

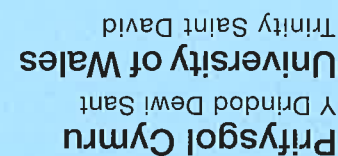


12 Pages

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 Tudalen

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

3. Rhaid i'r atebion fod mewn llawysgriflen ddarlennadwy. Gall yr Arholwyr naill ai anwybyddu sgript annatllenadwy, 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 fras 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 gwyllwyr/gwylwyr.
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 amgylchadau.

Rhestrwch rifau'r cwestiynau a ymgeliswyd ganenych	
At Ddlbenion y Swyddfa	Cyfanswm

(See the other side for English version)

Llenwch, plygwrch a seliwrch
(gweler nodyn 2 isod)

CYFENN:

ENW(AU) CYNTAF:

Question one

i) $(769)_{10}$

a)

	769	2
1	384	2
0	192	2
0	96	2
0	48	2
0	24	2
0	12	2
0	6	2
1	3	2
1	1	2
<u>1</u>	0	

$(110000001)_2$

b)

 $(9A2)_{16}$

$(100110100010)_2$

(ii)

$$(\cancel{9A2})_{16} \quad (87)_{10}$$

a)

	87	(8
7	10	8
2	1	8
1	0	

m/

$$(127)_8$$

b)

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

$$(\underline{010111011001})_2$$

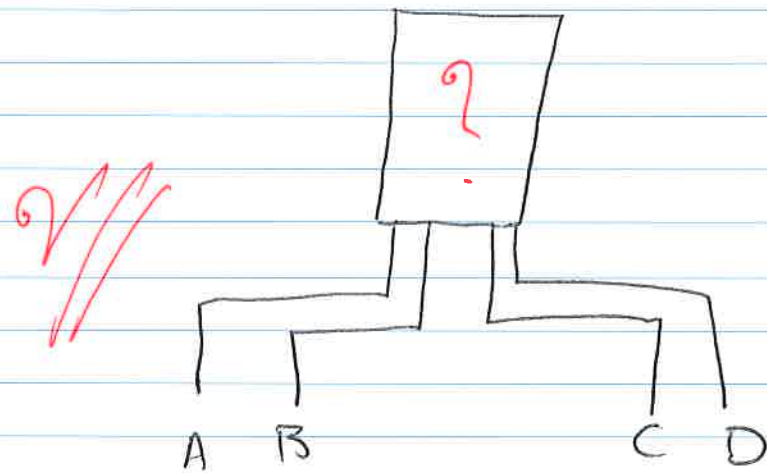
m/

$$(2731)_8$$

Question Five

$$1+2=3$$

- a) RAID technology can be used input output.
- b. RAID technology prevents the loss data.



There are 7 RAID levels.

RAID 0
RAID 1
RAID 2
RAID 3
RAID 4
RAID 5
RAID 6
~~RAID 7~~

iii)
a)

$$\begin{array}{cccccccccc} 9 & 8 & 7 & 6 & 5 & 4 & 3 & 2 & 1 & 0 \\ (1110101001)_2 & & & & & & & & & (17)_10 \end{array}$$

$$1 \times 2^9 + \dots + 1 \times 2^0$$

$$512 + 256 + 128 + 0 + 32 + 0 + 8 + 0 +$$

$$0 + 1 = (937)_{10}$$

b)

