

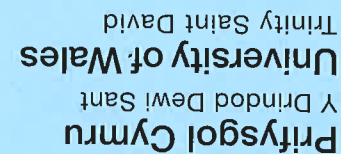


12 Pages

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.**

[illegible]

(Gweler yr ochr arall am y fersiwn Cymraeg)



12 Tüdalen

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

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

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

(See the other side for English version)

Rhestrwch rîau'r cwestylliau a ymgeislyd gennych	
	Cyflanswm
At Ddilbenion y Swyddfa	

Lienwch, plygwch a seliwch
(gweler nodyn 2 isod)

CYFENN:

ENW(AU) CYNTAF:

Question 1

i) Convert to binary

a) $(769)_{10}$

$769 \div 2$

$$\begin{array}{r|l}
 1 & 384 \\
 0 & 192 \\
 0 & 96 \\
 0 & 48 \\
 0 & 24 \\
 0 & 12 \\
 0 & 6 \\
 0 & 3 \\
 1 & 1
 \end{array}$$

$(1100000001)_2$

3

b) $(9A2)_{16}$

$(100110100010)_2$

4

ii)

a) Convert to Octal

b) $(87)_{10}$

$$\begin{array}{r|l}
 87 \div 8 & \\
 7 & 10 \\
 2 & 1 \\
 1 & 0
 \end{array}$$

0.875×8

0.25×8

0.125×8

$(127)_8$

3

b) $(5D9)_{16}$

$$\begin{array}{cccc}
 0 & 1 & 0 & 1 \\
 \hline
 2 & 7 & 3 & 1
 \end{array}$$

$(2731)_8$

3

iii) Convert to Decimal
 a) $(1110101001)_2$

$$\begin{array}{lcl}
 1 \times 2^9 = & 1 \times 2^9 = & 512 \\
 1 \times 2^8 = & 1 \times 2^8 = & 256 \\
 1 \times 2^7 = & 1 \times 2^7 = & 128 \\
 0 \times 2^6 = & 0 \times 2^6 = & 0 \\
 1 \times 2^5 = & 1 \times 2^5 = & 32 \\
 0 \times 2^4 = & 0 \times 2^4 = & 0 \\
 1 \times 2^3 = & 1 \times 2^3 = & 8 \\
 0 \times 2^2 = & 0 \times 2^2 = & 0 \\
 0 \times 2^1 = & 0 \times 2^1 = & 0 \\
 1 \times 2^0 = & 1 \times 2^0 = & 1
 \end{array}$$

$(937)_{10}$

b) $(50E)_{16}$

$$\begin{array}{l}
 5 \times 16^2 = 1280 \\
 0 \times 16^1 = 0 \\
 14 \times 16^0 = 14
 \end{array}$$

$(1294)_{10}$

iv) Convert to Hexadecimal
 a) $(4278)_{10}$

$$\begin{array}{r}
 4278 \div 16 \\
 6 \overline{) 267} \\
 11 \overline{) 16} \\
 0 \overline{) 1} \\
 1 \overline{) 0}
 \end{array}$$

$$\begin{array}{l}
 0.375 \times 16 \\
 0.6875 \times 16 \\
 0.0625 \times 16
 \end{array}$$

$(10B6)_{16}$

b) $(670)_8$

$$\begin{array}{r}
 000110111000 \\
 \hline
 1 \quad B \quad 8
 \end{array}$$

$(1B8)_{16}$

Question 2

(a) CPU
~~Gamepad~~

(b) Memory
① RAM ✓

(c) Input device
Microphone ✓
Gamepad ✓

(d) Output device

(e) Storage device ✓
Flash drive ✓

✓✓

(f) Communication device ✓
Ethernet Port ✓

Question 3

$$\frac{50000}{2 \times 2.5 \times 10^9}$$

$$\frac{50000}{2 \times 2.5 \times 10^9}$$

5 ✓

3

$$\frac{25,000}{2 \times 2.5 \times 10^6}$$

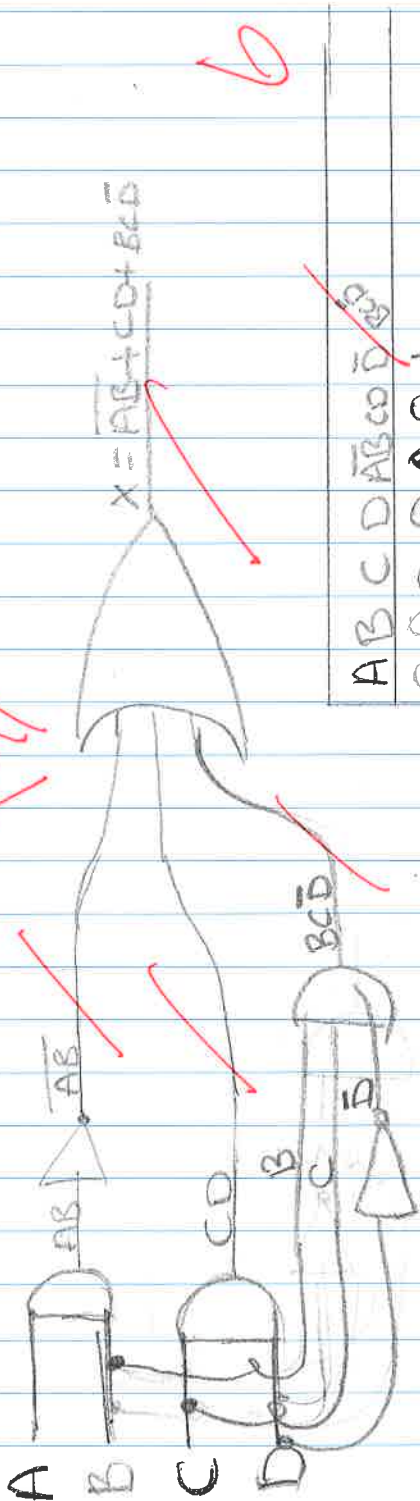
3.125

3.125 sec (MicroSeconds)

