amount is below GH₵ 60 in red colour automatically.

Name the Excel feature that does this automatically, and state the tab in Excel where this feature is found.

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[2 marks]

(d) *[2 marks]*

Esi's IT teacher suggested she use a PivotTable to summarise her weekly sales by item. State the two steps she must first complete in Excel before inserting a PivotTable.

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[2 marks]

Question 5 — Advanced Presentation Software and Collaborative Tools

(a) *[4 marks]*

Esi has been invited to present her business plan to investors using Microsoft PowerPoint.

(i) Explain what the Slide Master feature in PowerPoint is and state TWO benefits of using it.

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(ii) Esi wants to practise her presentation timing before the big day. Name the PowerPoint feature that allows her to record exactly how long she spends on each slide, and state the menu tab where it is found.

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.....

[4 marks]

(b) *[3 marks]*

After the presentation, Esi wants to share her file with her business partner, Kofi, who is in Accra. She is considering saving it in different formats.

(i) State the difference between saving a PowerPoint file as .pptx versus saving it as .pdf when sharing it with someone else.

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(ii) Which format would be better if Kofi only needs to VIEW the presentation without editing it? Give a reason.

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[3 marks]

(c) *[3 marks]*

Esi and Kofi need to work together on a business report document at the same time, even though they are in different cities.

(i) Name ONE software tool that would allow both Esi and Kofi to edit the same document simultaneously over the internet.

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(ii) State TWO advantages of using this collaborative tool compared to emailing a Microsoft Word document back and forth.

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[3 marks]

(d) *[2 marks]*

State TWO ways in which Microsoft PowerPoint's animation feature can enhance Esi's investor presentation.

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[2 marks]

Question 6 — Data Representation and Storage

(a) *[3 marks]*

Computers store all data as binary digits. A computing teacher asked students to arrange the following data storage units in order from smallest to largest: GB, bit, TB, MB, byte, KB

(i) Write the units in the correct order from the smallest to the largest.

.....

.....

(ii) How many kilobytes (KB) make one megabyte (MB)?

.....

(iii) Esi's product photo takes up 3.5 MB of storage. Convert this to kilobytes (KB).

.....

.....

[3 marks]

(b) *[4 marks]*

Esi's computer needs to add two binary numbers together: 00101101 and 00010011.

(i) Add the two binary numbers and show your working step by step.

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(ii) Convert your binary result back to decimal to verify your answer.

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[4 marks]

(c) *[3 marks]*

A software developer told Esi that computer programmers often use hexadecimal (hex) instead of long binary strings.

(i) Convert the decimal number 255 to its hexadecimal equivalent. Show your working.

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(ii) Give ONE reason why programmers prefer hexadecimal over binary.

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[3 marks]

(d) *[2 marks]*

Explain what the ASCII system is and give TWO examples of characters and their ASCII codes.

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[2 marks]

PAPER 1 — OBJECTIVE TEST

[40 marks] 45 minutes

Answer ALL questions. Each question is followed by four options A to D. Choose the BEST answer and shade the corresponding letter on your answer sheet. Give only ONE answer to each question.

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1. In a database, the term used to describe a single row of data representing one entity (e.g. one product) is

A. a field.
B. a record.
C. a table.
D. a query.

2. A business sells its products directly to individual consumers through a website. This type of e-commerce is known as

A. B2B (Business to Business).
B. C2C (Consumer to Consumer).
C. B2C (Business to Consumer).
D. G2C (Government to Consumer).

3. The primary function of a Domain Name System (DNS) is to

A. assign IP addresses to all devices on the internet.
B. translate domain names (e.g. google.com) into IP addresses.
C. secure websites from cyberattacks using encryption.
D. store web page files for fast loading by browsers.

4. In Microsoft Excel, the cell reference C8 is an example of

A. a relative cell reference.
B. a mixed cell reference.
C. an absolute cell reference.
D. a named range reference.

5. An Excel function that adds values in a range ONLY when a specified condition is met is

A. =SUM()
B. =COUNTIF()
C. =SUMIF()
D. =AVERAGEIF()

6. The result of the Boolean expression: TRUE AND FALSE is

A. TRUE
B. FALSE
C. NULL
D. UNDEFINED

7. In pseudocode, a WHILE loop continues to execute its statements

A. a fixed number of times only.
B. once and then stops.

21. A student wants to count how many students in a class scored above 70. The correct Excel function is

A. =COUNT(B2:B30, ">70")
B. =COUNTIF(B2:B30, ">70")
C. =SUMIF(B2:B30, ">70")
D. =COUNTA(B2:B30)

22. Esi downloads a logo from a competitor's website and uses it on her own website without permission. This act is an infringement of

A. trademark law.
B. copyright law.
C. contract law.
D. privacy law.

23. Which of the following is an example of C2C (Consumer to Consumer) e-commerce?

A. A supermarket selling goods through its mobile app
B. A manufacturer supplying products to a retailer online
C. An individual selling second-hand items on Tonaton.com
D. A government portal providing online tax payment services

24. Web hosting refers to

A. the process of building a website using HTML and CSS.
B. a service that stores website files on a server and makes them accessible on the internet.
C. the domain name registration service provided by ICANN.
D. a browser extension that speeds up internet connections.

