BEST BRAIN EXAMINATIONS KONSORTIUM

SPECIAL PRIVATE MOCK FOR BECE CANDIDATES- **JUNE 2024**

MARKING SCHEME - **COMPUTING**

PAPER 2 [60 MARKS]

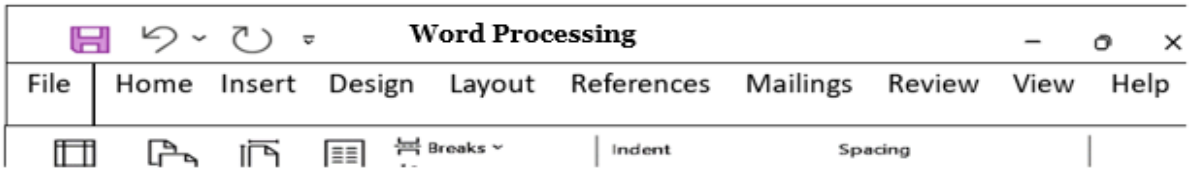
SECTION A

(COMPULSORY – 24 MARKS)

QUESTION ONE

(a) (i) **WRITING THE TITLE, WORD PROCESSING AT THE RIGHT LOCATION IN THE DOCUMENT**

Student should write the title Word processing on the title bar as shown below



1 mark]

(ii) **IDENTIFYING THE LABELLED PARTS OF THE DOCUMENT**

I – Customize Quick Access Toolbar
II - Page number
III – Footer
IV – Status bar
V – Vertical ruler
VI – Margin options

[3 marks @ ½ mark each]

(iii) **SPECIFYING THE RIBBON TAB SHOWN IN THE DOCUMENT**

Layout ribbon tab

[1 mark]

(iv) **STATING THE ALIGNMENT OF THE TEXT IN THE DOCUMENT**

The text is Left aligned.

[1 mark]

(b) (i) **COMPLETING THE TABLE ON THE PARTS OF THE LABELLED LFR**

PART	NAME	FUNCTION
I	Wheels	Wheels provide the necessary movement for the robot.
II	Motor	Drives the wheels of the robot
III	Battery	Supplies power to all the electrical components of the robot, including the motors, sensors, and the control unit.
IV	Infra-Red (IR) Sensor	Used to detect the line on the ground
V	Chassis	Serves as the structural framework of the robot and it holds all the components together.
VI	Infra-Red (IR) Sensor	Used to detect the line on the ground

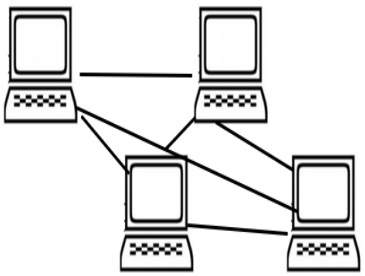
[6 marks]

(ii) **REAL LIFE APPLICATIONS OF LINE FOLLOWER ROBOTS (LFRS)**

- Line-follower robots can be used in factories to transport materials, parts, and products between different stages of the production process.
- LFRs can be used to deliver medications, meals, and medical supplies within hospitals.
- Line-follower robots can be employed for tasks such as planting, weeding, and harvesting crops.
- LFRs can be used in malls and hotels to guide customers to specific locations, deliver room service, or transport luggage.
- LFRs can be used to sort and separate recyclable materials from general waste by following designated lines or color-coded markers
- LFRs can be used for security patrols in restricted areas like warehouses, industrial plants, or even public spaces like parks or university campuses.
- Etc.

[2 marks@ 1 mark each]

(c) (i) **DIAGRAM TO SHOW HOW FOUR COMPUTERS CAN BE NETWORKED IN FULL MESH TOPOLOGY**



[2 marks]

(ii) (α) **IDENTIFYING THE GROUP OF COMPUTERS LABELLED**

I – Clients; **II –** Servers

[2 marks @ 1 mark each]

(β) **NAMING AND DESCRIBING EACH OF THE NETWORK TOPOLOGIES LABELLED**

X - Ring topology: Each computer is connected to the network in a closed loop or ring.

