

Complete, fold and seal
(see note 2 below)

SURNAME: Hopkins

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Examination Answer Books

12 Pages

Instructions to Candidates

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	H019851463
2	Title of Examination Paper	Computer architecture and operating systems
3	Module Code	ACCA4022
4	Date and Time of Examination	9 May 10:00 2023
5	Examination Venue	Gower college Swansea SA1 8BA
6	Seat Number	C3
7	Number of Answer Books handed in	1

[illegible]

(Gweler yr ochr arall am y fersiwn Cymraeg)



Prifysgol Cymru
Y Prifddod Dewi Sant
University of Wales
Trinity Saint David

Llyfr Atebion Arholiadau

12 Tudalen

Cyfarwyddiadau i Ymgeiswyr

1. Rhwch yr holl wybodaeth y gofynnir amdani yn y blychau isod.
2. Rhwch eich enw yn y lle a ddarparwyd ar y dde, phlygwch et a'i seilio i lawr (gan ddefnyddio'r label a ddarparwyd) i guddio'ch enw.

guddio, ch' enw.

3. Rhaid i'r atebion fod mewn llawysgrifau ddde gael ei theipio a chael yr ymgaisydd i dalu.

4. Ysgrifennwch eich atebion mewn inc.

5. Dechreuwch bob ateb ar dudalen newydd. Gmwewch unrhyw fras nodiadau yn y llyfr atebion a thynnu llinell drwyddynt.

5. Ni ddylid rhwgo unrhyw ran o'r llyfr hwn; rhaid ei gyflwyno yn gyfan.

Os defnyddir mwy nag un llyfr, rhwybmwch hwy gyda'i gilydd gan ddefnyddio'r tagiau sydd ar gael oddi wrth y gwylwlr/gwylwlyr.

- rhaid dychwelyd pob llyfr. Ni chaniateir mynd â llyfrau atebion, wedi eu defnyddio neu heb eu defnyddio, allan o'r lleoliad arholi o dan unrhyw amgylchedau.

7	Nifer y Llyfrau Atebion a gyflwynwyd	
6	Rhif Sedd	
5	Lleoliad yr Arholiad	
4	Dyddiad ac Amser yr Arholiad	
3	Cod y Modwl	
2	Tali y Papur Arholiad	
1	Rhif Myfyrwr	

(See the other side for English version)

[illegible]

CYFENW:

ENW(AU) CYNTAF:

Lienwch, plygwch a selwch
(gwele'r nodyn 2 isod)

23

10 Hex = AC A =

$$8+4=12$$

$$1100 = 12$$

$$1001 = 11$$

23

$$128+64+32+16+8+4+2+1$$

$$11001001$$

$$32+16+8+4+2+1$$

$$010111$$

$$23 - 10 = 13$$

$$16$$

$$67$$

100

Answer = 010111

$$128+64=192+$$

$$32$$

$$224$$

$$100 \quad 256 \quad 128 \quad 64 \quad 32 \quad 16 \quad 8 \quad 4 \quad 2 \quad 1$$

$$0 \quad 0 \quad 1 \quad 1 \quad 0 \quad 1 \quad 1 \quad 0 \quad 1 \quad 0$$

$$192+$$

$$16$$

$$208$$

Answer = 11011010

$$16 \quad 256 \quad 128 \quad 64 \quad 32 \quad 16 \quad 8 \quad 4 \quad 2 \quad 1$$

$$1 \quad 0 \quad 1 \quad 0 \quad 1 \quad 1 \quad 0 \quad 1$$

$$128$$

$$64+$$

$$32$$

$$8$$

$$4$$

$$1$$

$$173$$

$$2$$

$$160 = 173$$

Answer

16b 643216 8 4 2 1
1 1 0 1 1

Answer = ~~27~~ 27

16 +
8
~~2~~
2
1
27
2

1Ca 96 to Decimal
21

32 16 8 4 2 1
1 0 1 0 1
Answer = 30101

1Cb C 3 To decimal
16
Answer = 10000

1Da D 3
13 + 3 = 16
Answer = 16

1pb 3 B #
11 + 3 = 14
Answer = 14

1 1
2 2
3 3
4 4
5 5
6 6
7 7
8 8
9 9
10 10A
11 11b
12 12C
13 D
14 E
15 F
~~16~~

1e

16 +

$$\begin{array}{r} 0 \\ 4 \\ 2 \\ 1 \\ \hline 31 \end{array}$$

32 values in a 5 bit system

1f

82.9 gigabits 200

$$\begin{array}{r} 200100 \\ 82900000B \end{array}$$

$$\begin{array}{r} 200X \\ 16000000000 \end{array}$$

$$\begin{array}{r} 3200000000000 \\ 829-48 \end{array}$$

$$32 \text{ bit } 1024 \sqrt{32 \times 11}$$

Answer 82.9 gigabytes

$$\begin{array}{r} 829 \\ 10 \overline{) 829} \end{array}$$

ii 8.29 gigabytes

1g

$$\begin{array}{r} 8x \\ 20 \\ \hline 21 \end{array}$$

2.

answer 3 seconds as 20 Mb =
2 MB 2 MB x 3 seconds = 6
MB.

