

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.**

Complete, fold and seal

(see note 2 below)

SURNAME:

Whiteley

FORENAME(S):

Sol

1	Student Number	149357
2	Title of Examination Paper	Computer Architecture and network
3	Module Code	ACCA4001
4	Date and Time of Examination	10/05/18
5	Examination Venue	Pembrokeshire College
6	Seat Number	
7	Number of Answer Books handed in	1

List the numbers of the questions you have attempted	Office Use
1	20
2	13
3	22
4	16
Office Use	71

1.

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

a) a - 00111000 ✓

3

b - 10100011 ✓

3

b) a - ~~128~~ 230 ✓

64	128
16	64
2	32
1	4
<u>83</u>	<u>2</u>
	230

3

b - 83 ✓

3

c) a - ~~88~~ 10001011 ✓

8B
1000 1011

2

b - ~~10001011~~ 10100111 ✓

~~AF~~ 1110 1111 1001001111

d) a - 35 ✓

23

2 x 16 = 32 + 3

3

b - 224 x

EF
14 x 16 + 15

0

e) 15 x

10 x 10 = 100
10 x 6 = 60
4 x 10 = 40
4 x 6 = 24

0

f) 200 x 800 = 160000 ✓
160,000 x 16 = 2,560,000 x
= 2.56 MB

1,000,000
600,000
~~600,000~~
36,000

1

g) To calculate page of text = Characters per x
Lines.

12 x 12 = 144 = 0.144 Kb x

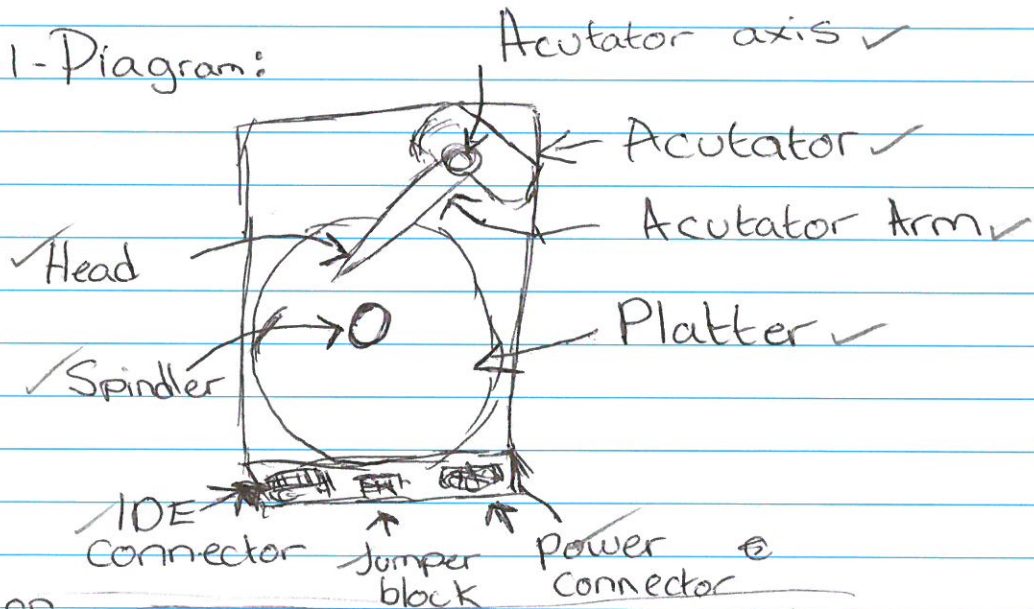
100
20
20
4

0

2.

a)

part 1 - Diagram:



(5)

part 2
- operation

→ The platter on the hard disk uses the spindler to rotate. The head then reads the data from the platter.

2

b) Advantages: • Much faster than hard disk.

