



**Complete, fold and seal**  
(see note 2 below)

SURNAME: Buckney

FORENAME(S): Leon

1. Please give the information requested in the boxes below.
2. Enter your name in the space provided to the right, fold over and seal down (using the label provided) to hide your name.
3. The answers must be legibly written. The Examiners can either ignore illegible script or have it typed and the expense of typing charged to the candidate.
4. Write your answers in ink.
5. Begin each answer on a fresh page. Do all rough work in the answer book and cross it through.
6. No part of this book is to be torn out; it must be handed in complete.
7. If more books than one are used, fasten them together using the tags available from the invigilator(s).
8. **Every book must be handed in. In no circumstances may answer books, used or unused, be taken out of the examination venue.**

|   |                                  |                                             |
|---|----------------------------------|---------------------------------------------|
| 1 | Student Number                   | 2404085                                     |
| 2 | Title of Examination Paper       | Computer Architecture and operating systems |
| 3 | Module Code                      | ACCA4022                                    |
| 4 | Date and Time of Examination     | 12/5/2025<br>9:00 AM                        |
| 5 | Examination Venue                | 310                                         |
| 6 | Seat Number                      | 21                                          |
| 7 | Number of Answer Books handed in |                                             |

| List the numbers of the questions you have attempted | Office Use |
|------------------------------------------------------|------------|
| Q1(A,B,C,D)                                          | 4          |
| Q2(A1)                                               | 6          |
| Q3(A,C)                                              | 9          |
| Q4                                                   | 14         |
|                                                      |            |
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|                                                      |            |
| Total                                                | 33         |

(Gweler yr ochr arall am y fersiwn Cymraeg)

ia)

$$\begin{array}{r}
 8421 \\
 60110 \\
 20010
 \end{array} = 01100010$$

iia)

$$\begin{array}{r}
 8421 \\
 10001 \\
 20010 \\
 50101
 \end{array} = 00010010101$$

ib) = 99

iib) = F0

ic) 2F = 00101111

iic) 36 = 00110110

id) C3 = 123

iic) 66 =

1 = 0001

2 = 0010

3 = 0011

4 = 0100

5 = 0101

6 = 0110

7 = 0111

8 = 1000

9 = 1001

A 10 = 1010

B 11 = 1011

C 12 = 1100

D 13 = 1101

E 14 = 1110

F 15 = 1111

ia)

Data bus, is where data is stored <sup>x</sup> either being sent to you or someone else. The address bus is a part of the system bus that stores mac address <sup>x</sup> so that if the user were to send something across the network? it wouldn't have to add a new entry. The CPU also known as the Central Processing Unit is where all tasks are completed and then are organized to be sent or stored somewhere. The Memory is where all files and programs are stored <sup>✓</sup> and can be retrieved by the user at any-time. Finally you have Input and Output, this is your devices such as printers, keyboard and mouse and basically the system reads your inputs whether it may be searching for a word document or a file, after inputting what you have searched your system should output it via your monitor <sup>✓</sup>

2

2

2

ii a)

$$ia) = 309 - 9.0 \text{ GB}$$

$$iia) = 500 \text{ GB} - 32 \text{ TB}$$

$$iiia) = 225 \text{ Gb} - 1 \text{ TB}$$

ic) Raid 0 is essentially 2 split drives so for instance, if it was 3TB you would split it being 1.5 TB per drive and if one of the two split drives were to lose its data, then the other drive would lose its data too.

iiC) Raid 1 is similar to Raid 0 except that the drives are mirrored meaning if you were to lose data on one of the drives the other one would be completely fine.

\$2000 desktop setup:

I believe they should buy a Intel Core I7 CPU as it offers much greater performance than its previous generations being the I5 and I3 but since this PC will be used for editing 4k videos in my opinion I think the I7 is the best fit. Moving onto the RAM I think it would be sensible for them to have 1 stick of 64GB DDR5 as this user will be constantly switching between video software programs so this allows them to multitask.

Next I think they should have a 2TB HDD. This is because if they are going to be doing video editing they are gonna need a lot of storage.

Now moving onto graphics card I believe they should have a Nvidia RTX 4080 because if they are planning on doing 4k video editing they will need a graphics card that can handle 4K videos with ease. Now with these components I believe they will be able to run Adobe Photoshop, Premiere Pro and many other editing software with ease.

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14



Question No.

Examiner Only