Y - Bus topology: Each computer is connected to a long, single cable which acts as a backbone to line the devices in a network.

Z - Star topology: Each computer is connected individually to a central hub.

[3 marks @ 1 mark each]

(d) IDENTIFYING THE TOOLS IN EACH OF THE COMMAND GROUPS

(i) Text: Textbox, Header and Footer, WordArt, Date and Time, Slide Number.

(ii) Illustrations: Shapes, SmartArts, 3D Models, Icons (in newer versions of PowerPoint).

(iii) Images: Pictures, Screenshot, Photo Album.

[3 marks @ ½ mark each]

SECTION B
(36 MARKS)

QUESTION TWO

(a) (i) **THE STEPS TO INSERT A PAGE NUMBER IN A WORD DOCUMENT**

- Click on the Insert tab.
- Click on Page Number.
- Choose the Page Number format of choice.

[2 marks]

(ii) WRITING THE STEPS TO INSERT A FOOTER IN A WORD DOCUMENT

- Click on the Insert tab.
- Click on Footer.
- Select the Footer format of your choice.

[2 marks]

(b) STATING THE USES OF THE STATUS BAR IN A WORD DOCUMENT

- Displays the current page number and the total number of pages in the document
- Provides a real-time count of words, characters, and other elements in the document
- Shows the status of spelling and grammar checking
- Provides a quick access to different document views such as Print Layout, Full-Screen Reading, Web Layout, Outline, and Draft view.
- Allows a user to adjust the zoom level of the document quickly by sliding left or right

[2 marks @ 1 mark each]

(c) STATING THE ADVANTAGES OF A RING NETWORK TOPOLOGY

- All devices have equal access to the network, preventing any single device from monopolizing the bandwidth.
- The data travels in one direction, which reduces the chance of data collisions.
- Network performance is consistent because each device has the same data transmission opportunity.
- Easier to identify and isolate faults, as data passes through each device in a predictable path.
- Adding new devices to the network has minimal impact on the performance of the existing network.

[3 marks @ 1½ mark each]

(d) STATING THE DISADVANTAGES OF A RING NETWORK TOPOLOGY

- If one device or connection fails, it can disrupt the entire network.
- Identifying and fixing faults can be challenging, especially if multiple issues occur simultaneously.
- Adding or removing devices can be disruptive and requires reconfiguration of the network.
- Not well suited for large networks.
- Data sent from one node to another has to pass through all the intermediate nodes making the transmission slower.

[3 marks @ 1½ mark each]

QUESTION THREE

(a) SPECIAL FEATURES OF A SERVER IN A NETWORK AND THE IMPORTANCE

- Powerful processors to be able to handle large client requests.
- Large amounts of RAM to manage data and run critical applications.
- Large and high-speed storage to store large amounts of data.
- Must be reliable to ensure server remains operational and available to clients.
- Advanced security features to protect data from unauthorized access, cyber-attacks and data breaches.
- Must be scalable to accommodate expansions and upgrades.

[3 marks @ 1 mark each]

(b) (i) WRITING THE EXCEL FORMULA TO CALCULATE THE FINAL GRADE

= 0.2*F1+0.3*F2+0.5+F3 **OR** =(20/100)*F1+(30/100)*F2+(50/100)*F3

(NOTE: ***Don't accept "x" and ÷for multiplication and division as an Excel operator***)

[2 marks]

(ii) **COMPUTING THE RESULTS OF THE FOLLOWING EXCEL FORMULAS**

=2^3 * (4 – 5) = -8

=3 + (6 * 5) + 6 / 3 – 7 = 28 **[2 marks @ 1 mark each]**

(c) EXPLAINING THE BACKGROUND PERSONALIZATION OPTIONS ON A WINDOWS COMPUTER

(i) Solid color: It helps to choose a single solid color as your desktop background.

(ii) Slide show: It is used to set a collection of images to rotate as your desktop background at specified intervals.

(iii) Picture: It is used to select a single image file to display as your desktop background.

