



Gower College Swansea
Coleg Gŵyr Abertawe

Llyfr Atebion Arholiadau

12 Tudalen

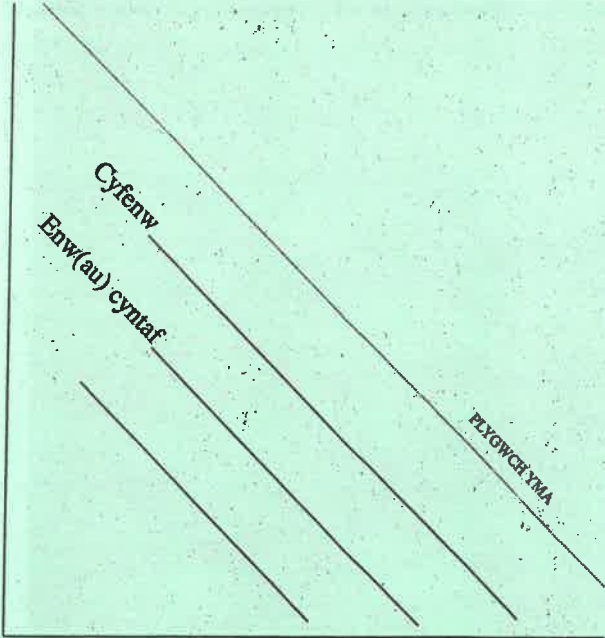
Cyfarwyddiadau i Ymgeiswyr

- Rhowch yr wybodaeth sy'n ofynnol yn y blychau isod a rhowch eich enw yn y man priodol yng nghornel dde uchaf y tudalen.
- Gwlychwch y glud ar frig y tudalen, plygwch y gornel a'i selio er mwyn cuddio eich enw.
- Rhaid i'r atebion fod mewn llawysgrifen **ddarllenadwy**. Gall yr Arholwyr naill ai anwybyddu sgrïpt annarllenadwy, neu drefnu iddi gael ei theipio a chael yr ymgeisydd i dalu.
- Ysgrifennwch eich atebion mewn inc.
- Dechreuwch bob ateb ar dudalen newydd. Gwnewch unrhyw fras nodiadau yn y llyfr atebion a thynnu llinell drwyddynt.
- Ni ddylid rhwygo unrhyw ran o'r llyfr hwn; rhaid ei gyflwyno yn gyfan.
- Os defnyddir mwy nag un llyfr, rhwymwch hwy gyda'i gilydd gan ddefnyddio'r tagiau sydd ar gael oddi wrth y gwyliwr/gwylwyr.
- 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 amgylchiadau.

1	Rhif Myfyriwr	
2	Teitl y Papur Arholiad	
3	Cyfeirnod yr Arholiad/Rhif y Modwl	
4	Dyddiad ac Amser yr Arholiad	
5	Lleoliad yr Arholiad	
9	Rhif Sedd	

7	Nifer y Llyfrau Atebion a gyflwynwyd	
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(See the other side for English version)



(Gweler yr ochr arall am y fersiwn Cymraeg)

7	Number of Answer Books handed in	
6	Seat Number	
5	Examination Venue	Sheidon, Stryk Hall
4	Date and Time of Examination	5th May 2021, 9am
3	Reference Number of Examination/Module Number	Acc4012
2	Title of Examination Paper	Computer Architecture and operating systems
1	Student Number	TUC 18839261

Office Use	List the numbers of the questions you have attempted
	1
	2
	3
	4
	5
	6
	7
	8
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	10
	11
	12
	13
	14
	15

- Please give the information requested in the boxes below and enter your name in the space provided at the top right of the page.
- Wet the gum at the top right hand corner of the page, fold over and seal down in order to conceal your name..
- 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.
- Write your answers in ink.
- Begin each answer on a fresh page. Do all rough work in the answer book and cross it through.
- No part of this book is to be torn out; it must be handed in complete.
- If more books than one are used, fasten them together using the tags available from the invigilator(s).
- Every book must be handed in. In no circumstances may answer books, used or unused, be taken out of the examination venue.

