

0604202/25/ 2&1 B.B.E.K.O
April 2025
COMPUTING 2 & 1
2 & 1
Essay and Objective
2 hours

Name

Index Number.....

Signature

Date of Examination

BEST BRAIN EXAMINATIONS KONSORTIUM GHANA

Special Private Mock Examinations For BECE Candidates

April 2025

COMPUTING 2&1

2 hours

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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, index number, signature and date of examination in ink in the spaces provided above.

This booklet consists of two papers. Answer Paper 2 which comes first, in the booklet and Paper 1 on your Objective Test answer sheet. Paper 2 will last 1 hour 15 minutes. Do not start Paper 1 until you are told to do so. Paper 1 will last 45 minutes. At the end of the examination, submit the entire question paper to the invigilator.

Any candidate who tears off any part of the question paper will be severely penalized.

Whether you answer all the questions in this paper or not, hand in the entire question paper to the invigilator.

For Examiner's Use Only	
Question Number	Mark

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This paper is in two sections A and B. Answer Question 1 in Section A and any other three questions in Section B.

Answer all the questions in the spaces provided in this question paper. At the end of the examination, you should submit the entire question paper to the invigilator.

Any candidate who tears off any part of the question paper will be severely penalized.

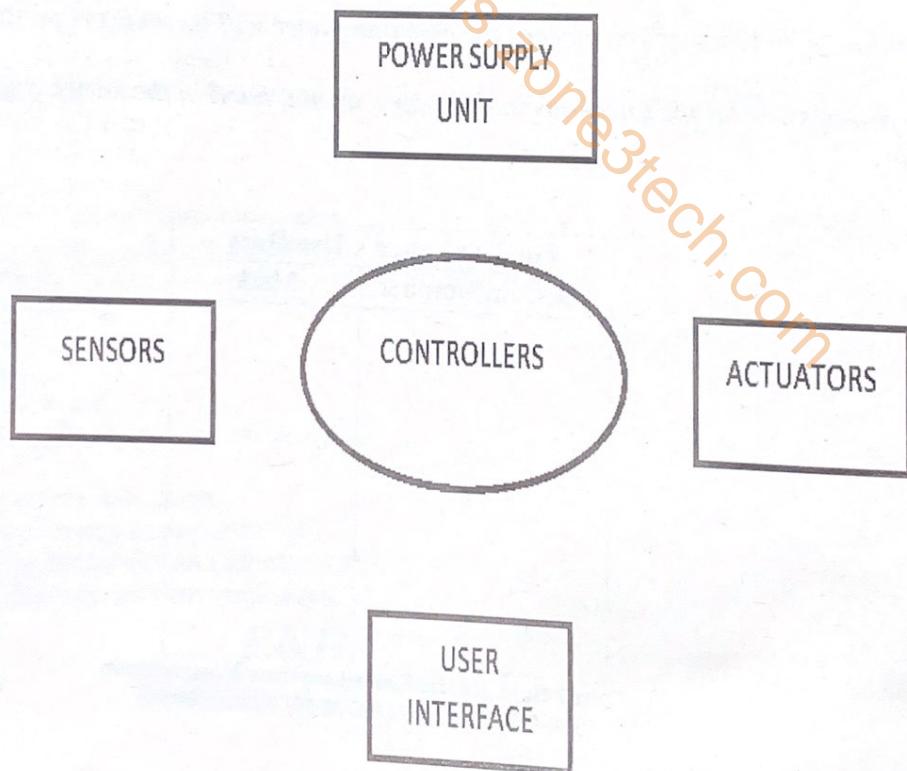
Whether you answer all the questions in this paper or not, hand in the entire question paper to the invigilator.

Credit will be given for clarity of expression and orderly presentation of material.

SECTION A
[24 marks]

Answer Question 1.
[Compulsory]

1. (a) Your robotic club has displayed a robotic system in a district exhibition to educate the public on how robots work.
- (i) The diagram below is being prepared as part of a PowerPoint presentation to explain to attendees how robots work. Complete the diagram by drawing arrows connecting one component to the other to illustrate how data or information flows between the components in a robot.



(ii) State the function of each of the following components in the diagram above.

COMPONENT	FUNCTION
Sensors	
Actuators	Process sensor data and send commands to actuators
	Allows human interaction with the robot for control and monitoring

[4 marks]

(iii) Your audience wants to know more about sensors. Name **two** specific types of sensors found in a robot and give the use of each.

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

[2 marks]

- (b) The spreadsheet data below is a representation of the breakdown of sales made by sales people in an organization in 2025. Each salesperson is given a commission of 5% of their total enrollment. Use it to answer questions (i) to (vi).

BBEKO MOCK DATA - 2025

	A	B	C	D	E	F	G
BBEKO MOCK DATA - 2025							
1	Salesman	Exam	Location	Enrolment	Price	Sales	Commission
2	Turkson	Jan mock	Sunyani	520	20.0	10400	GH₵ 520.00
3	Rita	Dec mock	Accra	804	20.0	16080	
4	Mavis	Jan mock	Ho	688	20.0	13760	
5	Nii	Feb mock	Tamale	772	20.0	15440	
6	Daniel	Jan mock	Kumasi	856	20.0	17120	
7	Nii	Dec mock	Bolga	540	20.0	10800	
8	Rita	Feb mock	Cape coast	624	20.0	12480	
9	Mavis	Dec mock	Wa	408	20.0	8160	
10	Elizabeth	Jan mock	Goaso	792	20.0	15840	
11	Rita	Dec mock	Techiman	876	20.0	17520	
12	Total			6880		#####	
13							
14							
15							

Commission 5%

Row Labels Sum of Commr Sum of Total Sales

Daniel	GH₵ 42.80	17120
Jan mock	GH₵ 42.80	17120
Elizabeth	GH₵ 39.60	15840
Jan mock	GH₵ 39.60	15840
Mavis	GH₵ 54.80	21920
Dec mock	GH₵ 20.40	8160
Jan mock	GH₵ 34.40	13760
Nii	GH₵ 65.60	26240
Dec mock	GH₵ 27.00	10800
Feb mock	GH₵ 38.60	15440
Rita	GH₵ 115.20	46080
Dec mock	GH₵ 84.00	33600
Feb mock	GH₵ 31.20	12480
Turkson	GH₵ 26.00	10400
Jan mock	GH₵ 26.00	10400
Grand Total	GH₵ 344.00	137600

- (i) Write the complex formula used to generate the data in cell G3.
-

[1 mark]

Turn over

- (ii) Describe the operation required to automatically fill the rest of the data in column G.

[3 marks]

- (iii) Outline the steps to achieve the formatting at X.

[2 marks]

- (iv) Explain the reason for the error at Y.

[1 mark]

- (v) How would you resolve the error at Y?

[1 mark]

- (vi) Outline the steps involved in representing data in the form labelled Z.

[6 marks]

SECTION B

[36 marks]

Answer three questions only in this section.

2. (a) (i) What is a *contactless payment method*?

.....
.....
.....
.....
..... [1 mark]

- (ii) Highlight two benefits of using contactless payment methods.

.....
.....
.....
.....
..... [2 marks]

- (b) List six things you can create with a *Desktop Publishing software*.

.....
.....
.....
.....
..... [3 marks]

- (c) A travel blogger wants to increase engagement on his blog. Suggest three ways to achieve this.

.....
.....
.....
.....
..... [3 marks]

- (d) You are the leader of a team in a robotics competition that is to assemble a robot using the components listed below. Choose the correct component to fill in each of the following spaces in the correct order of steps that your team has to follow.

(microcontroller, chassis components, wiring, sensors, actuators, power source)

- I. Assemble the
- II. Install the
- III. Mount the
- IV. Connect motors or for movement.
- V. Position and connect for data collection.
- VI. Connect all parts using appropriate

[3 marks]

Turn over

3. (a) (i) What is *data encryption* technique in data protection? 6

[1 mark]

(ii) State **two** ways *data encryption* technique helps protect data from breaches.

[2 marks]

(b) Explain the following terms in Excel:

(i) *Cell Style*;

(ii) *Macro*.

[3 marks]

(c) Explain the following:

(i) *expert system*;

(ii) *teachable machine*.

[3 marks]

(d) State **two** advantages a newly qualified mechanic would derive from using an expert system to diagnose faults in a car.

[3 marks]

4. (a) Explain the following hacking techniques:
(i) *Keylogger attack;*

(ii) *SQL injection.*

[2 marks]

- (b) Outline **three** ways to prevent overheating of computing devices.

[3 marks]

- (c) Write **four** benefits of using *IDEs* in writing program codes.

[4 marks]

- (d) Explain how you would customize a transition effect in a power point slide.

[3 marks]

Turn over

5. (a) Differentiate between *Denial of Service (DoS)* and *Distributed Denial of Service (DDoS)* attacks.

[2 marks]

- (b) Give three uses of tables in MS Word documents.

[3 marks]

- (c) (i) Explain what a *robot simulation software* is.

[3 marks]

- (d) Write the steps you will take to design a business card from a template in MS Publisher.

[4 marks]

END OF ESSAY TEST

DO NOT TURN OVER THIS PAGE UNTIL YOU ARE TOLD TO DO SO.

YOU WILL BE PENALIZED SEVERELY IF YOU ARE
FOUND LOOKING AT THE NEXT PAGE BEFORE
YOU ARE TOLD TO DO SO.

PAPER 1
OBJECTIVE TEST

45 minutes

Answer all the questions on your Objective Test answer sheet.

1. Use 2B pencil throughout.
2. On the pre-printed answer sheet, check that the following details are correctly printed:
Your **surname** followed by your **other names**, the **Subject Name**, your **Index Number**,
Centre Number and the **Paper Code**.
3. In the boxes marked **Candidate Number**, **Centre Number** and **Paper Code**, **reshade** each of the shaded spaces.
4. An example is given below. This is for a candidate whose name is Seyram BABANAWO.
Her index number is 772384188 and she is writing the examination at Centre Number
77234. She is offering *Computing 1* and the Paper Code is 4510.

BEST BRAIN EXAMINATION KONSORTIUM SPECIAL PRIVATE MOCK FOR BECE CANDIDATES OBJECTIVE ANSWER SHEET.

CANDIDATE NAME: SEYRAM BABANAWO	SUBJECT: COMPUTING 1
---	--------------------------------

- | | |
|--|--|
| 1. Use HB Pencil Press firmly
2. Answer each question by choosing one letter and
then, shade through the letter chosen like this
[A] [B] [C] [D] [E]
3. If you want to change an answer, rule out your | First mark completely.
4. If only four alternative answers are given for
each question, ignore the letter E
5. Your question paper may have fewer than 60
Questions. |
|--|--|

CANDIDATE NUMBER								
7	7	2	3	8	4	1	8	8
[0]	[0]	[0]	[0]	[0]	[0]	[0]	[0]	[0]
[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]
[2]	[2]	[2]	[2]	[2]	[2]	[2]	[2]	[2]
[3]	[3]	[3]	[3]	[3]	[3]	[3]	[3]	[3]
[4]	[4]	[4]	[4]	[4]	[4]	[4]	[4]	[4]
[5]	[5]	[5]	[5]	[5]	[5]	[5]	[5]	[5]
[6]	[6]	[6]	[6]	[6]	[6]	[6]	[6]	[6]
[7]	[7]	[7]	[7]	[7]	[7]	[7]	[7]	[7]
[8]	[8]	[8]	[8]	[8]	[8]	[8]	[8]	[8]
[9]	[9]	[9]	[9]	[9]	[9]	[9]	[9]	[9]

CENTRE NUMBER								
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[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]
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[4]	[4]	[4]	[4]	[4]	[4]	[4]	[4]	[4]
[5]	[5]	[5]	[5]	[5]	[5]	[5]	[5]	[5]
[6]	[6]	[6]	[6]	[6]	[6]	[6]	[6]	[6]
[7]	[7]	[7]	[7]	[7]	[7]	[7]	[7]	[7]
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PAPER CODE								
4	5	1	0					
[0]	[0]	[0]	[0]	[0]	[0]	[0]	[0]	[0]
[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]
[2]	[2]	[2]	[2]	[2]	[2]	[2]	[2]	[2]
[3]	[3]	[3]	[3]	[3]	[3]	[3]	[3]	[3]
[4]	[4]	[4]	[4]	[4]	[4]	[4]	[4]	[4]
[5]	[5]	[5]	[5]	[5]	[5]	[5]	[5]	[5]
[6]	[6]	[6]	[6]	[6]	[6]	[6]	[6]	[6]
[7]	[7]	[7]	[7]	[7]	[7]	[7]	[7]	[7]
[8]	[8]	[8]	[8]	[8]	[8]	[8]	[8]	[8]
[9]	[9]	[9]	[9]	[9]	[9]	[9]	[9]	[9]

For Supervisors Only.
If candidate is absent shade this space

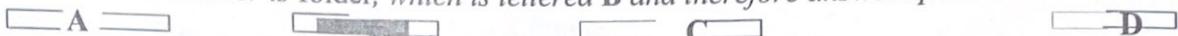
Answer all the questions.

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 space which bears the same letter as the option you have chosen. Give only one answer to each question. An example is given below.

A group of files are stored in a

- A. graphic
- B. folder
- C. text
- D. word

The correct answer is folder, which is lettered B and therefore answer space B would be shaded.



Think carefully before you shade the answer spaces. Erase completely any answer you wish to change.

Do all rough work on this paper.

Now answer the following questions.

1. An auto engineer who uses an expert system has received complaint from a client about an issue of strange noise from the car engine. To diagnose the fault, the system will first of all
 - A. provide solutions and further tests to confirm the issue.
 - B. collect information from the engineer about the strange noise.
 - C. process the data, identify the pattern and suggest potential faults.
 - D. use expert knowledge to express the problem in a human language.
2. According to Asimov's Third Law of Robotics, a robot must protect its own existence as long as such protection
 - A. is in accordance with the Laws of Nature.
 - B. does not conflict with the First or Second Law.
 - C. would conflict with the First Law and Second Law.
 - D. allows a human being to come to harm
3. A student using an MS Publisher wants to align text objects neatly on a page. The feature in MS Publisher that can help achieve this is
 - A. Rulers and Guides.
 - B. AutoSum.
 - C. Spell Check.
 - D. Task Manager.
4. You want to group and summarize data in excel. The feature which allows you to do this is
 - A. Conditional formatting.
 - B. PivotTable.
 - C. Sorting.
 - D. Field List.
5. The primary goal of a Denial of Service (DoS) attack is to
 - A. gain unauthorized access to sensitive information.
 - B. encrypt files for ransom.
 - C. disrupt the availability of service.
 - D. spread malware through infected files.
6. According to ergonomic principles, the right way when typing is for your wrist to remain
 - A. motionless.
 - B. twisted.
 - C. bent.
 - D. straight.