$$\begin{array}{ccc} 2 & 1 & 0 \\ (50E)_{16} & & (?)_{10} \end{array}$$

$$5 \times 16^2 + \dots + 14 \times 16^0$$

$$1280 + 0 + 14 = (1294)_{10}$$

2.5

iv)
9) $(4278)_{10}$ $(?)_{16}$

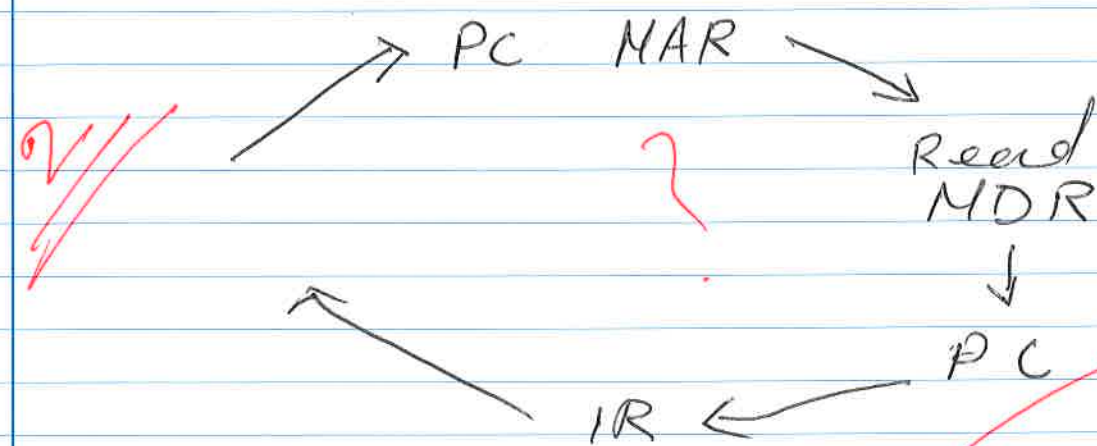
	4278	16
6	267	16
11	16	16
0	1	16
1	0	

 $(10B6)_{16}$ ~~X~~

b)

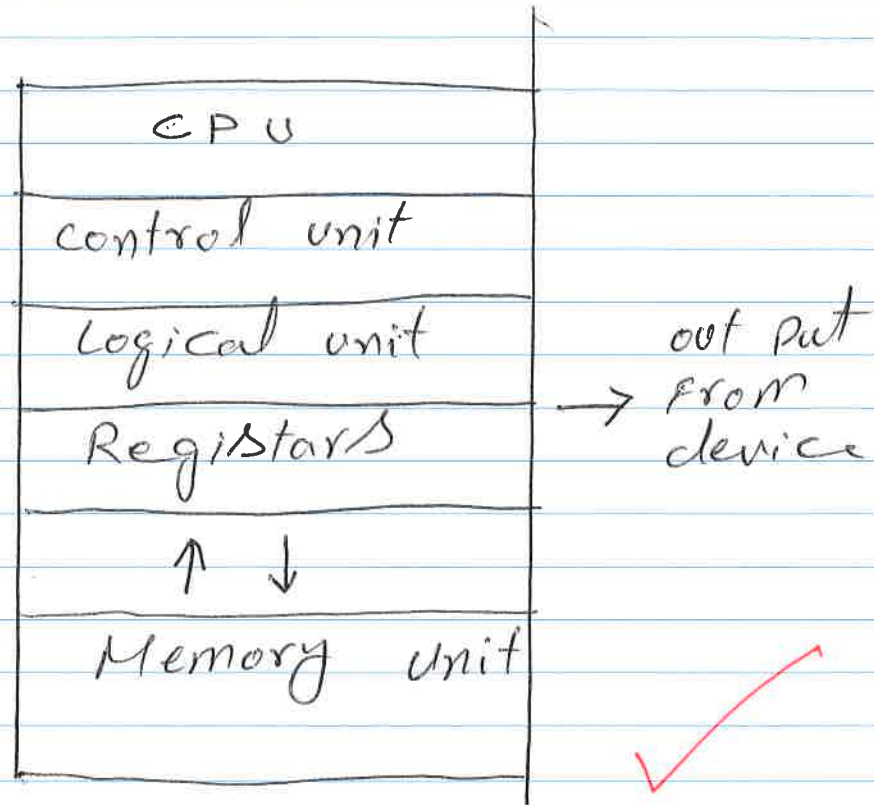
 $(670)_8$ $(?)_{16}$ $(110111000)_2$ $(1B8)_{16}$ ~~X~~