Instructions to candidates

12 Pages

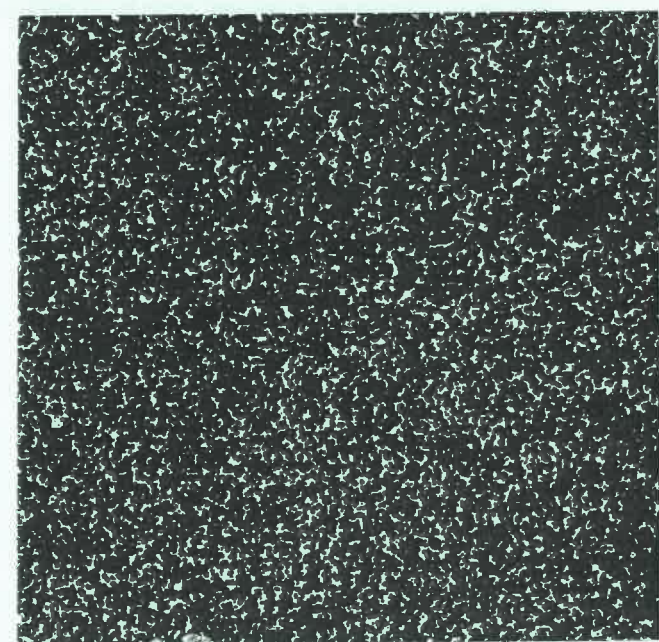
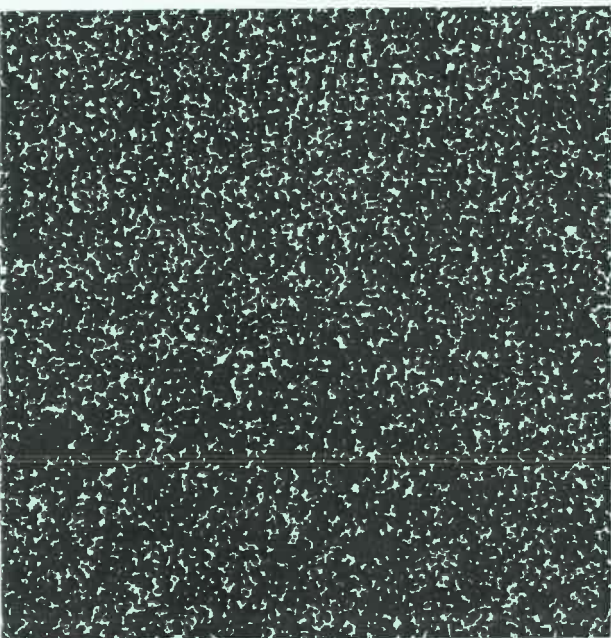
Gower College Swansea
Coleg Gŵyr Abertawe

Examination Answer Book



Surname **Ther**
First name(s) **Lewis**

Hold Here



Q: 281 -

128	64	32	16	8	4	2	1
1	1	1	0	0	1	1	1

Answer = 11100111₂

98

128	64	32	16	8	4	2	1
0	1	1	0	0	0	1	0

Answer = 01100010₂

B

128	64	32	16	8	4	2	1
1	1	1	1	0	0	0	1

$128 + 64 + 32 + 16 + 1 = 241$

Answer = 241

128	64	32	16	8	4	2	1
0	1	0	1	0	1	0	1

$64 + 16 + 4 + 1 = 85$

Answer = 85

C.

8	4	2	1	8	4	2	1
0	1	1	1	1	1	1	1

Answer = 01111111₂

!!