Question 4

$X = \overline{AB} + CD + B\overline{C}\overline{D}$

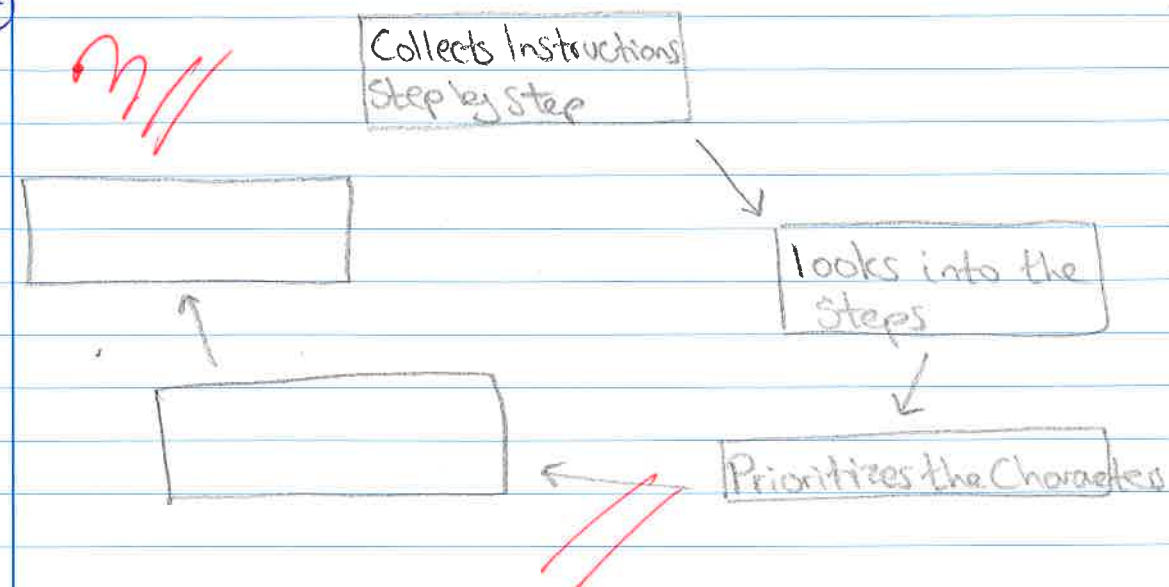
$X = \overline{AB} + CD + B\overline{C}\overline{D}$



A	B	C	D	$\overline{AB}$	CD	$B\overline{C}\overline{D}$	X
0	0	0	0	1	0	0	1
0	0	0	1	1	0	0	0
0	0	1	0	1	0	0	0
0	0	1	1	1	1	0	1
0	1	0	0	0	0	1	1
0	1	0	1	0	0	0	0
0	1	1	0	0	0	0	0
0	1	1	1	0	1	0	1
1	0	0	0	0	0	0	0
1	0	0	1	0	0	0	0
1	0	1	0	0	0	0	0
1	0	1	1	0	1	0	1
1	1	0	0	0	0	0	0
1	1	0	1	0	0	0	0
1	1	1	0	0	0	1	1
1	1	1	1	0	1	0	1

Question 5 ~~Fetch~~ Fetch-execute cycle.

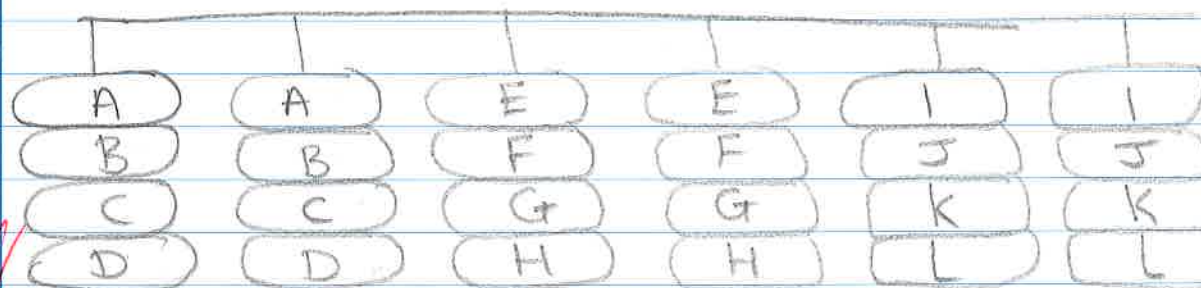
a

Question 5 RAID

benefits of RAID is that it stores the data and has a backup increase.

a RAID is quick in Speed and does not take too long to read and write your data. It is Speed efficient.

b



RAID 1 is called Mirroring, it copies files and stores it to keep it safe. So if one file gets damaged, you automatically have another backup file.

c Disadvantage of RAID 1 is that it is expensive and Speed ~~effect~~

3

Question 7

(a)