Question Six

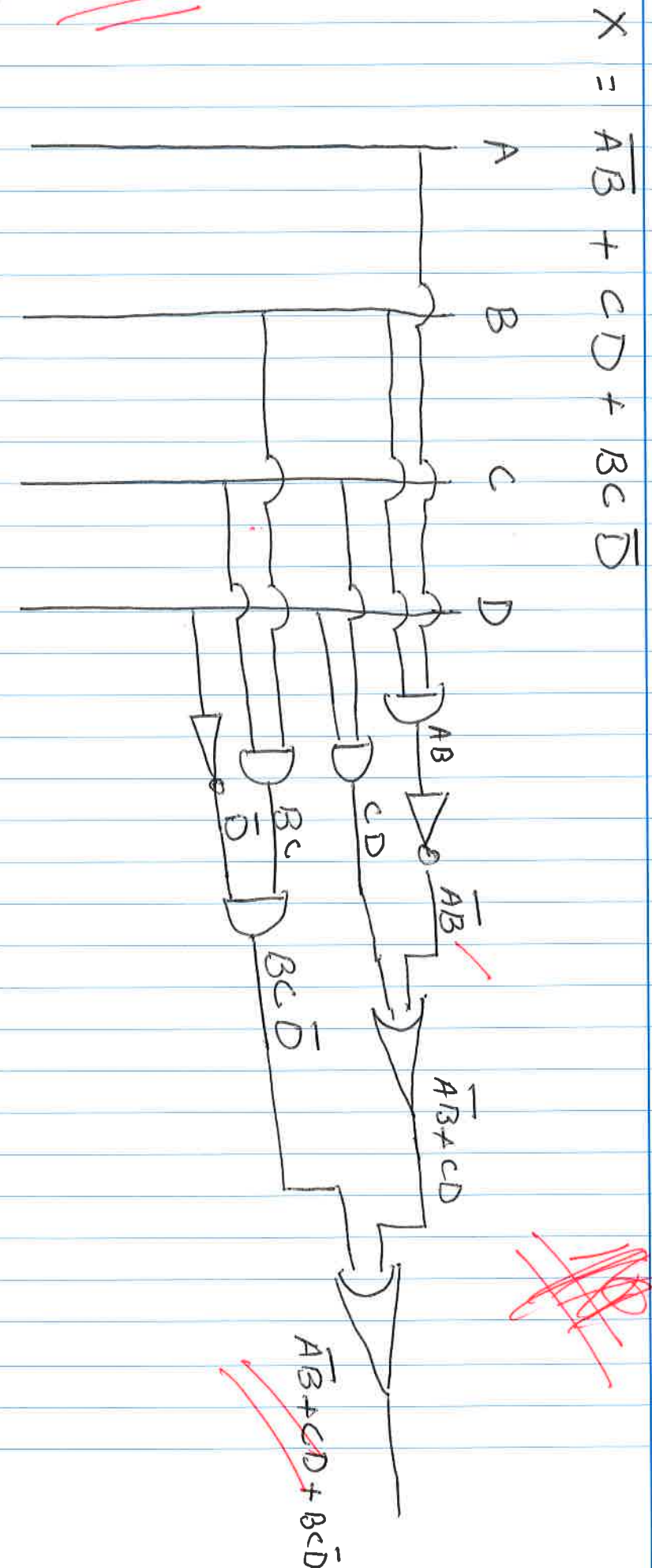


Question Seven.

a)



b) consist of signal shared computer programs and data.

Question Five. 4:

Question ~~Five~~⁴ Tabled:

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

Question Three

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

$$\frac{50000}{5} \times 10^{-9}$$

$$10.000 \times 10^6 =$$

10^{14} Second

Question Two

- | | | |
|---|---------------|----------------------------|
| 1 | RAM | (B) Memory ✓ |
| 2 | Ethernet port | (F) communication device ✓ |
| 3 | Microphone | (C) input device ✓ |
| 4 | Flash drive | (E) storage ✓ |
| 5 | Gamepad | (C) input device ✓ |