Lowcost PC for word Processing

a Intel Core I3 13200 KF
 For an estimated £120 this CPU has enough processing power to cover all needs requirements also has integrated graphics to output onto the 42 inch screen. I chose this CPU as its price to performance ratio far outperforms competitors such as AMD dual cores.

B 16 GB of DDR4 at 3200 MHz, The amount of RAM chosen is more than enough for the tasks stated in the brief, Since the release of DDR5 RAM the price of DDR4 has dropped. Corsair DDR4 has two sticks of 8 at this speed (totalling 16)

Continued:

Rather than one stick of 16 GB splitting the RAM into 2x 8 GB is better as the BIOS can enable Intel XMP. Corsair has a package currently for this configuration for £329.99

C

The storage with full HD movies taking up to 15 GB the best storage solution I thought of was a 4 TB HDD for mass storage and 128 GB as a boot drive. The reason the boot drive has such little storage is due to the pricing on SSDs, as the price has stated no need for gaming, loading times don't matter as much, as most systems

Highend

~~cont~~

D The Ports required for this system are:

- 2x USB (keyboard and mouse)
- HDMI (Intel 42 inch display)

The Inputs required are:

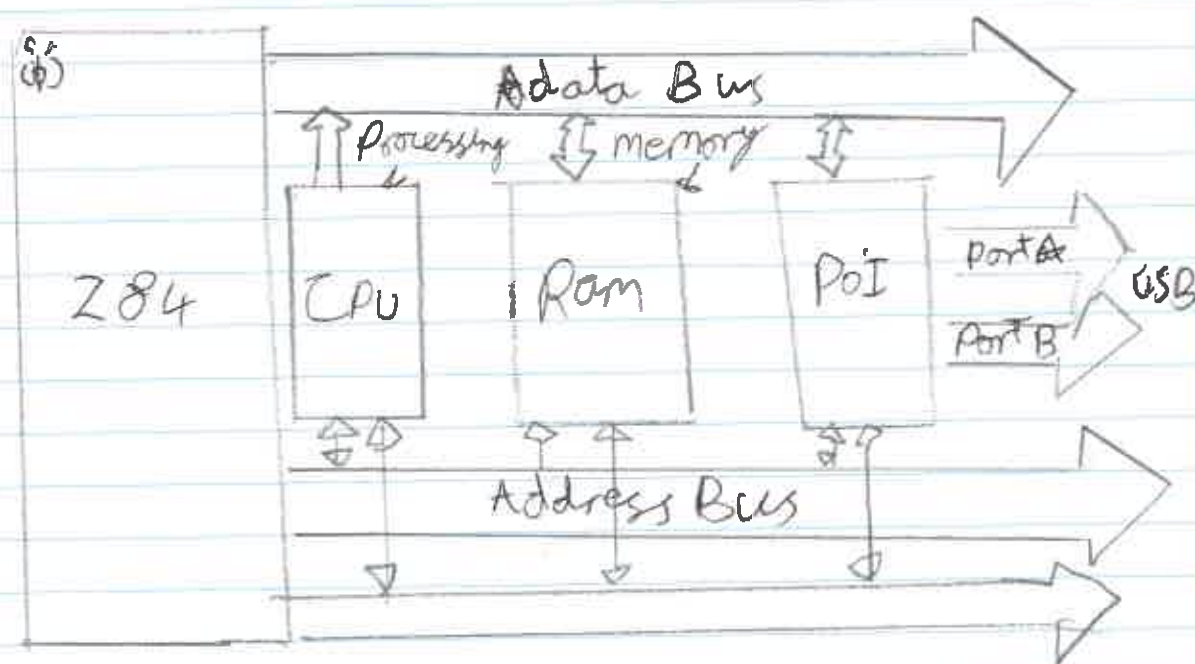
- optical drive (for purchased disks)

~~cont~~

e With the Intel I 3 having integrated graphics, there is no need for a graphics card, the total TDP would

Estimated total £365 ~~including~~ including case, PSU, fans ~~and~~ However excluding keyboard and mouse

✓ 1.8

2
A

3

i 12.5 GB

ii 4 TB

iii 1 TB

3B

i 120 MBPS

ii 32 MBPS

iii 7200 MBPS

3C a Hub connects all wireless net

3C a hub can connect a lot of wireless devices
a switch can only connect wired devices3D a mac address is assigned in the manufacturing
of the devicean IP address is assigned by the
router