[3 marks @ 1 mark each]

(d) EXPLAINING THE TERMS AS USED IN ROBOTICS

(i) **Automation**: Automation refers to the use of technology to perform tasks without human intervention.

(ii) Actuator Arms: Actuator arms are mechanical components in robots that are responsible for movement and manipulation.

[2 marks @ 1 mark each]

QUESTION FOUR

(a) DESCRIBING HOW TO ACCESS THE HIDDEN ICONS IN THE SYSTEM TRAY ON THE TASKBAR

Look at the bottom-right corner of the screen and click the upward-pointing arrow to reveal hidden icons.

[2 marks]

(b) GIVING THE GRAPHIC FEATURE USED FOR DESIGNING

(i) Slide to outline the main points in a presentation

SmartArt graphics -offers tools for creating visually appealing lists.

(ii) A bar graph that shows data on deforestation

Charts – used to insert different kinds of charts in a PowerPoint slide.

[4 marks @ 2 marks each]

(c) GIVING THE ADVANTAGES OF USING EXCEL TO ORGANIZE THE FINANCES OF AN EVENT

- Excel automates complex calculations, reducing errors and saving time.
- Excel provides tools for sorting, filtering, and organizing financial data, enhancing clarity and accessibility.
- Excel offers various charting and graphing options, enabling users to visually represent financial data for better analysis and decision-making.
- Excel allows users to create customizable templates for budgeting, expense tracking, and financial planning, providing a tailored approach to organizing event finances.
- Excel seamlessly integrates with other software and applications, facilitating data import/export and collaboration, which can streamline financial management processes during event planning.

[2 marks @ 1 marks each]

(d) WRITING THE STEPS TO CREATE A POWERPOINT PRESENTATION OF A GRADUATION PHOTO COLLECTION

- Launch PowerPoint.
- Click on the Insert tab.
- Under illustrations, click on Photo Album to open the Photo Album dialogue box.
- Navigate to the location of the pictures on the computer.
- Select the picture you wish to use and click Insert.
- Back in the photo album dialogue box, select the pictures to use in the presentation.
- Click create.

[4 marks]

QUESTION FIVE

(a) GIVING THE USE OF THE COMPUTING NETWORK DEVICES

(i) **Switch**: A switch is used to connect multiple devices within a local area network (LAN).

(ii) **Router**: A router is used to connect multiple networks together, such as LANs or the Internet.

[2 marks @ 1 marks each]

(b) COMMON FEATURES SHARED BY THESE DEVICES

- A screen for displaying information
- Processors for computing tasks
- Storage for data
- Connectivity options for accessing the internet and other devices

[3 marks @ 1 mark each]

(c) DESCRIBING HOW TO PIN AN APPLICATION TO THE START MENU IN WINDOWS 10

- Click on the Windows logo on the taskbar (Start button).
- Locate the application you wish to pin onto the Start menu.
- Right-click on the application icon in the list.
- Select "Pin to Start" to pin the application onto the Start menu.

[4 marks]

(d) <u>GIVING REASONS WHY ROBOTS ARE MORE EFFICIENT THAN HUMANS AT REPETITIVE JOBS</u>

- Robots perform tasks with consistent precision and accuracy.
- Robots work at a constant speed, often faster than humans.
- Once programmed, robots reliably execute tasks without breaks.
- Robots handle hazardous tasks without risking human health.
- Initial investment in robotics leads to long-term cost savings.

[3 marks @ 1 mark each]
TOTAL 60 MARKS

<u>PAPER 1 [40 MARKS]</u>

1. C	**11. C**	**21. C**	**31. C**
2. B	**12. B**	**22. D**	**32. B**
3. D	**13. D**	**23. D**	**33. C**
4. C	**14. A**	**24. B**	**34. A**
5. A	**15. B**	**25. A**	**35. B**
6. A	**16. C**	**26. A**	**36. D**
7. B	**17. D**	**27. A**	**37. A**
8. C	**18. A**	**28. B**	**38. D**
9. A	**19. A**	**29. A**	**39. A**
10. A	**20. C**	**30. A**	**40. C**