8	4	2	1	8	4	2	1
1	0	1	1	1	1	0	1

Answer = 10111101₂

0

! A5 - A5 in binary = 10100101

128	64	32	16	8	4	2	1
1	0	1	0	0	1	0	1

128 + 32 + 4 + 1 = 165

A5 = 165

!! 3f

3f in binary = 0011111

128	64	32	16	8	4	2	1

16 + 8 + 4 + 2 + 1 = 31

3f = 31

e. 256 x 2 = 512

Answer = 512

f. 1920 x 1080 = 2,073,600

2,073,600 ÷ 32 = 64,800

Answer = 64,800 mb

!! 64,800 ÷ 20 = 3240

Answer = 3240 mb

!!! 64,800 ÷ 60 = 1080

Answer = 1080 mbps

g

! 800 mbps or similar

!! 8.758 or similar

!!! 498 or similar

760 mb

2 /

1 /

Q2

A

Address bus -

An address bus is used to address certain components within the PC a core or an address. It sends data to different components such as the RAM, ROM and PIO. It also communicates with another one of the 3 buses, the control bus.

Control bus -

A control bus is used to ~~send~~ receive information and memory from the address bus and send it to the relevant destination within the PC.

Data bus

A data bus is used to receive and send data from other PC components. It receives data from ROM as well as receives and sends to RAM and PIO.

B.

There are 3 main buses within a PC, the address, control and data bus. Of these 3, 2 are considered bi directional. The 2 bi directional buses within a PC are the data and address bus. The data bus is bi directional as it sends and receives data from RAM and PIO. The ~~control~~ ^{address} bus is bi directional as it also sends and receives data from RAM and PIO, as well as also sending data to the control bus. The control bus is the only bus that is not bi directional. This is because it only receives data from the ~~control~~ ^{address} bus.

2/

2/

2/

USB, also known as Universal Serial Bus has many advantages and disadvantages. Its greatest advantage is that it is a very efficient method of transferring data between devices. Their ability to store large amounts of data is efficient, rather than using external harddrives, which are more expensive. USB 3.0 now allows for faster data transmission. 3.0 can be identified by blue plastic within the USB and the port it is plugged into. They are also compatible with many different devices. Despite this, there are also a host of disadvantages. USB are not typically a secure method of storing data. USBs are easily damaged when not inserting or ejecting right. They are also susceptible to being lost. Both of these disadvantages will lead to loss of data if not backed up properly.

03

#

Having analysed this system, the first thing

that I have noticed that may be contributing

to a slow PC is the amount of

RAM. The user specifies they have

installed 32gb RAM, when only 8 is recognised

and only 3.11gb usable. My first explanation

for this is the quality of processor. The

processor is only a Intel core i3. It runs

at 3.30 GHz which suggests that it is not powerful

enough to support 32gb RAM. With only 3gb being

recognised, I would also ensure the RAM has

been installed into the system board correctly.

Secondly, the user is only running a 32 bit

version of windows. The processor allows a

64 bit version to be installed. A 64 bit version

would unlock more RAM usage, as well as

speed up and ensure that windows is running

smoothly.

B

Virtual memory allows the user to store data

without a physical drive, it also allows

the PC to store relevant information, not taking

up hard drive space.

c Task manager is a feature within windows which allows the user to see what programs are using certain PC resources such as RAM and CPU usage. It does this so the user can highlight any program using alot of resources and slowing down the PC.

B. A TCP/IP V4 address is typically compiled with number assigned from 0 to 255. An example of an address would be 192.168.255.255. They contain a subnet mask that is pre determined. The limitation to these addresses is that they can be duplicated without correct protocol and will eventually run out.

3

Q The first step that I would take in order to A. secure this connection is to secure any wireless access points that it is connected to.

Wireless Access Point are big vulnerabilities to networks as they can be easy to obtain access to by hackers. I would ensure that there access points are suitably encrypted and contain strong passwords.

The next step that I would introduce is policies that state that when connected to the network, details must be kept secure at all times. This is to avoid threat such as phishing attacks. I would ensure that all cabelling is also correct and secure.

6

C. DHCP stands for Dynamic Host Control Protocol. Its role is to automatically assign every device that connect to the network with an IP address. It importance to a network is that by assigning a device with an address automatically, the address will not be duplicated and will be valid.

2

3