7. Which publication can be used to provide a monthly update to customers?
- Newsletter
 - Letterhead
 - Flyer
 - Brochure
8. Basic blog entries that usually show up on the home page of a blog are called
- pages.
 - categories.
 - wIDGETS.
 - posts.
9. A PowerPoint slide that controls the formatting and layout of all the other slides is known as a
- parent slide.
 - master slide.
 - slide parent.
 - slide master.
10. You can make up a digital footprint by
- opening an email address.
 - visiting educational websites.
 - commenting on a TikTok post.
 - watching YouTube videos.
11. Clickable elements that direct users to different areas within the same document or to external web pages are called
- tiplink.
 - mirrorlink.
 - hyperlink.
 - textlink.
12. The term *blog* stands for
- Web big
 - Big log
 - Web log
 - Read web
13. A blogger wants readers to reply to what he writes, leave links and create general discussion. The feature to use is
- comments.
 - podcasts.
 - screenshots.
 - pages.
14. Which tool is designed to block unauthorized access to your network?
- Firewall
 - Control Panel
 - User permission
 - Adblocker
15. An example of e-learning is
- classroom lecture.
 - video tutorial online.
 - book reading.
 - phone conference.
16. A social media post that is shared by another user is a
- comment.
 - like.
 - repost.
 - follow.
17. E-paper technology is commonly used in
- smartphones.
 - E-readers.
 - E-consoles.
 - Desktop monitors.
18. Multimedia elements are added to PowerPoint presentations for purposes of
- increasing the file size.
 - enhancing audiovisual experience.
 - making the presentation longer.
 - reducing the amount of text.
19. Which component in a computer is most affected by excessive heat?
- Keyboard
 - Monitor
 - Central Processing Unit
 - USB Port
20. What is the result of $1101010 + 1101011$ in hexadecimal?
- D7
 - D6
 - D5
 - D4
21. When you notice you are being cyberstalked as a student, you should
- tell a responsible adult.
 - tell your colleague student.
 - talk to the person stalking you.
 - change your school.
22. The most crucial electronic piece in building robots is the
- mBot simulator.
 - arduino microcontroller.
 - internet router.
 - power supply.
23. The bell icon at the far end of the Windows taskbar provides access to
- software updates.
 - hardware issues.
 - troubleshooting tools
 - system notifications.
24. The processing power of future computers promises to be greatly enhanced by
- cloud computing.
 - quantum computing.
 - blockchain technology.
 - robot intelligence

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25. The goal of workstation safety risk reduction is to
 A. increase productivity.
 B. minimize the risk of injuries.
 C. reduce costs.
 D. improving employee morale.
26. The material that is commonly used for constructing robot frame is
 A. wood.
 B. rubber.
 C. aluminum.
 D. plastic.
27. In Microsoft Excel a Data Table is a
 A. sorting tool.
 B. What-If Analysis tool.
 C. data validation tool.
 D. PivotTable tool.
28. A prominent feature of POS payment systems is that it
 A. requires a bitcoin account.
 B. does not need mobile wallet.
 C. only works with cards.
 D. is accessible without a PIN.
29. Another way to insert a hyperlink into a word document other than using the Insert menu is to
 A. right-click the word or phrase to use as hyperlink.
 B. triple click the word to be used as hyperlink.
 C. just type 'Hyperlink'.
 D. press Control + Shift + H
30. Overloading sockets can lead to
 A. power savings.
 B. faster charging.
 C. fire outbreaks.
 D. improved device performance.
- The back-end of a blog where changes not seen by the public are made is a
 A. boardroom.
 B. sidebar.
 C. login.
 D. dashboard.
32. A potential privacy risk of using social media is
 A. learning new skills.
 B. improved job opportunities.
 C. data breaches and identity theft.
 D. enhanced security measures.
33. You can isolate and protect critical data by separating it from the rest of the disk to reduce the risk of data loss or corruption by
 A. partitioning.
 B. encryption.
 C. simulation.
 D. networking.
34. The component which is essential for a robot to detect its environment is the
 A. gearbox.
 B. sensor.
 C. battery.
 D. circuit breaker.
35. Which of the following is a primary source of heat at a computer workstation?
 A. Fluorescent lighting
 B. Computers and printers
 C. Wooden desks
 D. Whiteboards
36. Which design element in Microsoft Publisher is best used to emphasize important text?
 A. Drop Cap
 B. Watermark
 C. Text Wrap
 D. Clip Art
37. Which of the following is a popular platform that provides entertainment in the form of movies?
 A. Netflix
 B. Instagram
 C. Spotify
 D. Coursera
38. SQL injection is a type of
 A. cyber attack.
 B. phishing scam.
 C. malware.
 D. computer device.
39. Posting photos of doing volunteer work in the community is a good way to establish
 A. negative digital footprint.
 B. positive digital footprint.
 C. neutral digital footprint.
 D. zero digital footprint.
40. A data table in excel can handle up to
 A. one variable.
 B. two variables.
 C. three variables.
 D. unlimited variables.

END OF PAPER