25. Which of the following saves a PowerPoint presentation in a format that CANNOT be edited by the recipient?

A. .pptx
B. .ppt
C. .pdf
D. .potx

26. The PowerPoint feature that records how long the presenter spends on each slide is called

A. Slide Timer.
B. Animation Pane.

C. as long as its condition remains TRUE.

D. until the user presses a key.

8. Which of the following is the correct binary representation of the decimal number 13?

A. 1010
B. 1100
C. 1011
D. 1101

9. 1 Megabyte (MB) is equal to

A. 1000 bytes.
B. 1024 kilobytes.
C. 1000 kilobytes.
D. 1024 bytes.

10. The Slide Master in Microsoft PowerPoint is used to

A. add slide transitions and sound effects to each slide.

B. set a uniform design, layout, and font across all slides at once.

C. record the exact timing for each slide during a presentation.

D. create a table of contents for the presentation.

11. The Internet and the World Wide Web are different. The correct statement is

A. The WWW is the global network of connected computers; the Internet is a collection of web pages.

B. The Internet is the global network of connected computers; the WWW is a system of web pages accessed through it.

C. The Internet and the WWW are exactly the same thing.

D. The WWW existed before the Internet.

12. Which of the following BEST describes green computing?

A. Using only computers manufactured in environmentally friendly countries.

B. Turning off a computer's screen saver to save electricity.

C. Designing, using, and disposing of computers in an environmentally responsible way to reduce energy use and e-waste.

D. Installing trees and plants near computer workstations.

13. The Excel feature that automatically changes the background colour of a cell based on its value (e.g. red for values below 50) is called

C. Rehearse Timings.
D. Slide Transition.

27. Which of the following BEST describes an Internet Service Provider (ISP)?

A. A company that manufactures computer networking hardware

B. A company that provides individuals and organisations with access to the internet

C. A government agency that regulates internet content in Ghana

D. A software firm that develops web browsers

28. In Microsoft Excel, if the formula =B3*C3 is entered in cell D3 and then copied to D4, the formula in D4 will automatically become

A. =B3*C3
B. =B4*C3
C. =B4*C4
D. =B4*C4

29. The result of the Boolean expression: NOT TRUE is

A. TRUE
B. FALSE
C. NULL
D. UNDEFINED

30. A student wants to insert a PivotTable in Excel. The correct sequence is to click

A. Home Tab → PivotTable
B. Data Tab → PivotTable
C. Insert Tab → PivotTable
D. View Tab → PivotTable

31. What is the decimal equivalent of the hexadecimal number 1F?

A. 15
B. 21
C. 31
D. 16

32. Which of the following is an example of a collaborative online document editing tool?

A. Microsoft Notepad
B. Google Docs
C. Adobe Acrobat Reader
D. Windows File Explorer

33. A practice considered green computing is

A. Leaving computers on overnight to download updates faster

B. Printing every document for physical filing

A. Cell Styles.
B. Format Cells.
C. Conditional Formatting.
D. Data Validation.

14. In binary arithmetic, what is 1 + 1?
A. 2
B. 11
C. 10 (which equals 2 in decimal)
D. 01

15. A student types www.waecgh.org into her browser. The part '.org' in the address is called a
A. subdomain.
B. top-level domain (TLD).
C. uniform resource locator.
D. hypertext transfer protocol.

16. The type of operating system user interface that uses typed text commands to interact with the computer is called
A. Graphical User Interface (GUI).
B. Touch User Interface (TUI).
C. Command-Line Interface (CLI).
D. Voice User Interface (VUI).

17. Which of the following is NOT a function of an operating system?
A. Managing files and folders on the hard drive
B. Providing a platform for application software to run
C. Designing graphics for websites and publications
D. Controlling input and output devices

18. ASCII is best described as
A. a programming language used to create database applications.
B. a standard system that assigns a unique numeric code to characters such as letters, digits, and symbols.
C. an image compression format for storing photographs.
D. a type of computer network protocol.

19. The hexadecimal number system uses a base of
A. 2
B. 8
C. 10
D. 16

20. In a database table, the PRIMARY KEY is the field that
A. stores the most important data in the table.
B. is always of the Text data type.
C. Using Energy Star-rated equipment and enabling sleep mode on idle computers
D. Buying a new computer every year to maintain performance

34. In a WHILE loop, the body of the loop is executed
A. exactly once regardless of the condition.
B. only when the condition is FALSE.
C. as long as the condition evaluates to TRUE.
D. a number of times specified by the programmer before the loop starts.

35. Which of the following types of internet connection uses fibre-optic cables to transmit data as pulses of light, offering very high speeds?
A. 4G/LTE mobile data
B. Satellite internet
C. Fibre broadband
D. Dial-up connection

36. The decimal number 200 in binary is
A. 11001000
B. 10110000
C. 11000100
D. 10001100

37. In a database, a QUERY is used to
A. design the visual layout of data entry forms.
B. search, filter, and retrieve specific records from a table based on conditions.
C. create printed reports from database records.
D. set the primary key for a database table.

38. A company sells computer equipment to another company through an online portal. This type of e-commerce is
A. B2C
B. C2C
C. G2B
D. B2B

39. An operating system that allows two or more users to use the same computer resources simultaneously through separate terminals is a
A. Real-time operating system.
B. Single-user operating system.
C. Multi-user operating system.
D. Embedded operating system.

40. The process of breaking down a programming problem into smaller, independent modules or sub-problems,

C. uniquely identifies each record in the table.

D. can contain the same value in multiple records.

each of which can be solved separately, is called

A. Iteration
B. Abstraction
C. Modularisation / Decomposition
D. Compilation

END OF EXAMINATION

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