2

• Harder to break as it contains less ~~delicate~~ delicate components

2

Disadvantages: • More expensive

2

• limited ~~running~~ to the amount of times it can run

• ~~less~~ available harder to come by

- Q3.
- 1 - Ease of Setup ✓
 - 2 - Frame ✓
 - 3 - Crossover twisted pair ✓
 - 4 - 128 ✓
 - 5 - 200.165.200.215 ✓
 - 6 - ~~Transport~~ NIC x
 - 7 - Transport ✓
 - 8 - ~~Internet?~~ Selecting the path to destination networks ✓
 - 9 - Spyware ✓
 - 10 - LAN Devices? ✓
 - 11 - TCP x
 - 12 - bandwidth; throughput ✓
 - 13 - Brute force ✓
 - 14 - SMTP ✓
 - 15 - NFC ✓
 - 16 - 10.1.1.1 ✓
 - 17 - SSH ✓
 - 18 - ~~Internet~~ Internet x
 - 19 - HTTP x
 - 20 - DoS ✓
 - 21 - UDP? ✓
 - 22 - Encapsulation? ✓
 - 23 - Multicast? ✓
 - 24 - FF:FF:FF:FF:FF:FF ✓
 - 25 - default gateway? x
 - 26 - Physical network topology? x
 - 27 - data x
 - 28 - Reference model x
 - 29 - email ✓
 - 30 - 255.255.255.255 ✓

22

4. a) A network is basically one or more devices connected together to communicate and transfer data.
- Wireless network: ✓

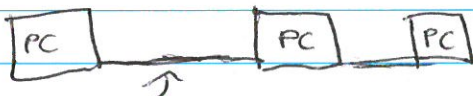


PC

PC

the PCs connect to router wirelessly.

Wired connection.



An ethernet cable is used to connect the PCs together

- b) advantages:
- Easy to setup ✓
 - No admin required
 - ~~Realtime~~ fairly cheap ✓
 - Doesn't rely on a server meaning ~~if zone fails~~ system doesn't crash if server fails.
 - Easy to maintain and fix connection
- Disadvantages:
- Software has to be manually installed to every PC
 - No Central Storage area
 - less secure ✓

~~Please do not touch sets / pet alligator~~
Physical datalink network transport session physical application

~~Core, access, data~~

- c) ~~2~~ Layer 7 - Application ✓
 Layer 6 - Physical x
 Layer 5 - Session ✓
 Layer 4 - Transport ✓
 Layer 3 - Network ✓
 Layer 2 - data link ✓
 Layer 1 - Physical ✓

6

- d) ~~a)~~ The three layers are: Core, Access and data

2

The core is where the modems are located

• The access is where the routers and servers are located

• The data layer is where the PCs and servers are located.

160

0 1 0 0 0
 1 0 1 1 0 0

e)

128 64 32 16 8 4 2 1

160

1 0 0 0 0 0 0

154

0 1 1 1 1 0

162

- i) 11000000.10101000.0001100.00100110
 ii) 10101100.11001000.01001110.1111110 ✓
 iii) 1111111.1111111.1111111.11110000

1

1

128

64

32

16

2420

1 1 1 1 0 0 0 0

16 8

128 64 32 16 8 4 2 1

0 1 0 0 1 1 1

1 1 72



Question No.

Examiner Only

Arholwyr yn unig

Rhify Cwestiwn

Question No.

Examiner Only

Archivierung

Rhif y Cwestiwn



Question No.

Examiner Only

Arholwr yn ur

Rhify Cwestiwn



Question No.

Examiner Only

Arholwyr yn unig

Rhify Cwestiwn

Question No.

Examiner Only

Arholwr yn yr

Rhify Cwestiwn



Question No.

Examiner Only

Arholwr yn unig

Rhif y Cwestiwn

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 lle a ddarparwyd ar y dde, plynghwch ef a'i selio i lawr (gan ddefnyddio'r label a ddarparwyd) i guddio'ch enw.

1. Rhaid i'r atebion fod mewn llawysgriften ddarlennadwy. Gall yr Arholwyr naill ai anwybyddu sgrïpt annarllennadwy, neu drefnu iddi gael ei theipio a chael yr ymgeisydd i dalu.
2. Ysgriftennwy eich atebion mewn inc.
3. Dechreuwch bob ateb ar dudalen newydd. Gwnewch unrhyw fras nodiadau yn y llyfr atebion a thynnu llinell drwyddynt.
4. Ni ddylid rhwgo unrhyw ran o'r llyfr hwn; rhaid ei gyflwyno yn gyfan.
5. Os defnyddir mwy nag un llyfr, rhwymwch hwy gyda'i gilydd gan ddefnyddio'r tagiau sydd ar gael oddi wrth y gwyltir/gwylwyr.
6. 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.

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	Teitl y Papur Arholiad	
1	Rhif Myfyrwr	

Rhestrwch rifau'r cwestiynau a ymgaiswyd gennych	
At Dibenion y Svyddfa	Cyfanswm

(See the other side for English version)

Llenwch, plygwch a seliwch (gweler nodyn 2 isod)

CYFENN:

ENW(AU) CYNTAF: