BASIC EDUC... FOR SCHOOL CANDIDATES, 2025

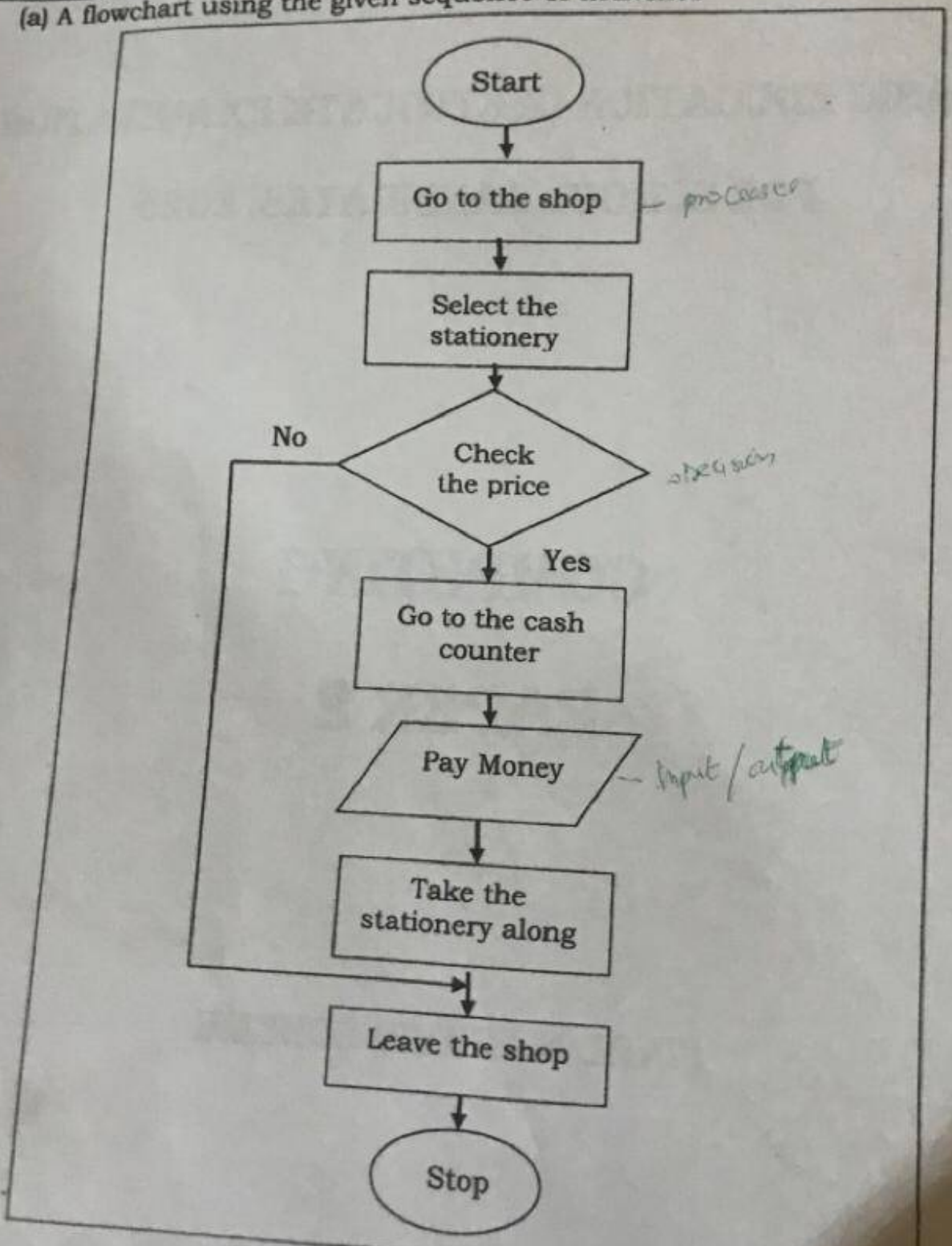
# COMPUTING 2

## FINAL MARKING SCHEME

***INSTRUCTIONS***
*Candidates are expected to answer* ***only four*** *questions in all, including* ***question 1.***

**QUESTION 1**

(a) A flowchart using the given sequence of activities




[10 marks]

(e)

(i) Completing the Microsoft Excel worksheet using Kofi's two days expenditure at the stationery shop would be:

| | A | B | C | D |
|---|---|---|---|---|
| 1 | **Days** | **Items** | **Quantity** | **Amount GhC** |
| 2 | Monday | Exercise books | 4 | 60 |
| 3 | Tuesday | Pens | 6 | 40 |
| 4 | Total | | | |

***[2 marks]***

(ii) A formula in Microsoft Excel to compute Kofi's total amount is
=D2+D3 ***[2 marks]***

**QUESTION 2**

(a) **Perceptual Computing**
This is the development of technology in computing that makes it possible for computers and computing devices to detect and respond to their surroundings more effectively.

**OR**

It is the technology that enable computers and computing devices to interact with the user through the use of various sensors and input devices.

**OR**

This is the computing technology that allow computers and computing devices to understand and interpret human gestures, speech, and facial expressions. ***[3 marks]***

(b) Data entry devices include:
(i) Graphic tablet
(ii) Bar Code reader / Scanner
(iii) Optical Character Reader/ Recognition (OCR)
(iv) Optical Mark Reader (OMR)
(v) Magnetic Card Reader (MCR)
(vi) Magnetic Ink Character Reader
(vii) Radio Frequency Identification (RFID)
(viii) Biometric scanner
(ix) Microphone with Speech recognition
(x) Quick Response Code Reader/QR Code Reader etc.

***[Any 3 x 1 mark each = 3 x 1 = 3 marks]***

(c) Techniques for file compression include:
(i) Lossy compression technique
(ii) Lossless compression technique
**[2 x 1 mark each = 2 x 1 = 2 marks]**

(d) Possible ways to prevent eye strain due to prolonged use of the computer include:
(i) Use screen filter/ screen protector/ screen shield
(ii) Take regular breaks while using the computer
(iii) Use monitors that do not flicker
(iv) Blink the eyes occasionally
(v) Regularly look away from the screen and focus on something in a distance etc.
**[Any 2 x 2 marks each = 2 x 2 = 4 marks]**

**QUESTION 3**

(a) How to make the word Computing a hyperlink in a word document:
1. Select the word computing in the word document
2. Right-click on the selected word (computing)
3. Locate and click on hyperlink from the pop-up menu
4. Ensure the selected word (computing) is seen in the "Text to display" box
5. Copy and paste or type the website address (www.waecgh.org) in the Address box
6. Click on OK

**[1 mark for each step = 1 x 6 steps = 1 x 6 = 6 marks]**

**Alternative**

1. Select the word Computing in the word document
2. Press Ctrl + K (Windows) or Command + K (Mac) to open the "Insert Hyperlink Dialogue Box"
3. Ensure the selected word (computing) is seen in the "Text to display" box
4. Type or copy and paste the website address (www.waecgh.org) in the address box
5. Click on Ok

**[1 mark for each step = 1 x 6 steps = 1 x 6 = 6 marks]**

(b) Categories in which objects found under the shape tool of Microsoft PowerPoint are grouped as:
(i) Lines
(ii) Rectangles
(iii) Basic shapes
(iv) Block Arrows
(v) Equation shapes
(vi) Flowchart
(vii) Stars and Banners
(viii) Callouts
(ix) Action Buttons

**[Any 2 x 1 mark each = 2 x 1 = 2 marks]**

(c) Steps to ensure that an image placed on a flyer using Microsoft Publisher has texts written over the image are:

1. Insert textbox
2. Type the text
3. Select the textbox
4. Format the text

[1 mark for each step = 1 x 4 steps = 1 x 4 = 4 marks]

**Alternative**

1. Insert a shape
2. Type the text
3. Select the shape
4. Format the shape

[1 mark for each step = 1 x 4 steps = 1 x 4 = 4 marks]

**QUESTION 4**

(a) Data communication models for networks include:

(i) OSI model (Open Systems Interconnection Reference Model)
(ii) TCP/IP model (Transmission Control Protocol/Internet Protocol)
(iii) Data Communication Modcl

[Any 1 x 2 marks each = 1 x 2 = 2 marks]

(b) Social media sites uscd for video-sharing purpose include:

(i) YouTube
(ii) Facebook Lite
(iii) Periscope
(iv) Vimeo etc.

[Any 2 x 1 mark each = 2 x 1 = 2 marks]

(c) Key principles governing information security are:

(i) Confidentiality
(ii) Intcgrity
(iii) Availability

[Any 2 x 1 mark each = 2 x 1 = 2 marks]

(d) How to use the given techniques to search for information in the internet:

(i) **AND**

This search technique allows the user to get information from various websites that contains the keyword and another keyword

[3 marks]

(ii) **NOT**

This search technique allows the user to get information from various websites that contains only the specified keywords and not any other keyword

[3 mark]

**QUESTION 5**

(a) Converting $10010_2$ to a decimal number is:

$10010_2 = (1x2^4) + (0x2^3) + (0x2^2) + (1x2^1) + (0x2^0)$

$= 16 + 0 + 0 + 2 + 0$

$= 18$

Therefore, $10010_2 = 18_{10}$

***[1 mark for each correct step = 1 x 4steps = 1 x 4 = 4 marks]***

(b) Applications of robotics in the given areas include:

(i) Education

1. Age group teaching
2. One-on-one interactions
3. Structured subjects
4. Assessment administration
5. Dangerous/hazardous demonstrations etc.

***[Any 2 x 1 mark each = 2 x 1 = 2 marks]***

(ii) Transportation

1. Drones
2. Traffic warden
3. Self-driving/autonomous/driverless care
4. Ticketing
5. Delivery robots etc.

***[Any 2 x 1 mark each = 2 x 1 = 2 marks]***

(c) Components of a robot include:

(i) Sensors
(ii) Actuators
(iii) Motors
(iv) Controllers
(v) Batteries/Power Supply
(vi) Software etc.

***[Any 2 x 1 mark each = 2 x 1 = 2 marks]***

(d) Abilities that make (machines) computers or computer-controlled robots intelligent include:

(i) Reasoning/thinking
(ii) Finding meanings
(iii) Learning
(iv) Decision-making
(v) Speech/voice recognition
(vi) Gestures
(vii) Facial recognition etc.

***[Any 2 x 1 mark each = 2 x 1 = 2 marks]***